

NEW APPLICATION



0000172774

ORIGINAL

**Memorandum**

From the office of  
Chairman Doug Little  
Arizona Corporation Commission  
1200 W. WASHINGTON  
PHOENIX, ARIZONA  
(602) 542-0745

TO: Docket Control  
E-00000Q-16-0289  
DATE: August 22, 2016  
FROM: Chairman Doug Little's Office  
SUBJECT: Create New Docket

Arizona Corporation Commission

**DOCKETED**

AUG 22 2016

DOCKETED BY	
-------------	--

---

Chairman Little's office requests a new docket titled "Review, Modernization and Expansion of the Arizona Renewable Energy Standards and Tariff Rules and Associated Rules". The attached letter details the explanation of the new docket and its intentions.

RECEIVED  
AZ CORP COMMISSION  
DOCKET CONTROL  
2016 AUG 22 P 1:53

**COMMISSIONERS**  
DOUG LITTLE - Chairman  
BOB STUMP  
BOB BURNS  
TOM FORESE  
ANDY TOBIN



**DOUG LITTLE**  
**CHAIRMAN**  
Direct Line: (602) 542-0745  
Email: DLittle-web@azcc.gov

**ARIZONA CORPORATION  
COMMISSION**

August 22, 2016

Dear Colleagues and other interested parties:

The Renewable Energy Standard and Tariff (REST) rules<sup>1</sup> were put in place by this Commission in 2007. At that time, renewable sources of energy such as solar and wind were just coming into existence and beginning to display signs of future potential. Their costs were very high and their level of deployment was miniscule.

Over the past nine years, especially more recently, the situation has changed considerably. Since 2007, the amount of utility scale wind deployed nationally has increased over 500%. During the same period, deployments of Utility scale photovoltaic (PV) solar have increased from 16,000 megawatt hours in 2007 to 23,232,000 megawatt hours in 2015, an increase of over 145,000%<sup>2</sup>

The economics of both residential PV and utility-scale solar projects have changed dramatically in the past nine years. The median installed price for residential PV in 2007 was a little over \$12 per installed watt. In 2015 those prices had dropped to around \$4 per watt. The number of rooftop systems installed nationally has grown from an estimated 13,800 systems installed during 2007 to over 257,000 installed during 2015 alone, and the pace of adoption is accelerating rapidly. In the same time period utility-scale projects in the >500kW range have dropped from \$8 per installed watt to just over \$2 per watt<sup>3</sup>

Utility-scale solar power purchase agreements (PPAs) are now available at less than 4 cents per kilowatt hour which is significantly lower than the prevailing prices in 2007. Similarly, wind generation is now available at prices that are comparable with traditional fossil generation. In light of the above, the solar and wind generation industries can no longer reasonably be considered as "emerging technologies". In fact, they are actually quite mature. According to the American Wind Energy Association, through the end of 2015 there was a total of nearly 74,000 megawatts of wind capacity installed in the U.S. with over \$128 billion in investments in new wind projects in the last 10 years.<sup>4</sup>

According to the Solar Energy Industry Association, there were over 7,260 megawatts of solar PV installed in 2015, the largest annual total ever and 16% above 2014. Residential PV installations increased 66% in 2015 compared to 2014 and for the first time surpassed 2,000 megawatts in 2015. Utility-scale PV had a record year in 2015 with over 4,000 megawatts installed with nearly 20 gigawatts still in development.<sup>5</sup>

With the maturation of renewable energy technologies and markets, rules that were put in place nine years ago when these technologies were in their infancy unquestionably needs to be revised. The lower costs associated with renewable deployments have three implications: (1) significantly more renewable generation can be deployed without undue impact on Arizona's rate payers, (2) rules that were put in place to nurture developing industries and technologies should be revised and simplified to account for the technology and market conditions that exist today, and (3) continued developments in how renewable generation can be deployed (e.g., utility-scale solar, community solar, expanded small commercial deployments, combining battery storage with any of the preceding) may provide many of the same benefits associated with rooftop solar but without some of the associated shortcomings and at a more economic price.

Currently, the REST rules require that by 2025, renewable sources of generation must be at least 15% of all kilowatt hours sold. In light of the reductions in the cost of renewables and the maturation of that industry, I believe that our larger investor owned utilities could meet a requirement in the 30% range by 2030 without undue impacts on rate payers. Arizona's Electric Cooperatives have struggled to meet the current REST standards because of the limitations in their available generation sources. I would propose that they be exempted from any new REST standard at this time.

The revised rules should eliminate carve outs for specific generation technologies. Any new rules should emphasize "least cost" principles allowing market forces and cost efficiencies to be the primary driver on the renewable energy technology selected to meet the standard. At the same time, I believe the current rules are overly complex and can be dramatically simplified so that compliance will become more straightforward.

Furthermore, the original REST rules did not contemplate other technologies that have evolved in the interim. For example, storage technologies were not considered at all when the REST rules were put in place. In recent years, storage technologies have become significantly more affordable and may be ready for deployment on a large scale in the very near future. We need to consider whether the REST rules should incorporate storage and other emerging technologies, and if so, how we might provide encouragement for their adoption as the original REST rules did for technologies like solar and wind.

The REST rules and the Net Energy Metering rules<sup>6</sup> are closely related, and components of the Net Metering rules were developed to support certain components of the REST rules, and thus should logically be examined in conjunction with any review of the REST rules. Additionally, it is my considered opinion that the Value and Cost of Distributed Generation Docket<sup>7</sup> will produce meaningful results within the next few months and will instruct us in how we might review and reconsider the current rules.

As the modern electric grid continues to evolve and newer technologies including battery storage and smart inverters become more pervasive, newer models for compensation of excess distributed energy generation should evolve (e.g., grid services models, locational marginal price models) and the compensation level for that energy should be more in line with the actual market price of electricity (adjusting for peak, non-peak and seasonal variations).

After careful consideration, I am opening a new docket called "Review, Modernization and Expansion of the Arizona Renewable Energy Standards and Tariff Rules and Associated Rules". The purpose of this docket is to review and potentially revise the Renewable Energy Standard and Tariff rules as well as any associated rules.

My office will be filing a series of documents to this docket in the coming days which will include a list of topics I would like to ensure we include as part of our review. I would like to encourage my fellow Commissioners, Commission Staff, industry and other stakeholders to provide additional input and comments on those topics and would also encourage suggestions as to other areas that should be examined during this review.

In recent months the broader national conversation about how we might encourage efficient and more affordable renewable energy generation has been lost in the contentious debate over policy questions specific to the rooftop solar industry. I believe the time is ripe for a change in the tone of the conversation.

It is my sincere hope that this docket will provide a place where we might discover constructive and collaborative solutions providing a framework for the development of all types of renewable energy using concepts and models that are focused on finding opportunities for future growth and innovation. The philosopher Heraclitus of Ephesus said "Everything flows and nothing abides; everything gives way and nothing stays fixed". I believe we have an opportunity to do great work here, if we simply will.

Sincerely,



Doug Little  
Chairman  
Arizona Corporation Commission

## References

<sup>1</sup> R14-2-1801 through 1816

<sup>2</sup> In megawatt hours. EIA Electric Power Monthly with Data for May 2016, July 2016, Table 1.1.A, "Net Generation from Renewable Sources: Total (All Sectors) 2006-May 2016, Page 16

<sup>3</sup> "Tracking the Sun IX" Galen Barbose and Naim Darghouth, Lawrence Berkeley National Laboratory, August 2016, Pages 10-14

<sup>4</sup> American Wind Energy Association website "Wind Energy Facts at a Glance", August 2016

<sup>5</sup> Solar Energy Industry Association website "Solar Market Insight 2015 Q4", August 2016

<sup>6</sup> R14-2-2301 through 2305

<sup>7</sup> Docket E-00000J-14-0023