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**The Vote Solar Initiative**

COMMENTS ON DOCKET: E-01345A-08-0338<sup>9</sup>

**THE MATTER OF THE APPLICATION OF ARIZONA PUBLIC SERVICE COMPANY FOR  
THE APPROVAL OF ITS 2010 IMPLEMENTATION PLAN AND DISTURBED ENERGY  
ADMINISTRATIVE PLAN AND REQUEST FOR RESET OF RENEWABLE ENERGY  
ADJUSTOR**

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December 21, 2009

Adam Browning  
The Vote Solar Initiative  
300 Brannan Street, Suite 609  
San Francisco, CA 94708  
adam@votesolar.org  
tel: 415.817.5062  
fax: 415.543.1374

Arizona Corporation Commission  
**DOCKETED**

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The Vote Solar Initiative appreciates this opportunity to address the Corporation Commission regarding the above referenced matter.

We commend Arizona Public Service (APS) for its thoughtful approach to compliance with the Renewable Energy Standard, and its willingness to constructively engage stakeholders and embrace new business models.

Vote Solar has read the comments filed by the Solar Alliance and Green Choice Solar, and we support them. Specifically, we believe that the administration of the incentives for the Distributed Renewable Energy Resources (DRER) could be improved as the commenters suggest, making for a more transparent, efficient, and sustainable solar market.

We have a few additional comments to make.

#### **AZ Sun**

APS proposes “the authority to invest up to \$500 million of capital to develop 100 MW of solar PV between 2010 and 2014, with APS seeking to develop the maximum amount of megawatts possible through competitive procurement processes.”<sup>1</sup>

While we are encouraged to see APS take such substantial steps to incorporate solar into their business model, utility ownership does have the potential for some downsides. It may impact the growth of independent solar developers and their ability to continue to lower costs, and it may or may not be the best way to procure wholesale power for ratepayers. We believe that these concerns may be mitigated by two conditions: the AZ Sun program should not count towards the DRER, and an equal opportunity to provide the same value to Arizona ratepayers should be afforded to independent power producers.

First, the future of the Arizona solar industry, especially on the distributed generation side, depends on a long-term and competitive market. In order for Arizona solar companies to make the necessary business decisions to develop scale and bring down costs, they need to have some certainty about future market conditions. If a utility is allowed to unilaterally and non-transparently seize market share and incentives—specifically in the DRER segment—then the uncertainty will have an adverse impact on the future growth of Arizona’s non-utility solar companies. This is counter to the intent of the Renewable Energy Standard (RES).

It’s also counter to the letter of the RES. Section R-14-2-1805 D. of the RES requires that “An Affected Utility shall meet one-half of its annual Distributed Renewable Energy Requirement from residential applications, and the remaining one-half from non-residential, *non-utility* applications” (emphasis added). The AZ Sun program, as described, is clearly a utility program, and thus cannot be used to satisfy the DRER requirement.

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<sup>1</sup> APS Supplemental Filing, p 13.

Finally, as a matter of fairness and equity, it's not clear why the utility would be able to participate in the market outside of the competitive processes that all other companies must undergo. All companies participating in the customer-sited, DRER-compliant market either must compete for performance-based incentives through APS's distributed energy incentive program, or through APS's Distributed Energy RFP of August 14, 2008 and subsequent contract negotiations. At a minimum, APS should have to make a showing why their approach is a better deal for ratepayers.

We are much more supportive of the AZ Sun program as a way of the utility procuring wholesale power that counts towards the non-DRER portion of the RES. However, in this instance we believe that the program could be improved.

APS proposes to build 100 MW of photovoltaic solar systems over the next 4 years. We believe that significant amounts of solar distributed throughout the grid can provide great value to ratepayers. The report commissioned by APS from RW Beck, *Distributed Renewable Energy Operating Impacts and Valuation Study*, described significant savings from avoided system upgrades, reduced transmission and distribution costs, reduces system peak, avoided fuel and purchased power costs, and other benefits.<sup>2</sup>

APS predicts that the program will cost an average of \$5.00/watt, and requests approval for \$500 million in capital investment. The price of solar modules has come down about 50% in the past year, and analysts predict continued price reductions over the next several years:

"After peaking at \$4.20 a watt in 2008, prices for solar panels have dived as much as 50 percent to about \$2.40 a watt for European and U.S. companies that make silicon-based panels and \$2.00 a watt for Chinese suppliers...Prices on lower-cost thin film panels are between \$1.00 and \$2.00 a watt... Barclays Capital analyst Vishal Shah expects prices to fall to \$1.40 a watt by the end of 2010 and \$1.00 per watt in 2011."<sup>3</sup>

The figures above are only projections, and don't include the cost of the balance of system or of installation. Nonetheless, many believe independent solar developers can deliver much lower installed costs than \$5.00/watt, both in terms of capital costs of installation and a levelized cost of energy over the expected life of the equipment<sup>4</sup>. As a result, regulators in other jurisdictions have chosen to match authorization for utility-owned solar generation with the requirement that the utility contract for an equal amount of production from independent power producers. Such an approach has the beneficial result of giving utilities greater experience and comfort with large amounts of solar on the grid, while at the same time growing a competitive local solar industry and ensuring that ratepayers get the best value.

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<sup>2</sup> <http://solarfuturearizona.com/Resources/Documents/Solar%20DE%20Study.pdf>

<sup>3</sup> Inslee, Laura. *Solar panel prices to slide into next year*. Reuters, August 21, 2009.  
<http://www.reuters.com/article/GCA-GreenBusiness/idUSTRE57K46Y20090821>

<sup>4</sup> In fact, some solar installers in Arizona report similar installed costs for residential systems; utility-scale installations should benefit from economies of scale.

For example, in March of 2008, Southern California Edison requested approval for investing in 250 MW of utility-owned rooftop solar generation (with an expected cost of \$3.50/watt)<sup>5</sup>. After extensive hearings and comment, the California Public Utility Commission approved the investment, but also required that the utility buy an equal amount of solar generation—250 MW, in 1-2 MW increments, over four years-- from independent solar providers.<sup>6</sup> This decision was based on a desire to foster competition in the market for the long-term benefit of everyone, and to learn more about comparative costs between utility-owned and independent power producer (IPP) generation.

APS cited Pacific Gas and Electric's application for 250 MW of ground-mounted PV as having an expected capital cost of \$4.28/watt. We note that PG&E cites that figure as an initial estimate for the first year of installations only, and is requesting cost recovery for only for actual incurred costs. As part of the same application, PG&E is also proposing to buy an equivalent amount of solar (250 MW) through PPAs with independent power producers (via PPAs with systems sized between 1-20 MW).

In order to insure that APS's AZ Sun Program provides the best value for ratepayers and contributes to the growth and development of Arizona's non-utility solar companies, we suggest that the Commission approve the program on the condition that a similar opportunity be provided for independent solar power producers. Costs could then be compared on a levelized cost of energy basis, which would help inform future Commission decisions.

This could be accomplished very quickly by expanding and extending APS's Small Generation Pilot Program to require APS to purchase an equal amount of solar through competitively solicited PPAs. If this route is taken, we suggest that the Commission:

- Require that APS hold multiple competitive solicitations a year;
- Establish a standard contract in order to reduce unnecessary transaction costs;
- Develop methods for ensuring project viability (such as experience requirements, development security, development timelines, etc).

Another route could be to establish a similar wholesale procurement requirement through the Commission's recently docketed Notice of Inquiry on feed-in tariffs<sup>7</sup>.

We note that aggressive procurement of power from mid-sized solar systems (under 20 MW) has some significant advantages. Systems of this size can be built quickly; typically utilize the existing distribution system and can come on-line quickly; are easier to finance than larger systems; have virtually unlimited siting opportunities; and are of sufficient size to leverage economies of scale to deliver low prices (a factor significantly enhanced by the recent dramatic drop in the price of solar modules). All that's needed is to create a market opportunity, and the industry can begin to deliver significant amounts of jobs and low-cost clean energy to Arizona.

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<sup>5</sup> Application (A.) 08-03-015 <http://docs.cpuc.ca.gov/proceedings/A0803015.htm>

<sup>6</sup> Decision (D.) 09-06-049, June 18, 2009

<sup>7</sup> E-00000J-09-0505

Respectfully submitted on December 21, 2009

By



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Adam Browning  
Vote Solar

**CERTIFICATE OF SERVICE**

The original and 13 copies  
of the foregoing have been filed  
as of December 19, 2009 with:

Docket Control  
Arizona Corporation Commission  
1200 W. Washington  
Phoenix, AZ 85007

On behalf of Vote Solar by:



Joy Butler

December 21, 2009