



April 23, 2018

Arizona Corporation Commission
1200 W. Washington Street
Phoenix, AZ 85007

RE: Docket No. E-00000Q-16-0289; Review, Modernization, and Expansion of the Arizona Energy Standards and Tariff Rules and Associated Rules

Dear Chairman Forese and Commissioners of the Arizona Corporation Commission,

The Alliance for Industrial Efficiency (the “Alliance”) appreciates the opportunity to comment on the Proposed Energy Modernization Plan. The Alliance is a diverse coalition that includes representatives from the business, contractor, labor and academic communities. We represent trade associations with a strong presence in Arizona, such as the Sheet Metal and Air Conditioning Contractors’ Association (SMACNA). SMACNA companies have been directly involved with some of the most important development projects in the state including the construction of the CyrusOne Phoenix Data Center in Chandler and the expansion of American Express’ offices at Desert Ridge. Members of the Arizona Corporation Commission (the “Commission”) had an opportunity to learn about these projects first hand at a business roundtable and tour organized by our members at the sheet metal training center in Phoenix last year. The Alliance is committed to enhancing manufacturing competitiveness and reducing emissions through industrial energy efficiency, particularly through the use of clean and efficient power generating systems such as combined heat and power (CHP) and waste heat to power (WHP).

As the Commission considers a future of 80 percent clean resources by 2050, we write to support: (1) the inclusion of an explicit CHP deployment goal in the proposed clean energy target and (2) the development and implementation of a “new” energy efficiency/DSM policy that begins in 2021, either as an extension, expansion, and update of the existing Energy Efficiency Standard, or as a new requirement as an enforceable target.

About CHP and WHP in Arizona

CHP is a sustainable and efficient energy solution that recycles waste heat from power generation and converts it into useful thermal energy. By generating both heat (thermal energy) and electricity from a single fuel source, CHP dramatically increases overall fuel efficiency – allowing utilities and host companies to effectively “get more with less.” CHP more than doubles the fuel efficiency of a conventional plant, using more than 70 percent of fuel inputs. WHP systems recover waste heat and use it to generate electricity with no additional fuel and no



incremental emissions. As a consequence, CHP and WHP can produce electricity while lowering costs for both host companies and all Arizona ratepayers.

In addition to its efficiency benefits, CHP enhances electric reliability in two major ways. First, CHP and WHP systems alleviate burdens on transmission and distribution lines because they depend on localized, on-site electricity generation at existing facilities. In this way, CHP and WHP can help avoid costs associated with investment in and construction of transmission infrastructure. Second, because CHP systems have the ability to operate independent of the grid, they can provide reliability during a power outage. Since 2005, the US has experienced numerous natural disasters including tornadoes, Superstorm Sandy, and hurricanes such as Katrina, Rita, Ike, Harvey, Irma and Maria. Critical infrastructure and manufacturing facilities with CHP and an islanding switch have been able to keep the lights on during power outages that occurred during these disasters. Because of its resiliency and reliability benefits, CHP should be a key element of Arizona's broader efforts to modernize its electric grid and make it more reliable.

The CREST proposal can help Arizona tap into the substantial remaining opportunity to increase deployment of CHP. Currently, the state has 12 CHP sites, generating nearly 83 megawatts (MW) of clean and efficient power.¹ The Department of Energy estimates the state has 2,422 MW of remaining CHP and WHP technical potential capacity (identified at 5,703 sites), with 638 MW of remaining onsite technical potential in the industrial sector alone.² A 2016 report from the Alliance for Industrial Efficiency found that deploying an economically viable portion of the state's CHP and WHP potential,³ would save Arizona's industrial sector customers nearly \$524 million in cumulative electricity costs from 2016 to 2030.⁴ Cutting electricity costs in this way would help make the state's industrial customers more competitive.

Arizona has opportunities for CHP growth in the manufacturing sector. Manufacturing accounts for 8.6 percent (\$24 billion in 2013) of the total gross state product and employs nearly six

¹ U.S. DOE Combined Heat and Power Installation Database, (<https://doe.icfwebservices.com/chpdb/state/AZ>).

² U.S. Department of Energy, Mar. 2016, "Combined Heat and Power (CHP) Technical Potential in the United States" (<https://www.energy.gov/sites/prod/files/2016/04/f30/CHP%20Technical%20Potential%20Study%203-31-2016%20Final.pdf>).

³ To estimate what portion of on-site CHP and WHP potential could be considered economic, we relied on findings from a 2013 AGA study. That study split technical potential into three categories: less than a 5-year payback, a 5- to 10-year payback, and more than a 10-year payback. We limited our analysis to potential in the first two bins (assuming investments with longer payback would not be made). This tells us what percent of technical potential could be considered to have a strong or moderate economic potential in a given state. We applied this percentage to DOE's most recent estimates of total on-site technical potential.

⁴ The Alliance for Industrial Efficiency, Sep. 2016, "State Ranking of Potential Carbon Dioxide Emission Reductions through Industrial Energy Efficiency" (http://alliance4industrialefficiency.org/wp-content/uploads/2016/09/FINAL-AIE-State-Industrial-Efficiency-Ranking-Report_9_15_16.pdf). Report considers potential for CHP alongside other modest industrial efficiency improvements. Citation here refers to unpublished data reflecting CHP and WHP deployment alone.



percent of the workforce.⁵ Arizona's industrial sector consumed 16.3 percent of the total energy used statewide in 2013 (or 235.1 trillion British thermal units).⁶ The size of the state's manufacturing sector and the significant remaining technical potential for CHP indicates that Arizona has a tremendous opportunity for additional CHP and WHP deployment. There could also be additional deployment opportunities in Arizona's hospitals and universities.

The Role of Energy Efficiency and CHP in the CREST Proposal

We applaud Commissioner Tobin for proposing a goal that Arizona's economy run on 80 percent clean energy by 2050. We also agree with the five guiding principles that have shaped the grid modernization plan: resiliency, affordability and reliability, innovation, economic development, and resource diversity. Because CHP has vast reliability and resiliency benefits as outlined above, we believe it should be an explicit component of this goal.

As such, we recommend the Commission include a CHP deployment goal in the proposed clean energy target, such as deploying 100 MW of additional CHP and WHP capacity by 2022 across all utilities.

Further, we support comments from Western Resource Advocates (WRA), the Southwest Energy Efficiency Project (SWEEP), and other stakeholders that recommend the development and implementation of a "new" energy efficiency/DSM policy that begins in 2021, as excerpted below.

Energy efficiency/DSM is in the public interest for many reasons:

- It is a low-cost energy and capacity resource.
- It provides significant and cost-effective benefits for all utility customers, the grid, the economy, and the environment.
- It saves consumers and businesses money through lower utility bills and the deferral of unnecessary infrastructure, resulting in lower total costs for customers.
- It reduces load (resulting in lower *net* load to serve) and diversifies energy resources.
- It reduces air pollution and the amount of water used for power generation. And,
- It mitigates electricity and fuel price increases and reduces customer vulnerability and exposure to price volatility.

⁵ National Association of Manufacturers, Feb. 2015, "Arizona Manufacturing Facts," (<http://www.nam.org/Data-and-Reports/State-Manufacturing-Data/2014-State-Manufacturing-Data/Manufacturing-Facts--Arizona>).

⁶ U.S. Energy Information Administration, "Arizona: State Profile and Energy Estimates," December 2015 (<https://www.eia.gov/state/?sid=AZ#tabs-2>).



The Commission's existing Energy Efficiency Standard, which requires 22 percent energy savings by 2020, is cost-effective and has driven significant savings and benefits for Arizona ratepayers:

- Every \$1 invested has returned more than \$2 in benefits.⁷
- Ratepayers have saved more than one-billion dollars since 2008.⁸
- Arizona's nationally recognized energy-saving programs⁹ have served hundreds of thousands of Arizona residents and businesses.¹⁰ And
- Thousands of Arizonans have been to work upgrading buildings, improving manufacturing production lines, and installing new sensors and controls.¹¹

Energy efficiency and DSM investments can be targeted to meet system needs by emphasizing DSM measures that reduce peak summer demand and provide load reductions during ramping and other periods to assist with meeting system reliability needs at low costs.

For these reasons, continued investment in energy efficiency/DSM post-2020 is critical to, "Complement the goal of achieving 80% clean energy resources by 2015, while reducing costs to ratepayers."

With the Commission's existing energy efficiency policy ending in 2020, the Commission should support the development and implementation of a "new" energy efficiency/DSM policy that begins in 2021, either as: (1) An extension, expansion, and update of the existing Energy Efficiency Standard, or (2) A new requirement as an enforceable target (including interim targets). Either option would be an enforceable requirement and would serve as a floor for utility acquisition.

Conclusion

For all of the reasons stated above, the Alliance urges the Commission to support: (1) the inclusion of a CHP deployment goal in the proposed clean energy target and (2) the development and implementation of a "new" energy efficiency/DSM policy that begins in 2021,

⁷ See the Annual Demand Side Management Reports of APS and TEP

⁸ Ibid. at 23.

⁹ Examples include: Wall Street Journal, "APS and Unisource AZ Utilities Get National Awards for Energy Efficiency," <http://online.wsj.com/article/PR-CO-20130328-914083.html>; Phoenix Business Journal, "APS, Meritage, Foundation for Senior Living tabbed for Energy Star awards," <http://www.bizjournals.com/phoenix/news/2013/03/26/aps-meritagefoundation-for-senior.html>; Greentech Media, "Multifamily Housing: A \$3.4B US Energy Efficiency Opportunity," <http://www.greentechmedia.com/articles/read/multifamily-housing-a-3.4b-u.s.-energy-efficiency-opportunity>

¹⁰ Arizona Public Service, "APS DSM Program Overview," Presented at the 2013 ACEEE National Conference on Energy Efficiency as a Resource.

¹¹ Energy Efficiency Jobs in America, E2 and E4TheFuture, December 9, 2016, https://www.e2.org/wp-content/uploads/2016/12/EnergyEfficiencyJobsInAmerica_FINAL.pdf



either as an extension, expansion, and update of the existing Energy Efficiency Standard, or as a new enforceable target. Ultimately advancing CHP, WHP, and energy efficiency in Arizona will enhance the resiliency, competitiveness, availability and security of Arizona's energy infrastructure.

Thank you for your consideration.

Sincerely,

Jennifer Kefer
Executive Director
Alliance for Industrial Efficiency