



ORIGINAL



RECEIVED

Date: November 10, 2010
RE: Response to Chairman Mayes Letter dated October 21, 2010
Docket Number: E-01345A-10-0166

2010 NOV -9 P 4:40

E-01345A-10-0262

AZ CORP COMMISSION
DOCKET CONTROL

Dear Chairman Mayes, Commissioners and ACC Staff:

In her letter dated October 21, 2010, Chairman Mayes asked whether the parties support a plan to allow for flexibility between the residential and commercial distributed energy budgets, at least in the amount of \$20 million. American Solar Electric ("ASE") does not support this suggestion. The Chairman also mentioned "what we can do to stop pulling back on the reins of the horse that is leading our utilities toward a more balanced and sustainable energy portfolio" specifically regarding residential Up Front Incentive ("UFI") programs. ASE would like to propose a perspective for Commission consideration that addresses the concerns of the Chairman.

In recent years, the residential photovoltaic ("PV") industry in Arizona has grown significantly. ASE estimates that from mid-2009 to today, between 35 and 40 MW of grid-connected residential PV systems have been installed statewide. Concurrent with this growth, the cost of deploying PV on residential rooftops has declined dramatically. A major component of the cost decrease in system deployment is due to the economy of scale that has been obtained with surging market demand. The ACC's investment of ratepayer dollars into Arizona's residential PV market segments is a major contributor to both of these beneficial outcomes. This investment has built an industry employing thousands that continues to thrive and drive down the cost of solar.

In the following letter ASE will highlight the following points which we believe are critical to the continued success of Arizona's investment into residential PV markets:

- Level, annual budgets for residential UFI programs from 2011-2015
a. APS: \$40 million per year
b. TEP: \$15 million per year
• Decrease UFI levels over time
o Support for continued market growth
▪ Use 2010 deployment estimates as a baseline
• Investigate residential rate design as a means to maintain residential PV market momentum with little to no UFI required in future years
o Rate cases between 2011-2015

Arizona Corporation Commission
DOCKETED
NOV -9 2010

DOCKETED BY [Signature]

Point 1: Level annual budgets for residential UFI programs from 2011-2015

In 2010, ASE estimates that Arizona Public Service ("APS") will allocate between \$55 million and \$60 million toward its residential UFI program. This investment includes both residential PV and Solar Hot Water ("SHW").

We estimate that the majority of this investment (approximately 85-90%) will be applied directly to the deployment of residential PV systems and will provide for up to 25 MW of new grid-connected residential PV systems in APS service territory in 2010.

ASE and similar companies have made significant investments in the resources required to accommodate installation rates of the magnitude currently being seen in Arizona's residential markets. We believe it is important to reinforce to the Commission, as the Chairman has noted, that there is an amazing opportunity for Arizona to continue to expand its residential PV markets to accommodate the deployment of more MW at lower and lower costs to ratepayers. In order to capitalize on this opportunity, a commitment has to be made to establish realistic budgets that support continued growth of the industry and Arizona's residential PV markets. After reviewing the proposed 2011-2015 budgets for APS and TEP, ASE recommends a fixed yearly residential budget that will allow for continued growth in key Arizona residential PV markets while driving down UFI levels to below \$1/watt by 2015.

ASE proposes the following residential UFI program budgets:

- APS: \$40 million per year from 2011 – 2015
- TEP: \$15 million per year from 2011 – 2015

ASE appreciates that the REST only allows for approval of budgets one year at a time, but we do request a discussion be had around considering a specific budget for the next five years for residential UFI programs.

Point 2: Decrease UFI levels over time

In their 2011 REST Implementation Plan, APS proposes the following UFI incentive levels over the next five years:

2011		2012		2013		2014		2015	
\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
1.75	1.60	1.45	1.30	1.20	1.10	1.00	0.95	0.90	0.80

Using this schedule and applying a \$34 million budget to residential PV incentives (85% of the total \$40 million budget ASE is proposing), ratepayers would be able to deploy 149.78 MW of PV on residential rooftops during the period from 2011 to 2015. With APS's proposed budget for the same period, ASE estimates that only 87.64 MW would be deployed, with significant market swings during the period in terms of annual installation rates, see the charts below.

ASE's estimate of total MW deployed during the period assumes an equal division of annual funding between incentive level steps. As an example, for 2011 and using ASE's proposed residential PV UFI budget, we used the following formula to determine annual MW deployed:

- 50% PV Budget at \$1.75/watt = 9.71 MW
- 50% PV Budget at \$1.60/watt = 10.63 MW
- Total 2011 deployment of residential PV = 20.34 MW

APS Proposed PV UFI Budget		
Year	Budget (millions)	MW Deployed
2011	34	17.29
2012	34	21.1
2013	19	13.94
2014	19	16.42
2015	19	18.89
	\$ 125	87.64

ASE Proposed PV UFI Budget		
Year	Budget (millions)	MW Deployed
2011	34	20.34
2012	34	24.79
2013	34	29.62
2014	34	34.89
2015	34	40.14
	\$ 170	149.78

The residential photovoltaic market in APS service territory will deploy 149.78 MW of rooftop PV in 5 years at a cost to ratepayers for \$170 million, an average cost of \$1.13 per watt installed.

- Support for continued market growth

The explosive growth in residential PV can be partly explained by significant reductions in the cost to deploy residential PV systems. APS' 2009 Annual Compliance Report stated "it was not uncommon for systems to be installed at costs near \$9 per installed watt." In APS's draft 2011 REST Implementation Plan, the company states "a high volume of applications offered installed costs below \$5.00 per watt." In the last three years, APS has seen a reduction of cost per installed watt of 45%. The decline in costs is significantly tied to the economies of scale achieved by Arizona's solar integrators. In order to maintain and advance cost decreases in the deployment of residential PV, ASE believes it is necessary to offer a continued market growth opportunity. ASE's five year residential UFI budget proposal will allow this to happen. The utility proposed five year residential UFI budget proposals will not.

- UFI allows ratepayers to acquire the lowest cost photovoltaic MW

The table below shows the cost to deploy 149.78 MW of solar under a UFI scenario versus a PBI scenario. As stated previously, if the residential PV market in APS service territory is allocated \$34 million per year for 5 years, ASE estimates the deployment of 149.78 MW residential PV. For quick comparison, ASE estimates the total cost of a Performance Based Incentive ("PBI") program with a 20 year commitment and PBI payment equal to \$0.10 per REC to cost APS ratepayers more than twice the amount paid for the same MW's under a program offering only UFIs. ASE recommends that the Commission review the probability that UFI programs offer the lowest cost solar REC for ratepayer funds expended.

PBI (\$/REC)	\$ 0.10
PBI Commitment (Years)	20
kWh/MW	1,800,000
Cost to deploy 149.78MW under PBI	\$ 539,208,000.00
Cost to deploy 149.78MW under proposed UFI Budget	\$ 200,000,000.00

- **Point 3: Investigate residential rate design as a means to maintain residential PV market momentum with little to no UFI required in future years**

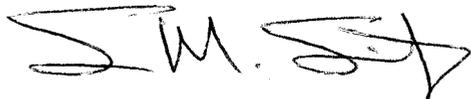
As Arizona's residential UFI programs accelerate over the next five years, under the assumption of stable budgets leading to increased deployment and declining incentive levels, consideration should be given to establishing an "off-ramp" from UFI programs through the design of solar-appropriate residential rate structures in all utility service territories. Through solar-appropriate residential rate design, the Commission can account for the benefits solar offers to all ratepayers and also allow consumers a critical tool in their continued investment into and deployment of PV technology in a post-UFI environment. This, in turn, will allow for a reduction in residential UFI budgets associated with future REST Implementation Plans. While it is unclear whether a sharp reduction in the budgets for residential UFI programs will lower the RES surcharge overall, it will be a deduction that can allow for the acquisition of additional resources.

ASE encourages Arizona's utilities and the Commission to investigate solar-appropriate rate design in rate cases that come before the Commission in the coming years.

Conclusion

Under the leadership and direction of the Arizona Corporation Commission, Arizona's utilities have implemented significant residential UFI programs. These programs have established Arizona's residential PV markets as some of the strongest, in terms of deployment, in the United States. Continued investment into programs that support the residential market will continue to pay dividends for Arizona ratepayers and consumers for decades to come, as we all work together to build a sustainable solar future for our State. The work is not yet complete, but ASE applauds the efforts put forth so far. The reality of sustainable residential solar markets is in our not too distant future. We look forward to continuing the dialogue on this subject during the upcoming workshop and hearings.

Sincerely,



Sean M. Seitz
President & Co-owner
American Solar Electric, Inc.