

# 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)?

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- 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

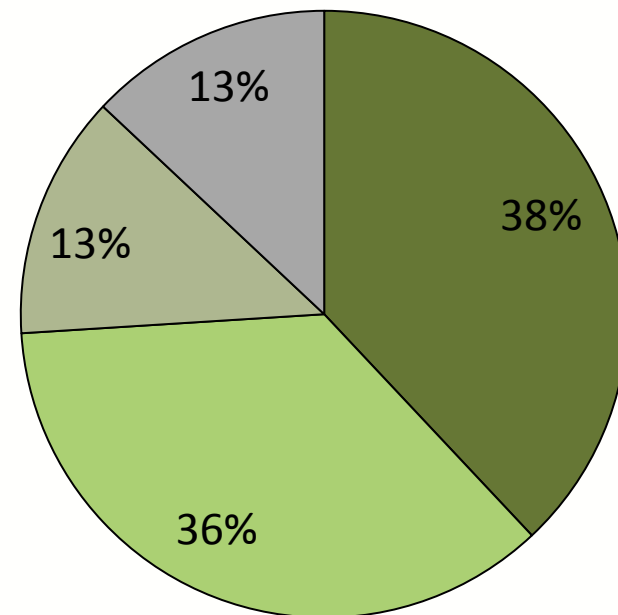


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# Arizona (AZ) Landscape

- 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**

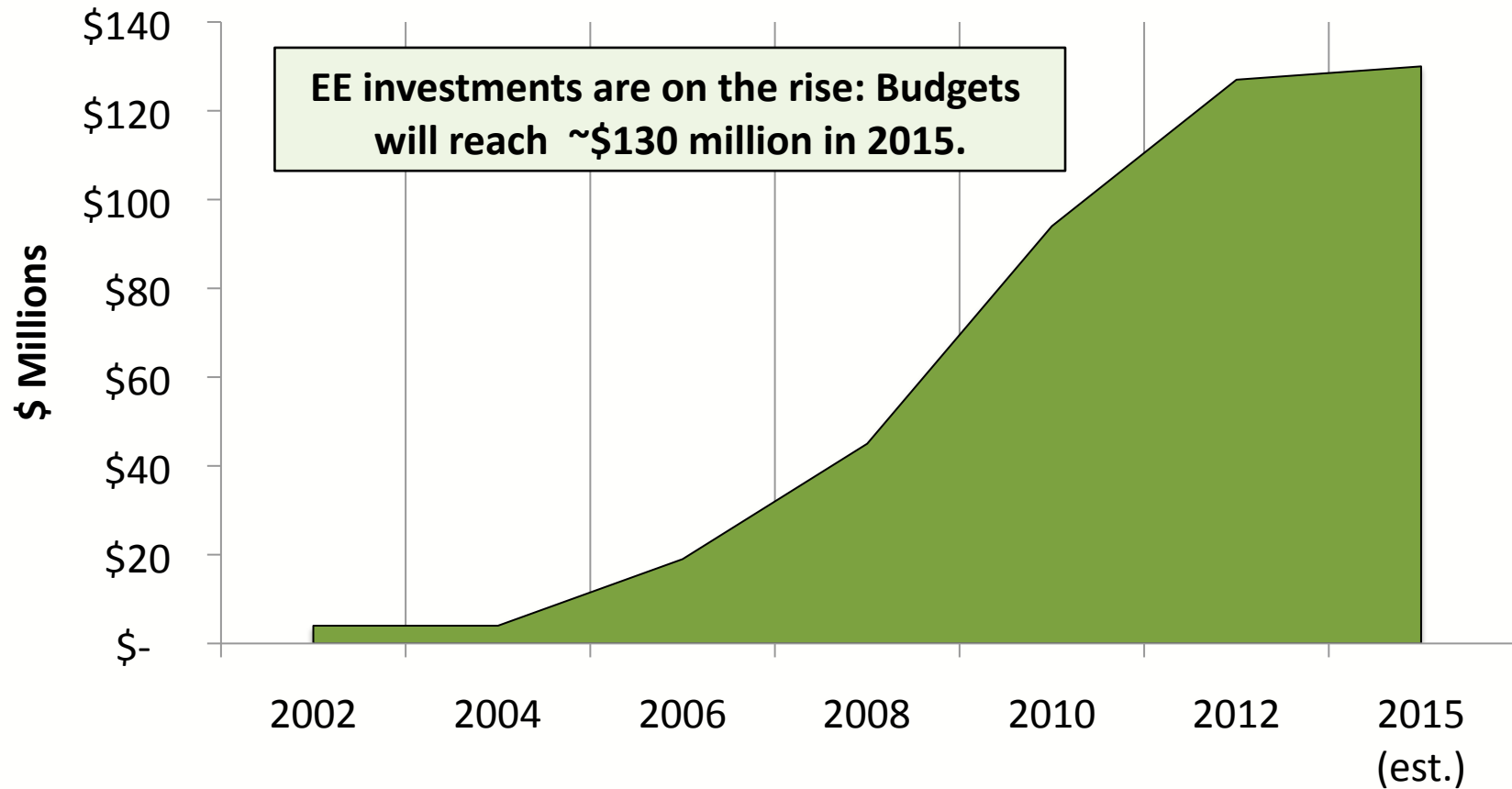


■ APS ■ SRP ■ TEP ■ Other

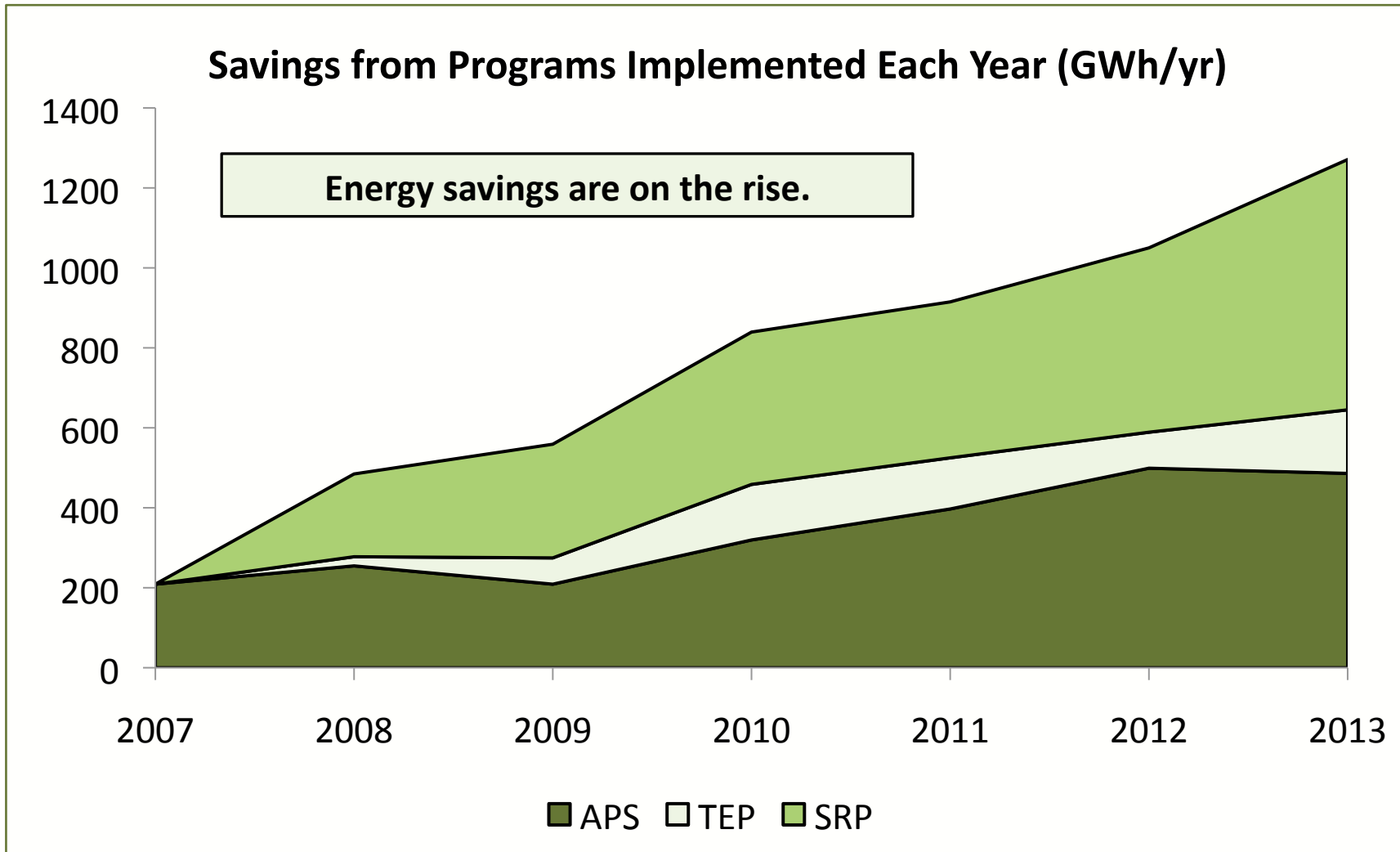
**Total Retail Sales: 75.7 Million MWh**

# AZ Electric Utility EE Program Spending

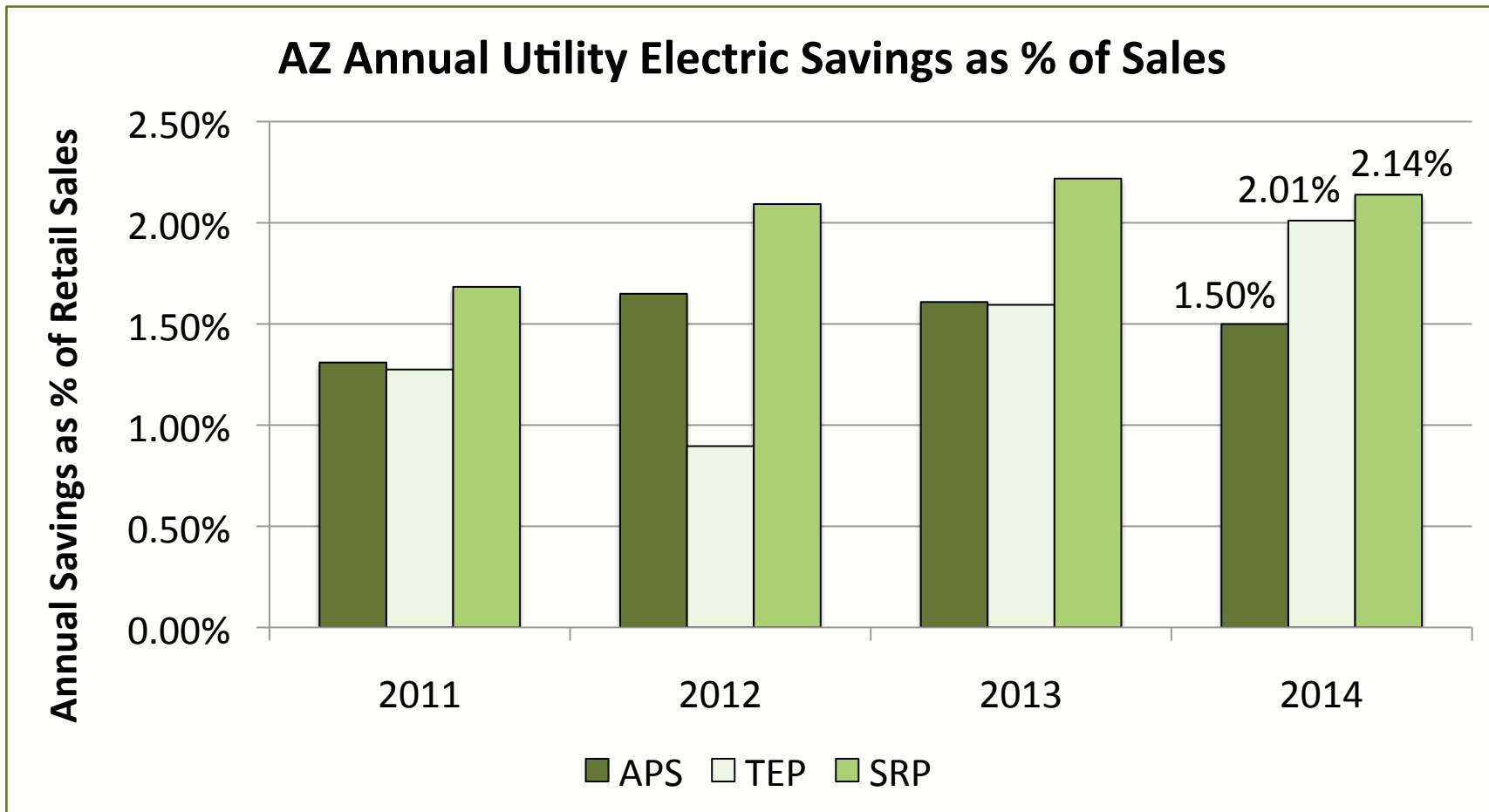
## AZ Utility Energy Efficiency Program Budgets



# AZ Electric Utility DSM Program Savings



# Energy Savings Trends by AZ Utility



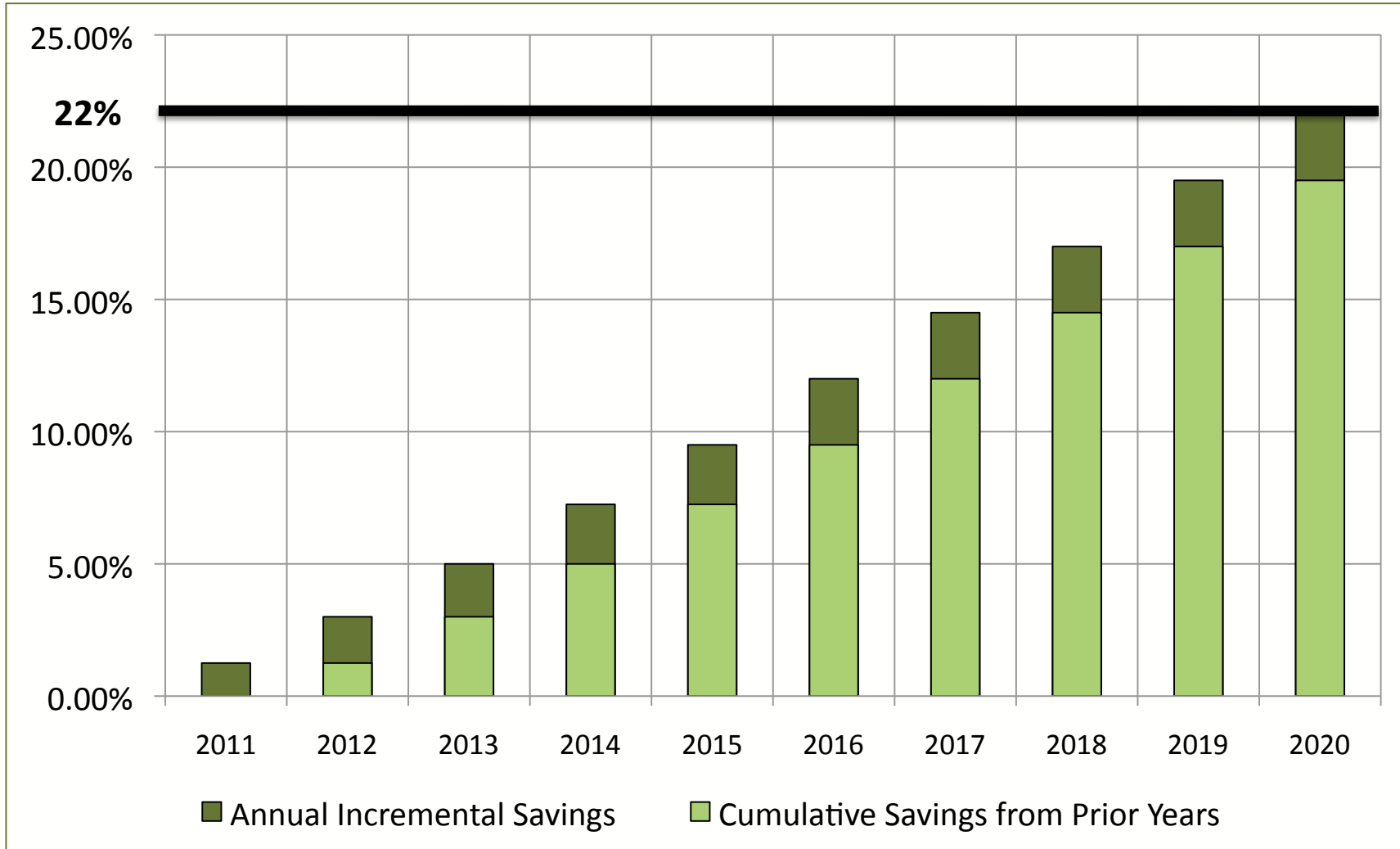
In 2014, both SRP and TEP exceeding 2% savings. In 2012, funding for TEP's EE programs was temporarily suspended (explaining the drop in savings). Savings are at the customer meter.

# AZ's EE Policies: Major Driver of Savings

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- 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.

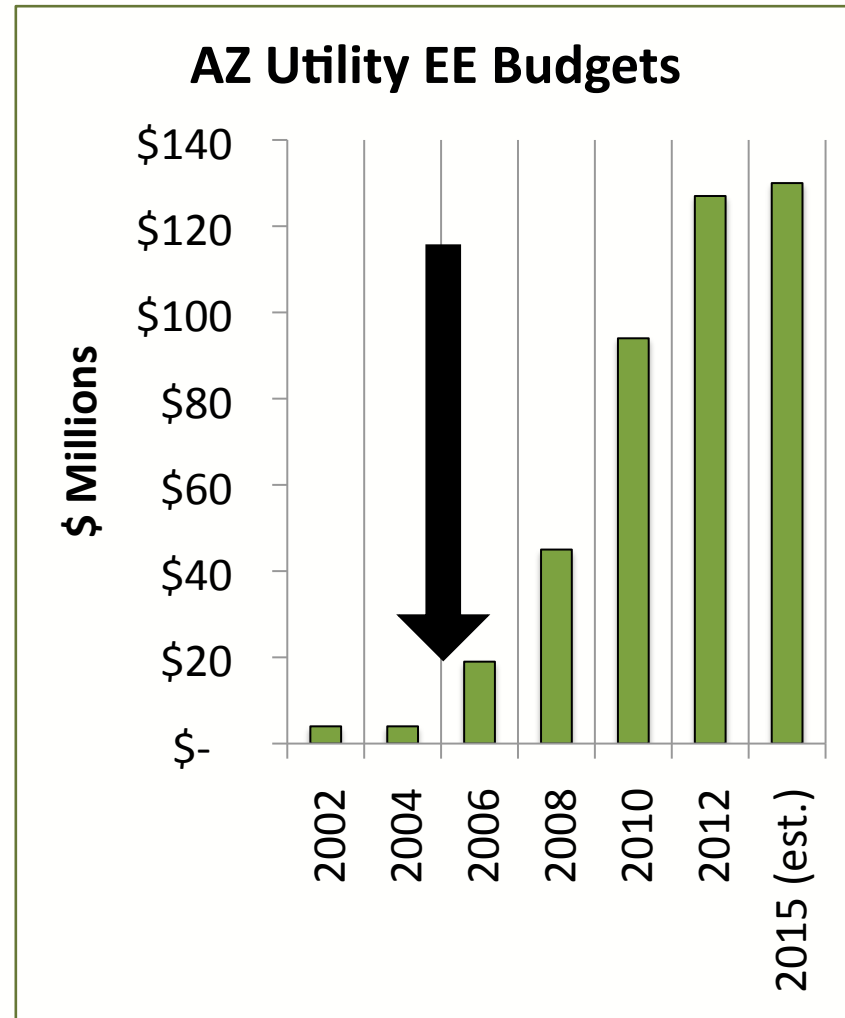
# AZ's EERS: How the Savings Add Up





# 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

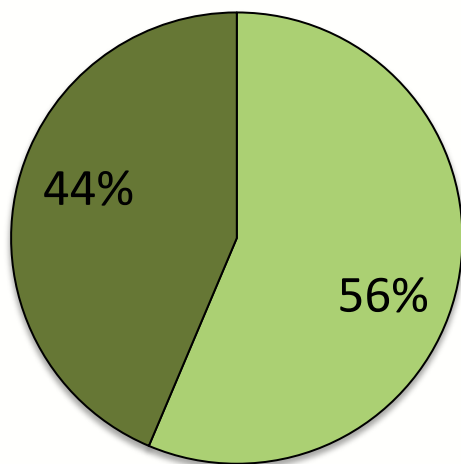
**Don't abandon Energy Efficiency Standard**

**Arizona's approach to energy efficiency programs is conservative**

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

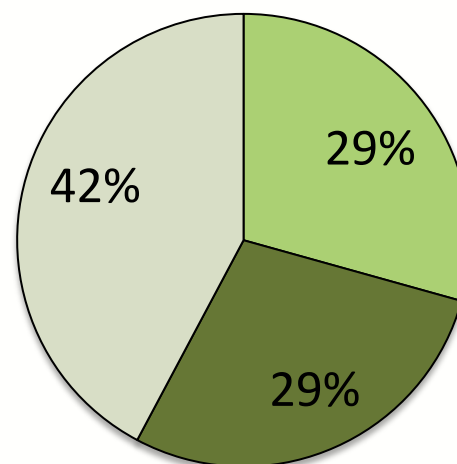
# Where are the Savings Coming From?

**APS: 2014 EE Savings**



■ C&I ■ Residential

**SRP: FY 2015 EE Savings**

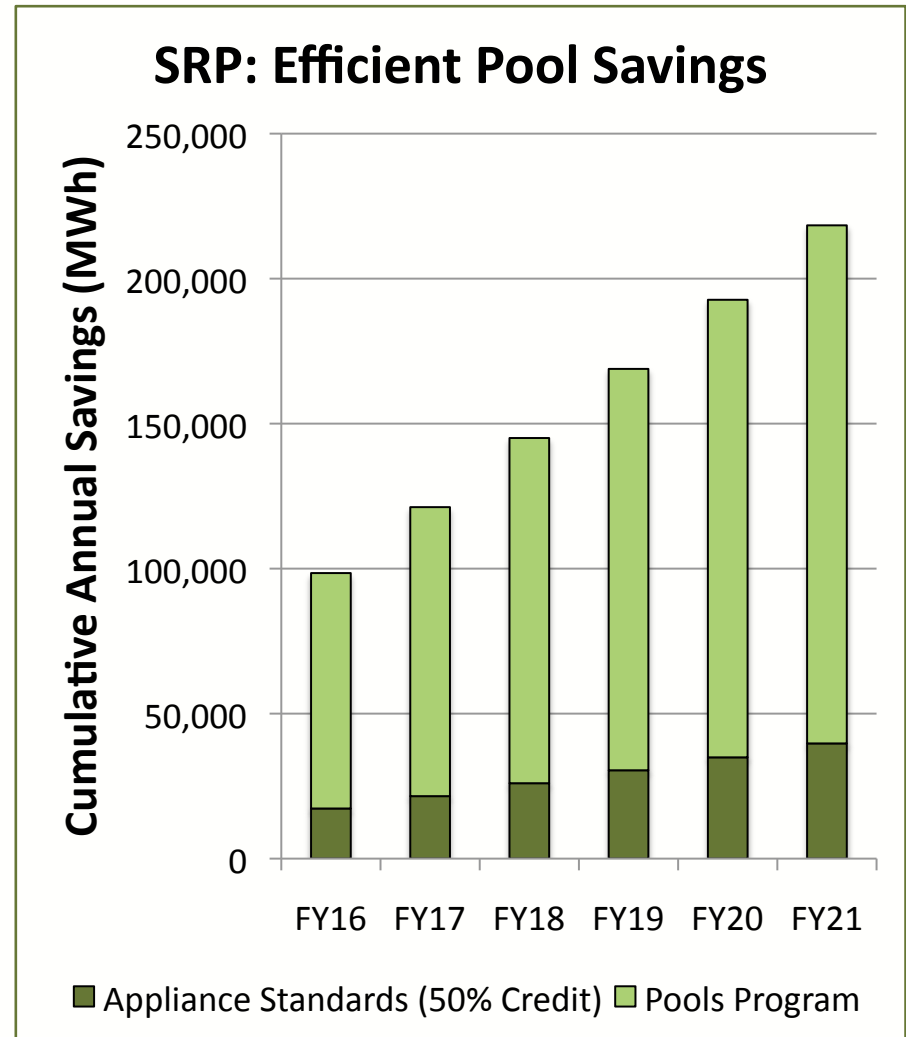


■ C&I ■ Residential ■ M-Power

- ❑ 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
  - 2<sup>nd</sup> 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

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- ❑ 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

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- ❑ 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

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- 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)

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- 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](http://www.swenergy.org)