



### Arizona Electric Utility Energy Efficiency Programs: A Success Story

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#### History

- The Arizona Corporation Commission (ACC) approved an Electric Energy Efficiency Resource Standard (EERS) in 2010. The standard requires the state's regulated utilities, including Arizona Public Service Company (APS) and Tucson Electric Power (TEP), to save 22% of electricity sales in 2020 as a result of energy efficiency programs implemented during 2011-2020. Up to 2% of the total savings can be attained through credits from demand response programs.
- The ACC has adopted a policy statement to address utility financial disincentives to promoting energy savings. The policy allows regulated utilities to propose full revenue decoupling, which has been approved for the state's largest natural gas utility (Southwest Gas Co.), or other mechanisms. APS and TEP have proposed and received approval of lost revenue recovery and performance-based shareholder incentive mechanisms.
- In 2020, the ACC adopted new standards that require APS and TEP to be carbon-free by 2050. The new standards also require the utilities to achieve at least 1.3% energy savings, measured as a fraction of retail electricity sales, annually during 2021-30 and include demand response standards.
- The state's second-largest electric utility, Salt River Project (SRP), is a public power provider not regulated by the ACC. SRP established its own policy to meet 20% of its customers' energy requirements through energy efficiency programs and renewable energy by 2020. In 2019, SRP adopted 2035 Sustainability Goals that include robust energy savings targets through 2035.

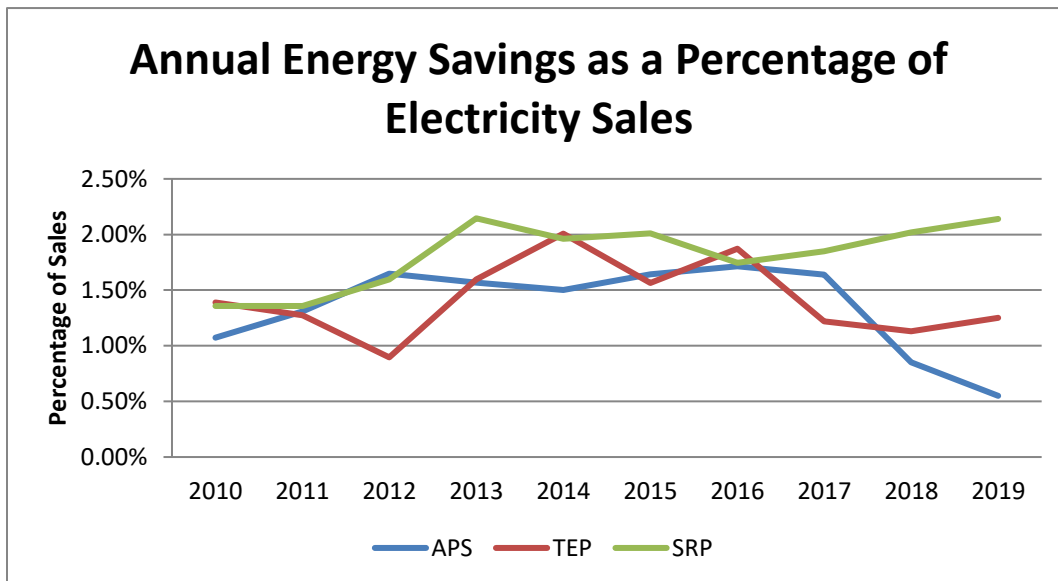
#### Utility Energy Efficiency Programs

- The state's largest electric utility, APS, serves about 1.26 million customers. Through 2017, APS implemented a comprehensive portfolio of energy efficiency programs, including traditional rebates for all types of efficiency measures, encouraging behavior change, funding for energy efficiency upgrades in schools, and support for codes and standards. However, APS scaled back its energy efficiency programs and shifted funding towards demand response programs in 2018-19.
- TEP serves about 430,000 customers in the Tucson area. It also has been implementing a comprehensive set of residential and commercial/industrial programs, including behavior change programs. As of 2019, TEP was slightly below the interim goal included in the state's EERS requirements.
- SRP serves nearly 1.1 million customers in and around Phoenix. It implements a wide range of energy efficiency incentive programs for its residential and business customers as well as a large-scale prepaid metering and energy education program. SRP also supports building energy code adoption and compliance.

#### Impacts of Energy Efficiency Programs

- As shown in the figure and table below, APS, TEP and SRP significantly expanded their energy efficiency programs and increased energy savings during 2010-16. However, annual energy savings declined for APS and TEP in 2017-19. Combined, these three utilities helped their customers realize electricity savings of approximately 8.2 billion kWh in 2019 from programs implemented during 2010-19. The savings are equal to about 12.5% of total electricity use by customers of these three utilities in 2019.

- According to the utilities' own estimates, the projected net economic benefits from efficiency programs operated by the three utilities during 2010-19 totals \$4.1 billion. This is equivalent to the electricity bills paid by the 2.5 million residential customers of the three utilities for thirteen months.
- The energy efficiency programs implemented during 2010-19 resulted in water savings of around 2.7 billion gallons in 2019 from the reduced operation of thermal power plants, enough water to supply about 19,000 typical Arizona households.
- As a result of a decade of energy efficiency programs, the three utilities cut their CO<sub>2</sub> emissions in 2019 by around 5.8 million metric tons. This is equivalent to taking approximately 1.15 million passenger vehicles off the road.
- Utility energy efficiency programs increase employment through the production, sales and installation of energy-efficient products and services. A recent study estimates that there are over 44,800 jobs in Arizona related to improving in energy efficiency.



### DSM Program Results of Arizona's Largest Electric Utilities, 2010-19

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Total
Spending (\$ M)	83	103	113	119	116	125	123	114	86	86	<b>1,068</b>
Electricity Savings (GWh/year)	781	851	976	1,182	1,138	1,163	1,137	1,099	913	883	<b>8,250</b>
Savings as a % of Retail Sales	1.24	1.32	1.52	1.81	1.77	1.79	1.75	1.69	1.40	1.33	<b>NA</b>
Peak Reduction (MW)	130	188	220	257	278	290	319	289	316	349	<b>NA</b>
Net Economic Benefits (\$ M)	290	290	428	422	453	401	419	409	485	493	<b>4,090</b>
CO <sub>2</sub> Emissions Reductions (thousand metric tons/yr)	547	596	683	827	797	814	796	769	639	618	<b>5,775</b>

Notes: Total energy savings is not equal to the sum of the savings achieved each year to avoid double-counting the savings provided by SRP's pre-paid metering program. Also, savings are at the customer level and do not include avoided T&D losses. CO<sub>2</sub> emissions reductions assume avoiding generation from coal-fired and gas-fired power plants in equal amounts.

Source: Utility data are taken from annual Demand-Side Management reports submitted by APS and TEP to the ACC along with annual reports issued by the Salt River Project.

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