

Delivering High Levels of Energy Savings for Utility Programs: Strategies from Arizona

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Southwest Energy Efficiency Project (SWEET)
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What is the Southwest Energy Efficiency Project (SWEEP)?

- Public interest initiative, founded 2001
- Promotes greater energy efficiency in a 6-state southwest region
- Board of Directors includes utility, state government, national laboratory, former regulator, and private sector representatives
- Major funding provided by Energy Foundation, Edwards Mother Earth Foundation, anonymous funder, Hewlett Foundation, and the U.S. Department of Energy
- Strives to achieve energy savings, lower energy bills, and environmental benefits

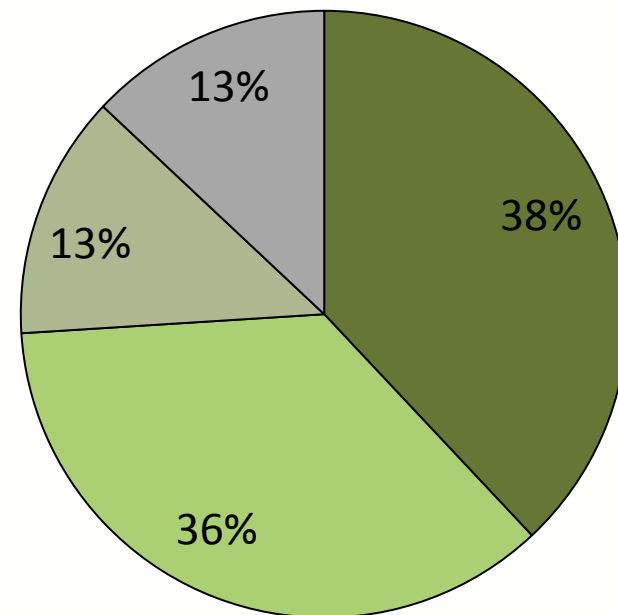


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Arizona (AZ) Landscape

- 3 major electric utilities
 - **Arizona Public Service (APS)** – IOU, ~1.2 million customers
 - **Salt River Project (SRP)** – ~1 million customers
 - **Tucson Electric Power (TEP)** – IOU, ~413k customers
- AZ Corp. Commission (ACC)
 - 5 commissioners
 - Publicly elected
 - Regulates 14 electric utilities including APS & TEP, *not* SRP
- SRP governed by its own board

AZ Electric Sales by Utility

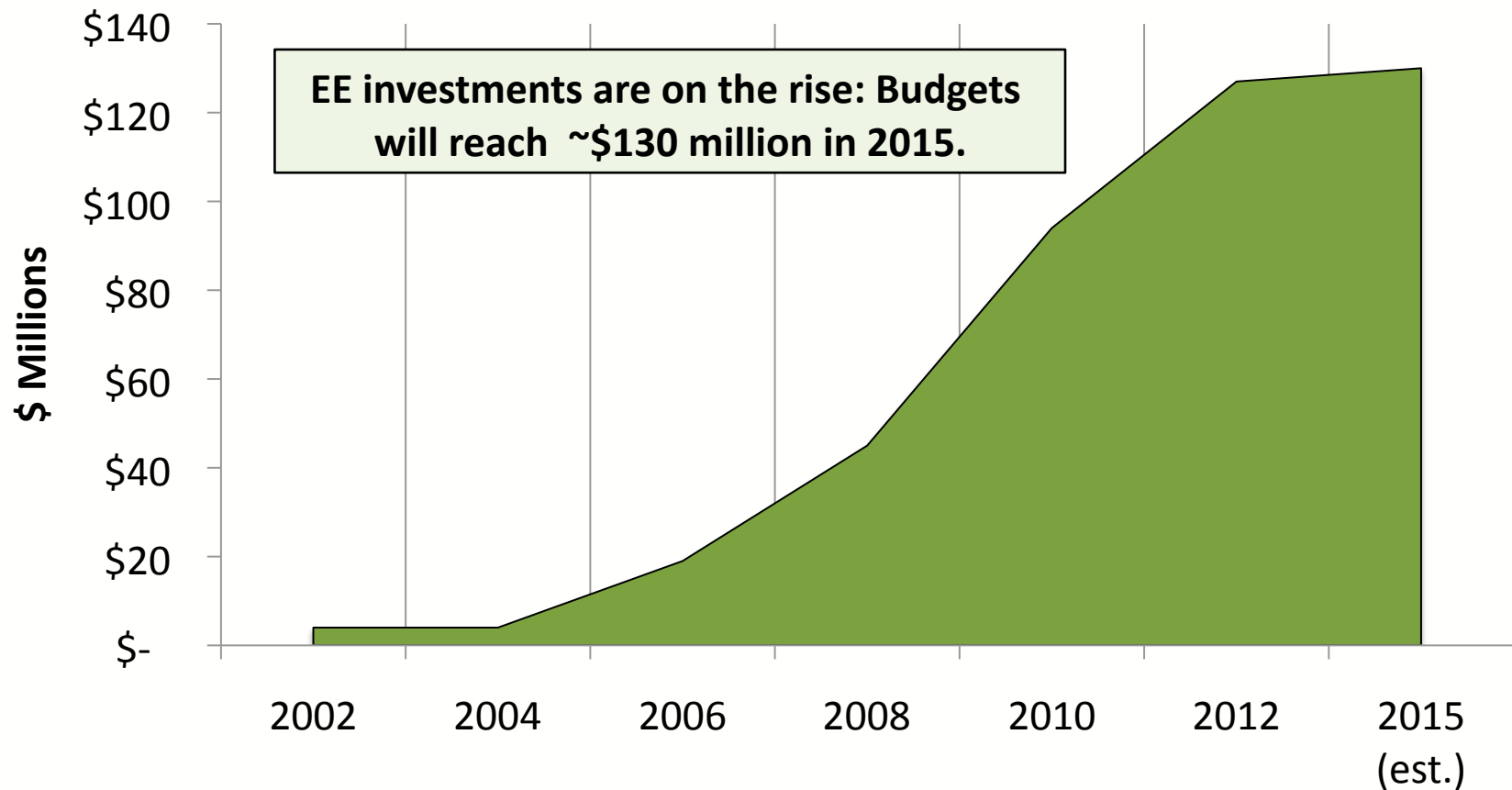


■ APS ■ SRP ■ TEP ■ Other

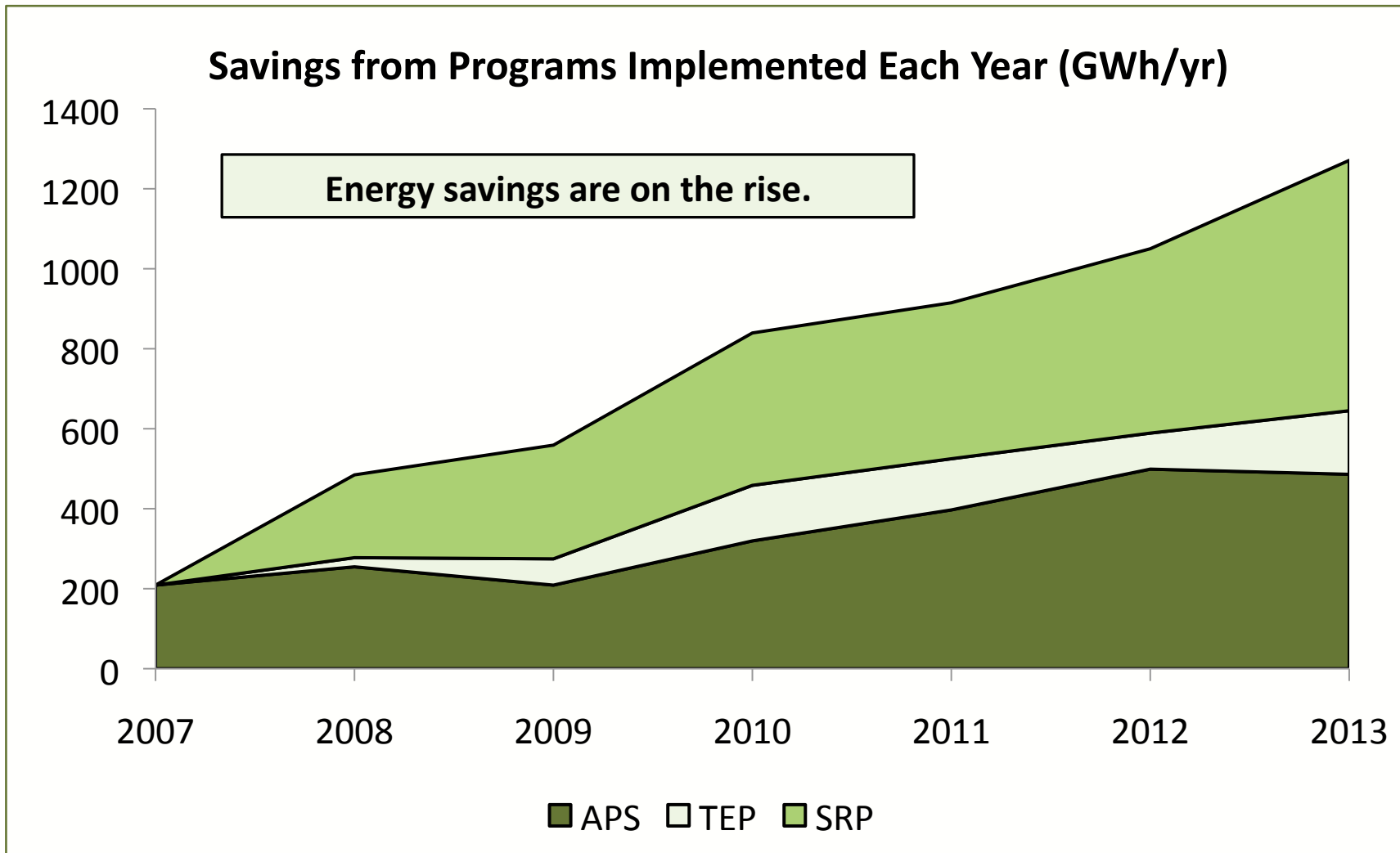
Total Retail Sales: 75.7 Million MWh

AZ Electric Utility EE Program Spending

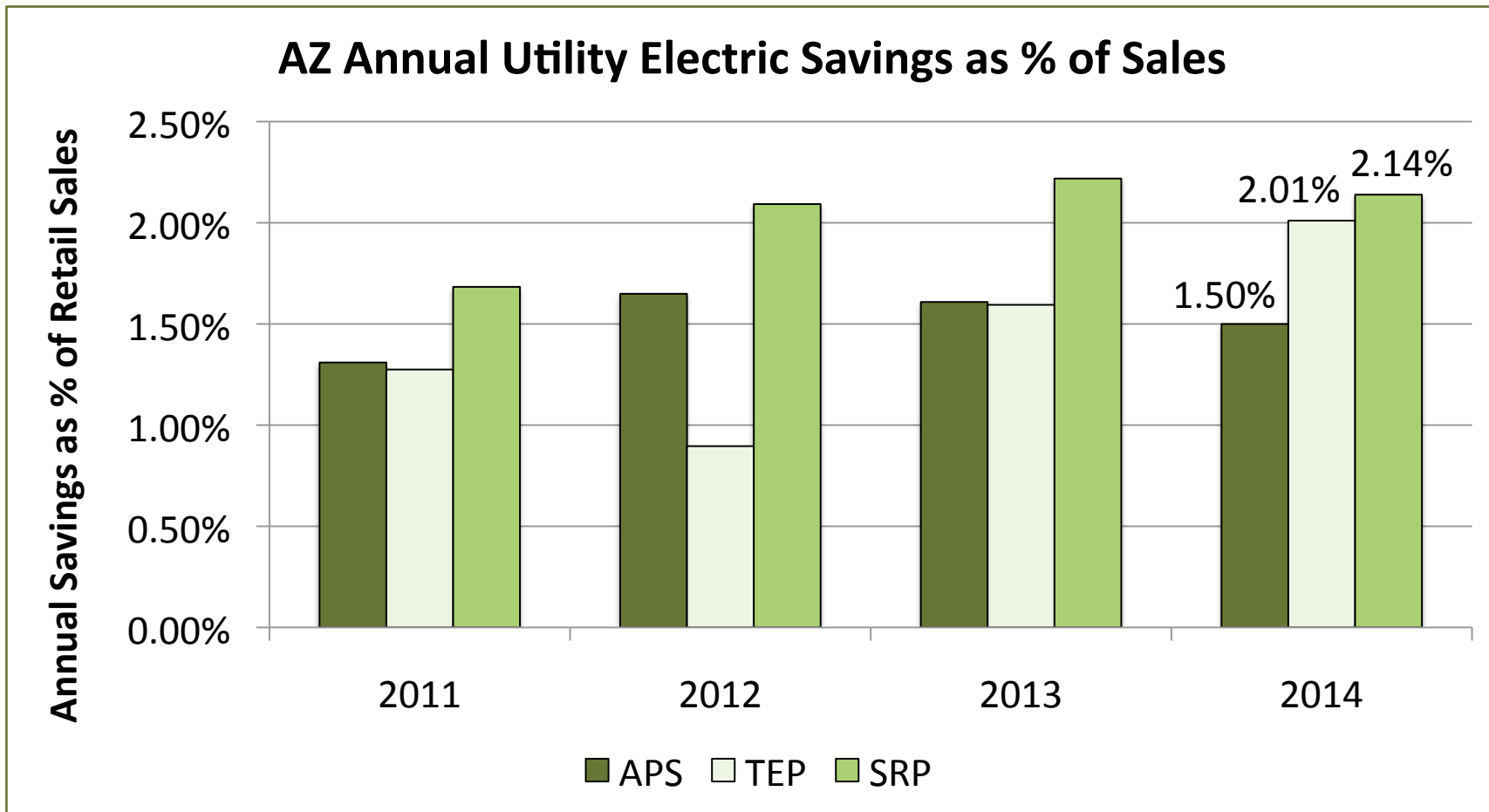
AZ Utility Energy Efficiency Program Budgets



AZ Electric Utility DSM Program Savings



Energy Savings Trends by AZ Utility

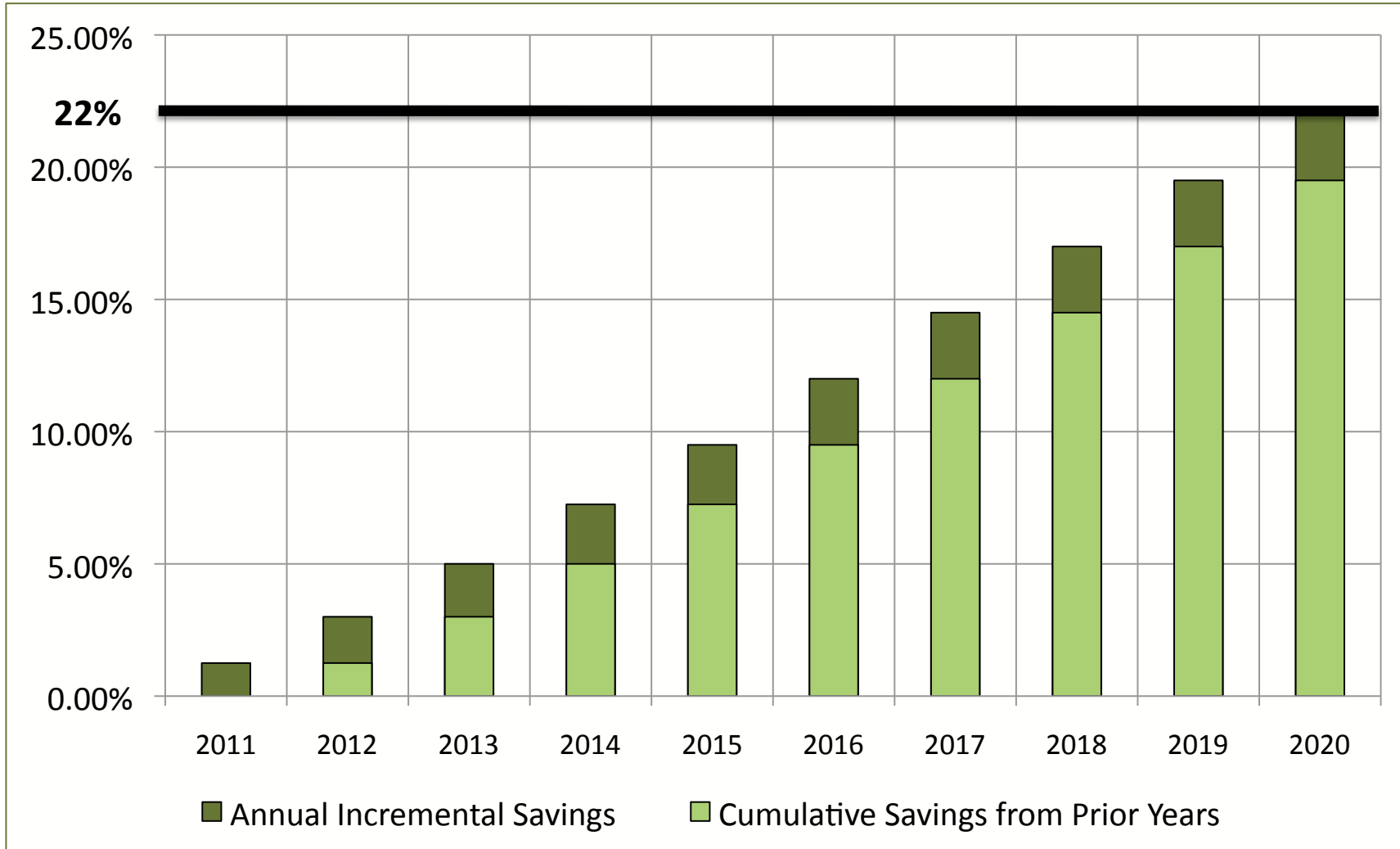


In 2014, both SRP and TEP exceeding 2% savings. In 2012, funding for TEP's EE programs was temporarily suspended (explaining the drop in savings). Savings are at the customer meter.

AZ's EE Policies: Major Driver of Savings

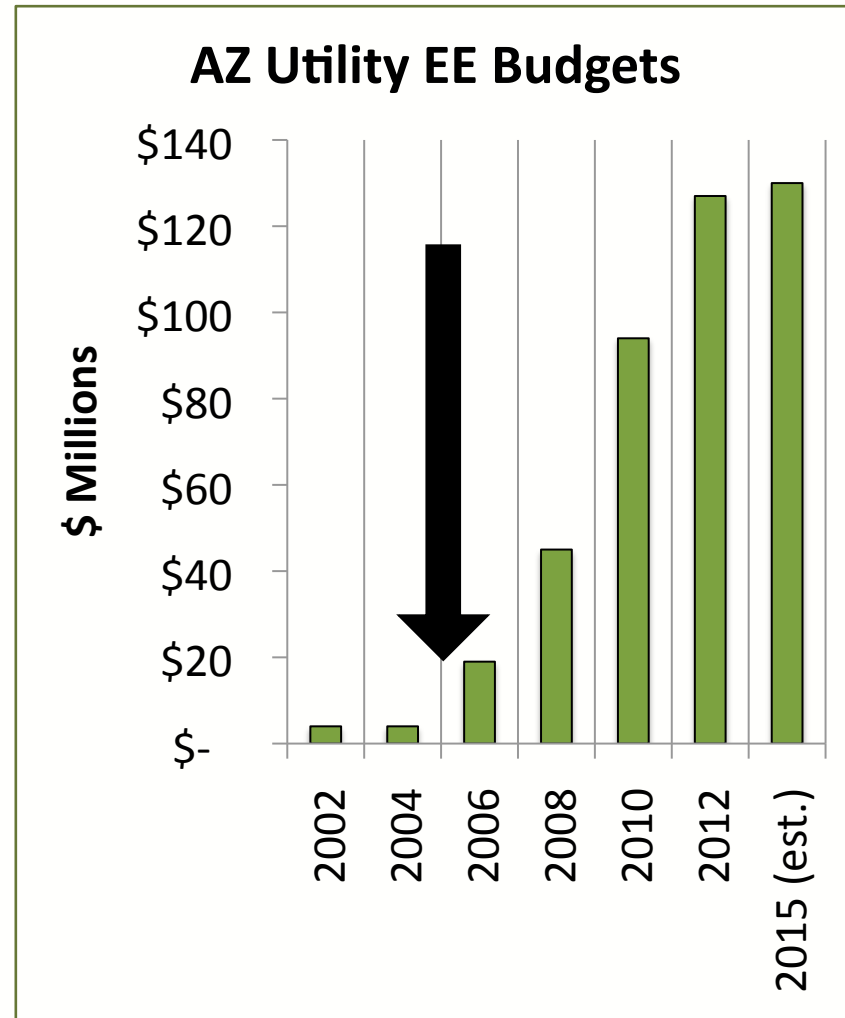
- ❑ Electric Efficiency Resource Standard
 - Requires 22% energy savings by 2020. Applies to APS, TEP.
 - Unanimously adopted by the ACC in 2010.
 - Allows partial credit for savings from codes that are attributable to utility actions, and credit for CHP impacts.
 - SRP has also adopted an EE Standard of its own.
- ❑ Decoupling Policy Statement
 - Allows IOU electric and gas utilities to file specific decoupling proposals to align utility financial interests with the interests of customers and the public.
 - APS and TEP have approved lost fixed cost revenue recovery mechanisms.
- ❑ Utility Performance incentives
 - Shared savings mechanisms in place for APS, TEP.

AZ's EERS: How the Savings Add Up



AZ's EE Policies: Major Driver of Savings

- ❑ **2005** - APS Rate Case: Commitment to invest \$16M in EE programs in 2005, \$48M EE programs from 2005-07; SRP: Sustainable requirements
- ❑ **2007** - TEP Rate Case: Commitment to invest \$48M in EE programs from 2008-12
- ❑ **2008** - APS Rate Case: Commitment to EE savings targets from 2010 -2012); EE program commitments for exiting homes, schools, and financing
- ❑ **2010** - ACC Electric & Gas EE Resource Standards adopted; ACC IRP Rules adopted
- ❑ **2011** - SRP EE targets adopted



Arizona energy-saving programs in jeopardy

ACC proposal to eliminate energy efficiency standard a multi-billion dollar loss for AZ consumers

Commission staff proposal would encroach on Arizonans' freedom to choose how they use energy

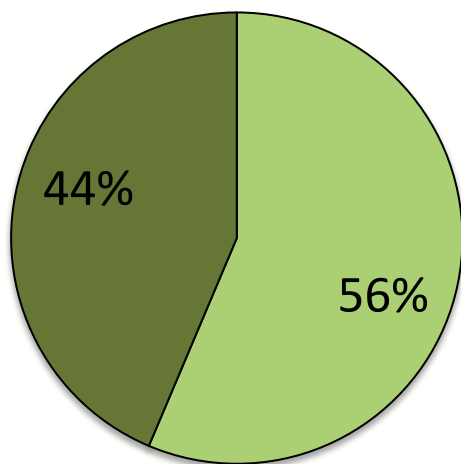
Don't abandon Energy Efficiency Standard

Arizona's approach to energy efficiency programs is conservative

Energy efficiency programs that could be cut have helped thousands of consumers

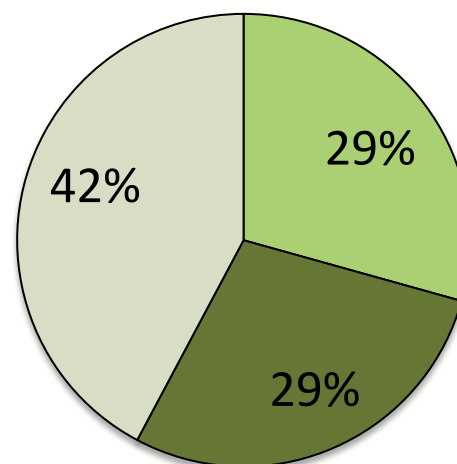
Where are the Savings Coming From?

APS: 2014 EE Savings



■ C&I ■ Residential

SRP: FY 2015 EE Savings

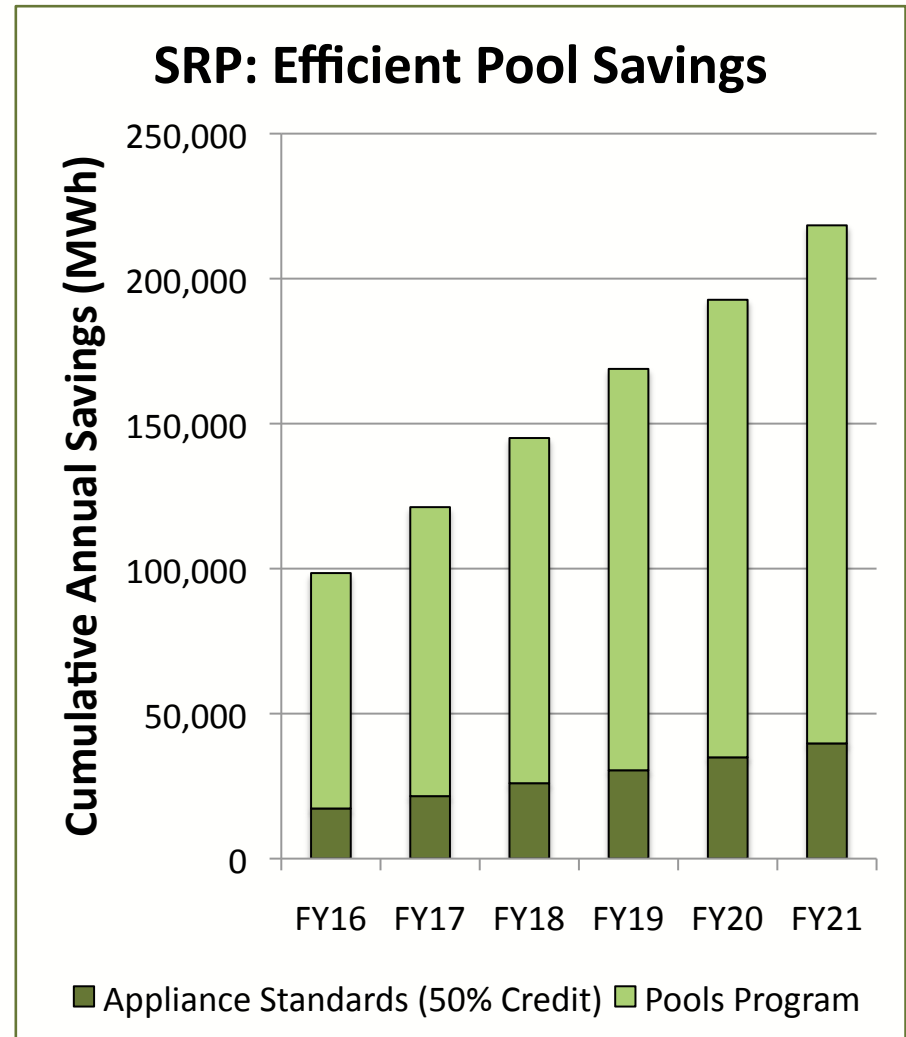


■ C&I ■ Residential ■ M-Power

- AZ leveraging significant savings from traditional areas, e.g.: Residential Lighting, Conservation Behavior, C&I Facilities (custom & prescriptive)
- Cost of EE remains low (1.2 cents/lifetime kWh saved) and lower than planned – suggesting significant cost effective savings remain

Pools (Rebates and Appliance Standards)

- ❑ AZ allows credit for appliance stds.
- ❑ AZ pool stats
 - Highest ownership in country
 - 2nd biggest energy user in home
- ❑ Appliance Stds (2012)
 - Effects filtration pumps, motors, controls, portable spas
 - Requires 2-speeds for pumps/motors >1 HP
 - 15-20% of Arizonans effected
- ❑ Pools program – timed with Stds.
 - Variable speed pump rebates
 - >600 companies, 900 individuals trained to install, calibrate pumps
 - ↑ 300% participation after Stds.



Building Energy Code Support

- ❑ AZ: “Home Rule” state, state with a lot of growth
- ❑ AZ allows utility partial savings credit for building energy code support
- ❑ Examples of SRP support:
 - Support & advocate for adoption of IECC by 19 jurisdictions in territory
 - Participation in code forums
 - Trainings
 - Resources for jurisdictions to purchase code books, manuals
 - Funds to support code trainers
 - Technical support
 - Physical space for trainings
- ❑ 70% of SRP jurisdictions have adopted 2009 or 2012 IECC (early 2014)
- ❑ Both SRP and APS delivering program for about \$100k/year

M-Power/Pre-pay *with* Education and Behavior

- ❑ Program provides initial energy education; monitor/display in the home with real-time energy use and financial data; and pre-pay electricity agreement
- ❑ No deposit required of customers for electric service
- ❑ SWEEP supported this program because of the strong educational/informational component, including an in-home display and measured savings from three EM&V studies
- ❑ Nationally these programs can be controversial
- ❑ APS proposing program

Solutions for Business

- Delivered ~64% of C&I savings in 2014
- Includes custom and prescriptive paths
- Elements of Success
 - Trade allies – driving about half of the program’s applications
 - Trainings – Monthly classes (e.g. compressed air, CEM, codes update)
 - Customer outreach – Key account managers; outreach professionals; targeted outreach to K-12, industrial, water/waste water treatment; data centers
 - Robust list of prescriptive measures (~400-500 measures)
- Future enhancements to achieve additional savings through 2020
 - Strategic energy management
 - Enhanced analytics
 - Upstream incentives
 - On-site light touch ASHRAE Level II Audit
 - Advanced lighting controls, variable refrigerant flow technologies

Additional Emerging Strategies (APS)

- Conservation Voltage Reduction
 - Project with 47 feeders in 2016
 - 39,000MWh annual savings, ~8% of 2016 portfolio savings
- Behavioral Efficiency + DR
 - Expansion of conservation behavior to business sector
 - Introduction of behavioral demand response messaging alongside Home Energy Reports (~50,000 customers)
 - 61,000MWh annual savings, ~12% of 2016 portfolio

Thank You & Contact Information

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Additional information and resources at: www.swenergy.org