



RATES ADVISORY COMMITTEE: STEP PROGRAM DETAILS

PRESENTED BY:

Rick Luna

Director, Technology & Product Innovation

September 9, 2021

Informational

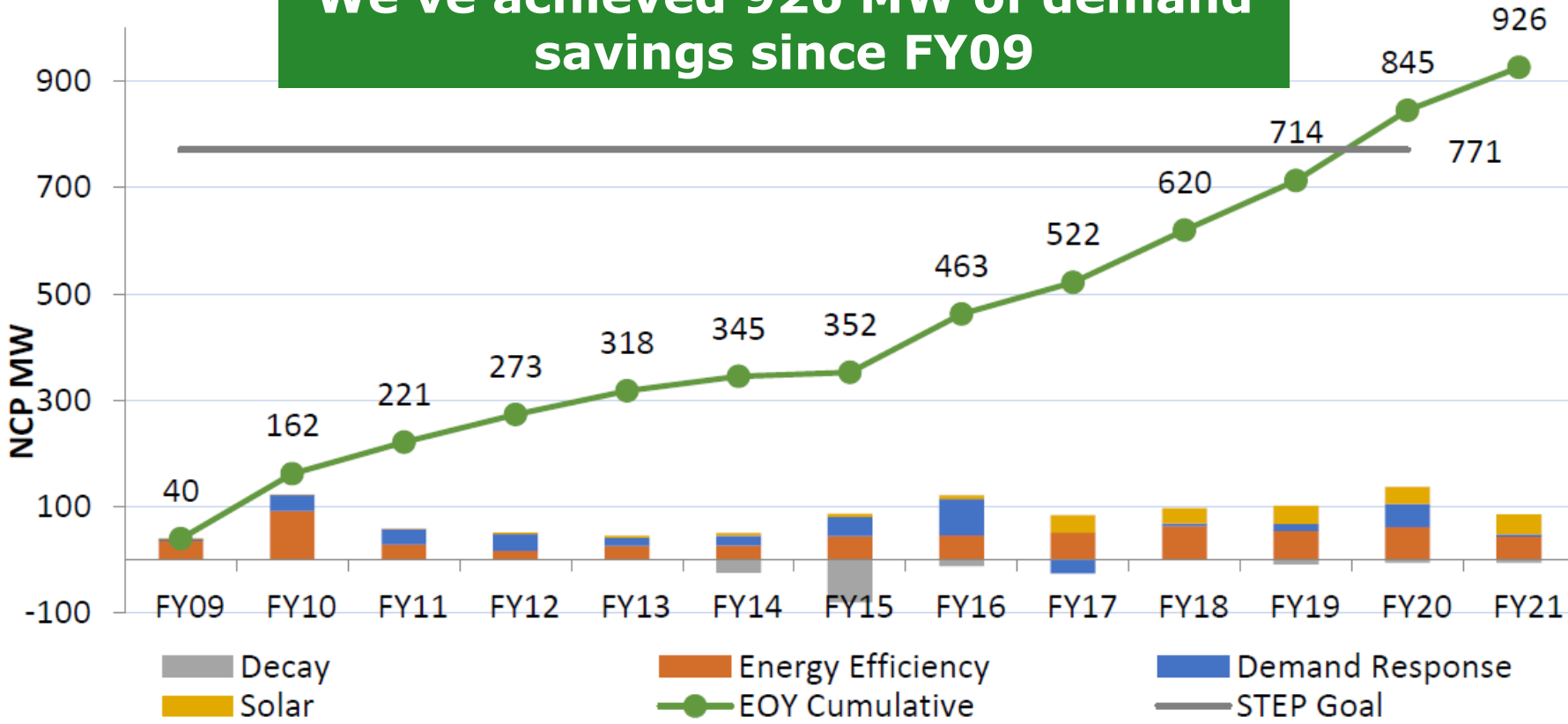
Program Background

STEP BRIDGE

PROGRAM ACHIEVEMENTS



We've achieved 926 MW of demand savings since FY09



In FY21, we benefited customers with:

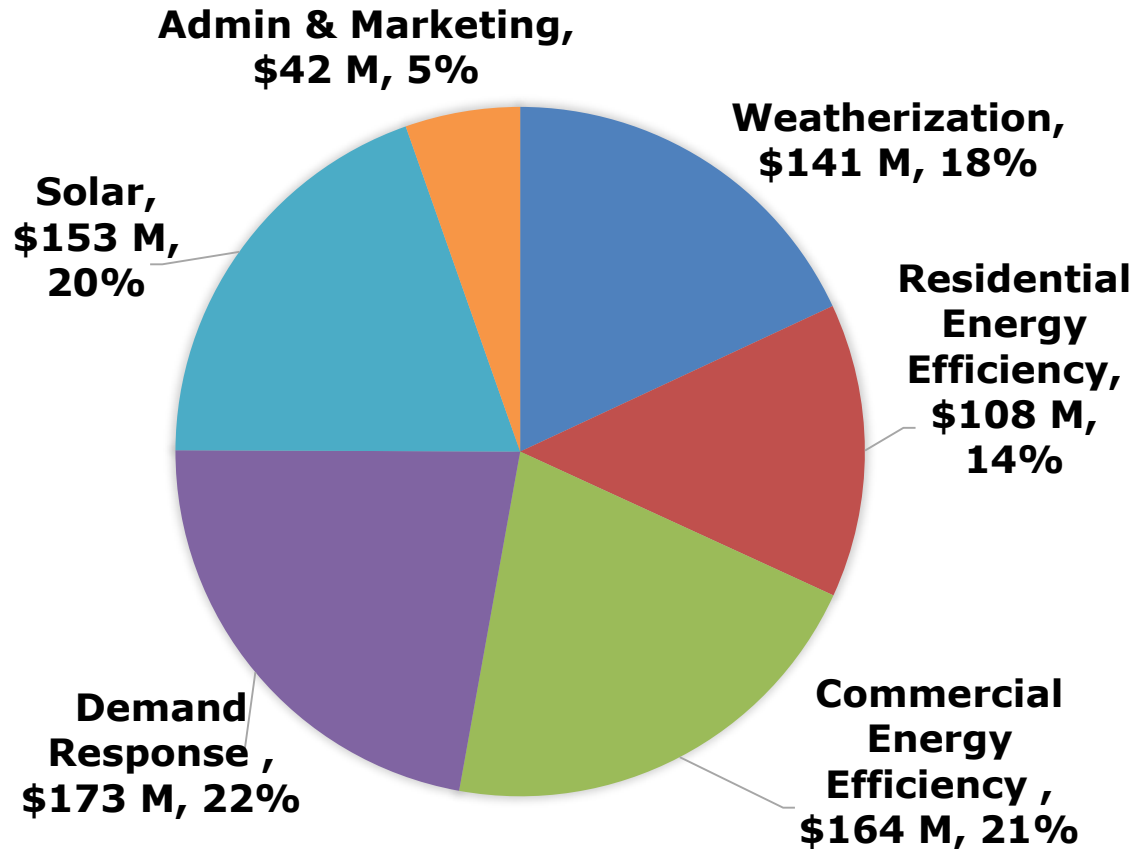
- 1,726 homes weatherized
- 4,416 solar systems installed on homes & businesses
- 55,781 energy efficiency rebates

Thank you to our community for your support of STEP Bridge!

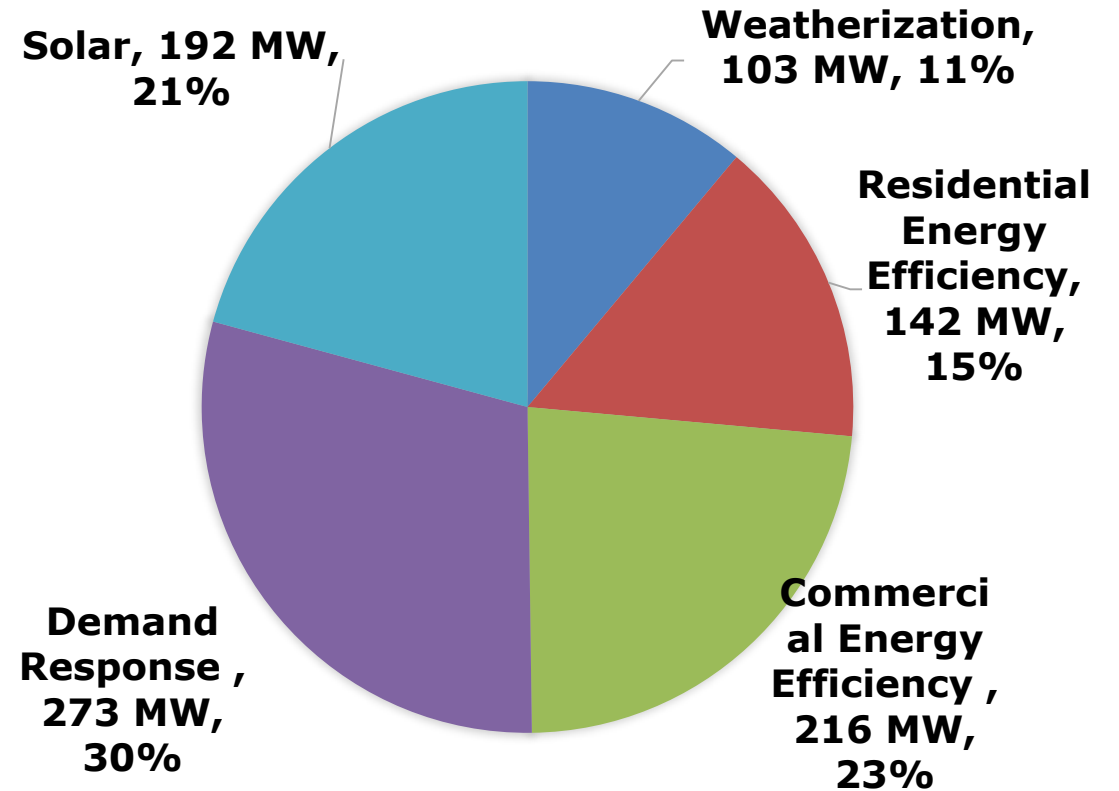
STEP SPEND & SAVINGS



Program Spending



MW's Saved

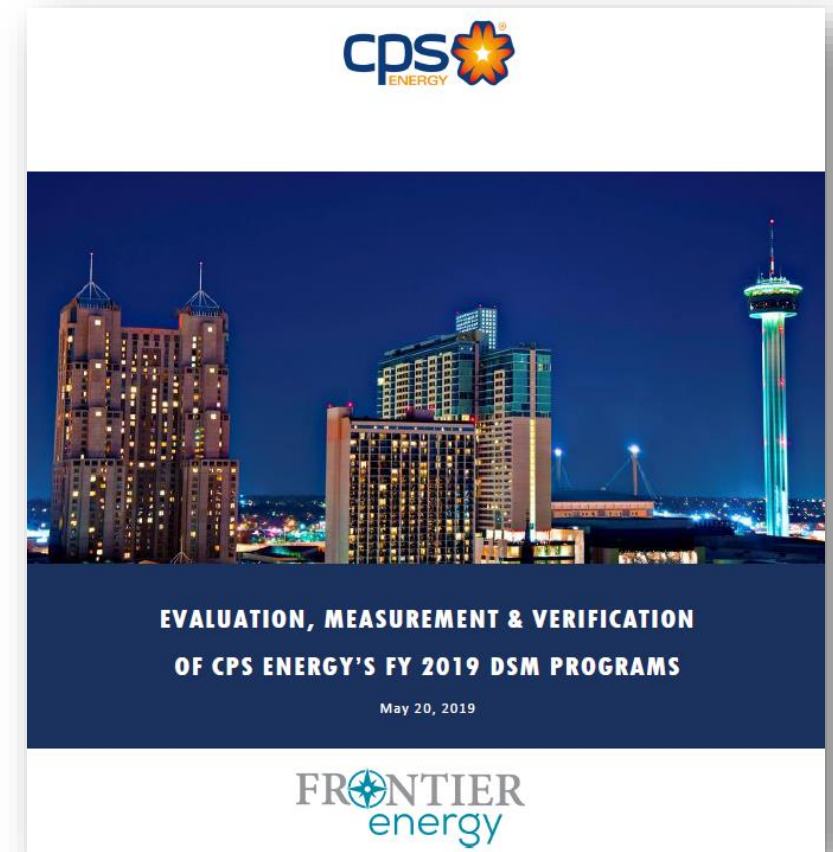


We deliver a balanced portfolio of programs that offers something for everyone.

PROGRAM REPORTING



- The **STEP** Ordinance establishes a clear set of reporting and accountability requirements.
- Annual Reports evaluate performance program relative to:
 - Estimated energy & demand savings
 - Cost effectiveness
 - Recommendations for program improvements
- Quarterly Reports contain program participation & spending by Council District with maps.
- Reports are submitted to & reviewed by City of San Antonio staff.



STEP Annual & Quarterly Reports can be found at:

<https://www.sanantonio.gov/sustainability/Environment/SaveForTomorrowReports>

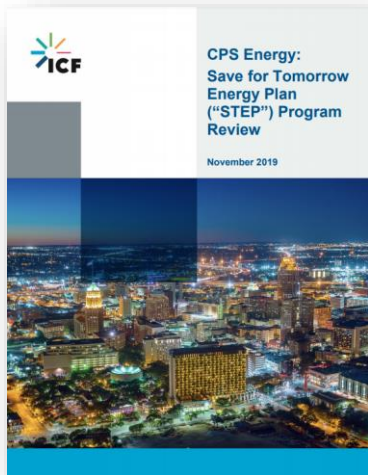
STEP REPORTS

THIRD PARTY EVALUATION



STEP Program Evaluation

Author: ICF



Highlights:

- Third party evaluation
- Reviews accomplishments of entire STEP program
- Deep Dive into:
 - Savings
 - Economic impacts
 - Emissions reductions

Annual STEP Reports

Author: Frontier Energy

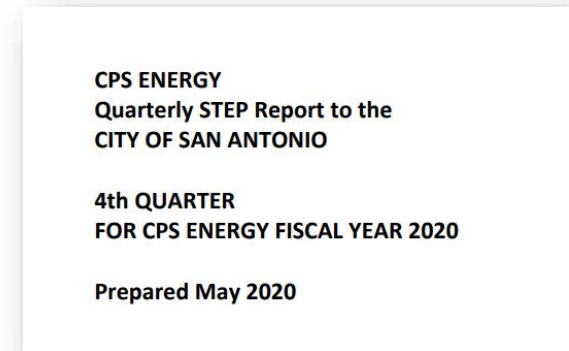


Highlights:

- Annual 3rd party evaluation
- Deep look into annual program performance
- Verifies program savings
- Deep Dive into:
 - Savings calculations
 - Meter data verification
 - Emissions reductions

Quarterly STEP Reports

Author: CPS Energy



Highlights:

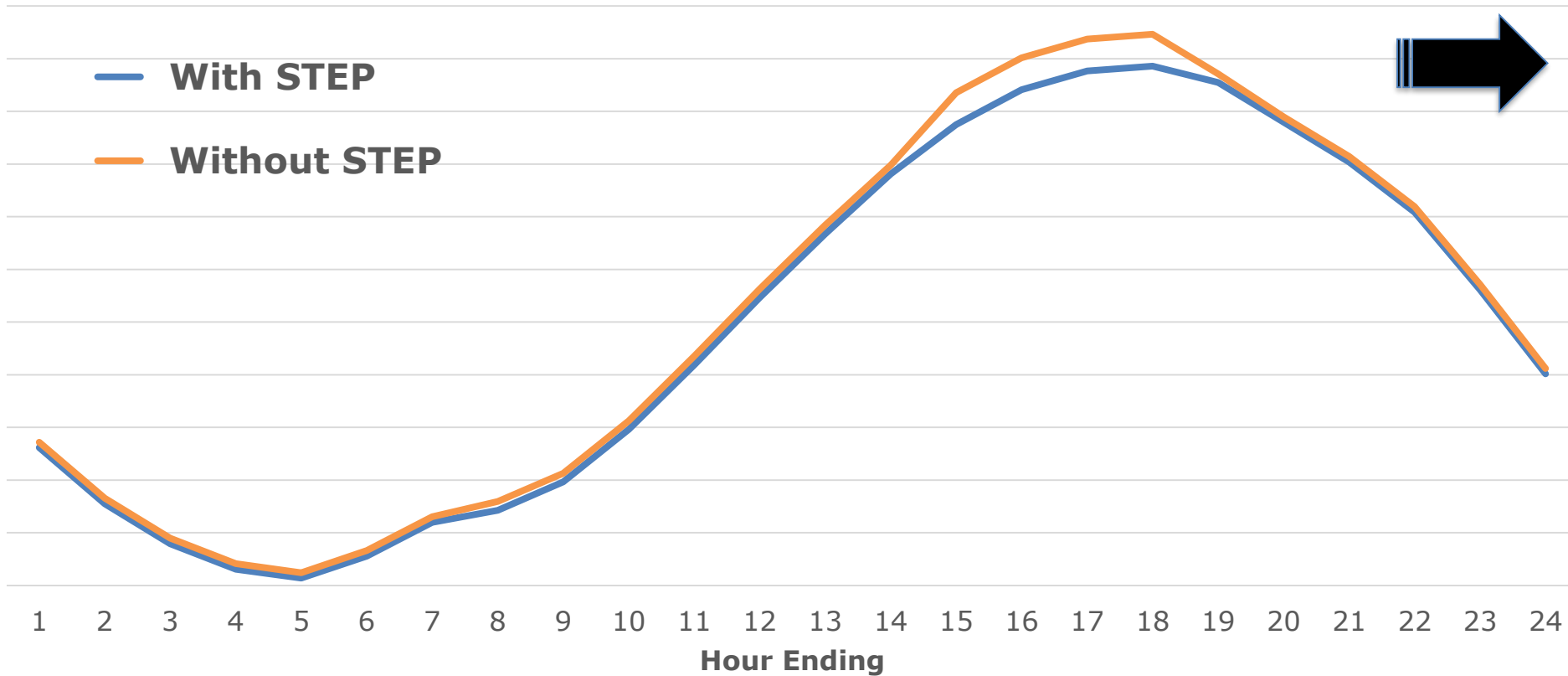
- Rebates & spend in each quarter
- Maps rebates by Council Districts

REALIZED SAVINGS

MEASURING STEP IMPACTS



Load Reduction from a STEP Program
Average Summer Day



Through the M&V process, we estimate:

- **Avoided MW** (Capacity)
- **Avoided MWh** (Energy)

We do this for every STEP program.

The Measurement & Verification (M&V) process quantifies measurable energy savings from each of our STEP programs.

MEASURING COST EFFECTIVENESS

UTILITY COST TEST



The Utility Cost Test (UCT) is equivalent to a Return on Investment (ROI), it measures the benefits from STEP programs in relation to their cost.

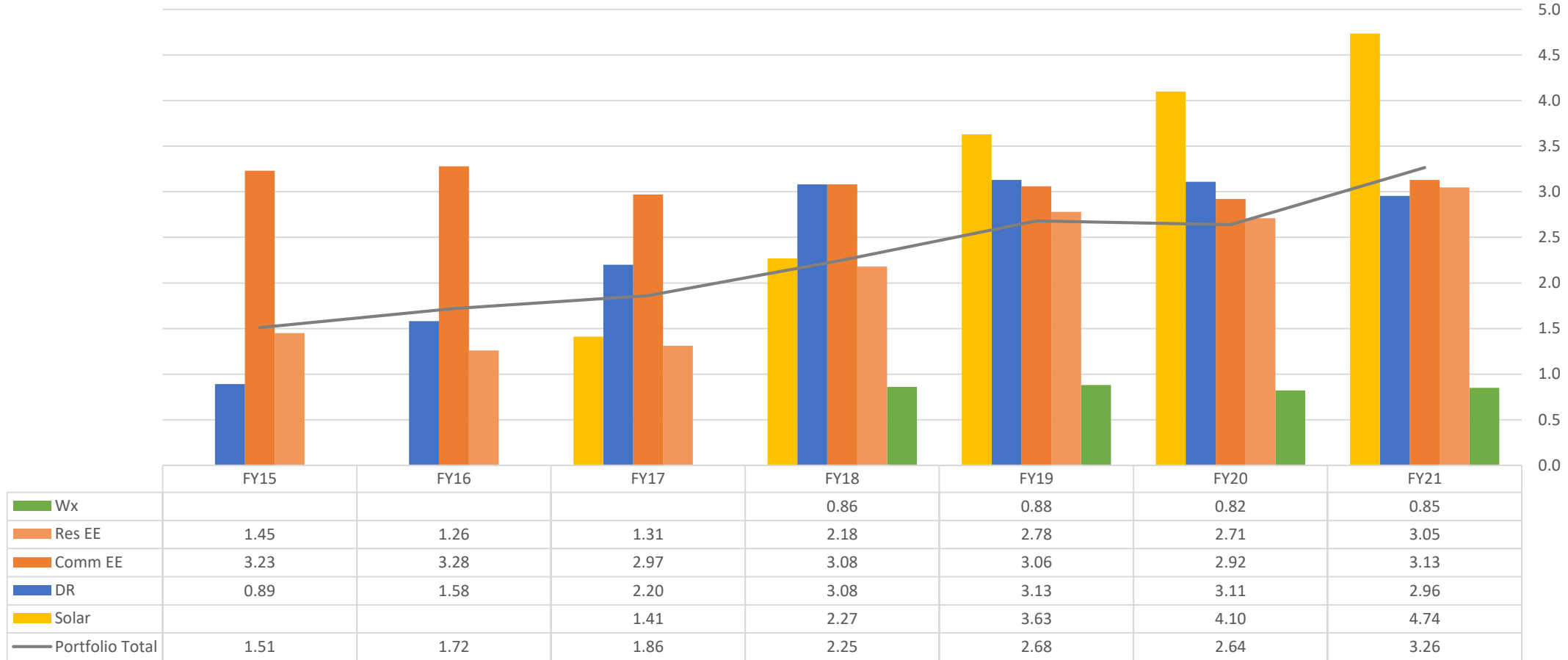
$$\text{UCT}^* = \frac{\$ \text{ Value of Avoided MW \& MWh } \text{ (Avoided fuel costs \& plant capital)}}{\$ \text{ Program Costs}}$$

***UCT > 1.0 means benefits outweigh the costs**

Examples	UCT
Bring Your Own Thermostat	5.86
Small Business Solutions	4.34
Residential Solar Rebates	4.59
C&I Demand Response	3.31
New Home Construction	1.71
Casa Verde (Weatherization)	0.85
Portfolio UCT (FY21)	3.26

As part of the M&V process, we weigh the cost of each program against the benefits of each program.

IMPROVING COST TREND



We've improved cost performance by maximizing energy savings & adjusting rebate levels as technology matures.



Questions & Discussion

Program Details

CURRENT PROGRAMS

Weatherization/Casa Verde

Residential Energy Efficiency (EE)

- Home Efficiency
- New Home Construction
- Home Energy Assessments
- Schools 2 Home
- Cool Roof

Demand Response (DR)

- Commercial & Industrial DR
- Automated DR
- Smart Thermostat
- My Thermostat Rewards
- Power Players

Commercial Energy Efficiency

- Commercial & Industrial Solutions
- Schools & Institutions
- Small Business Solutions
- High Efficiency Tune-Ups
- Direct Lighting Program

Solar

- Solar Rebates
- Big Sun Solar
- SolarHostSA

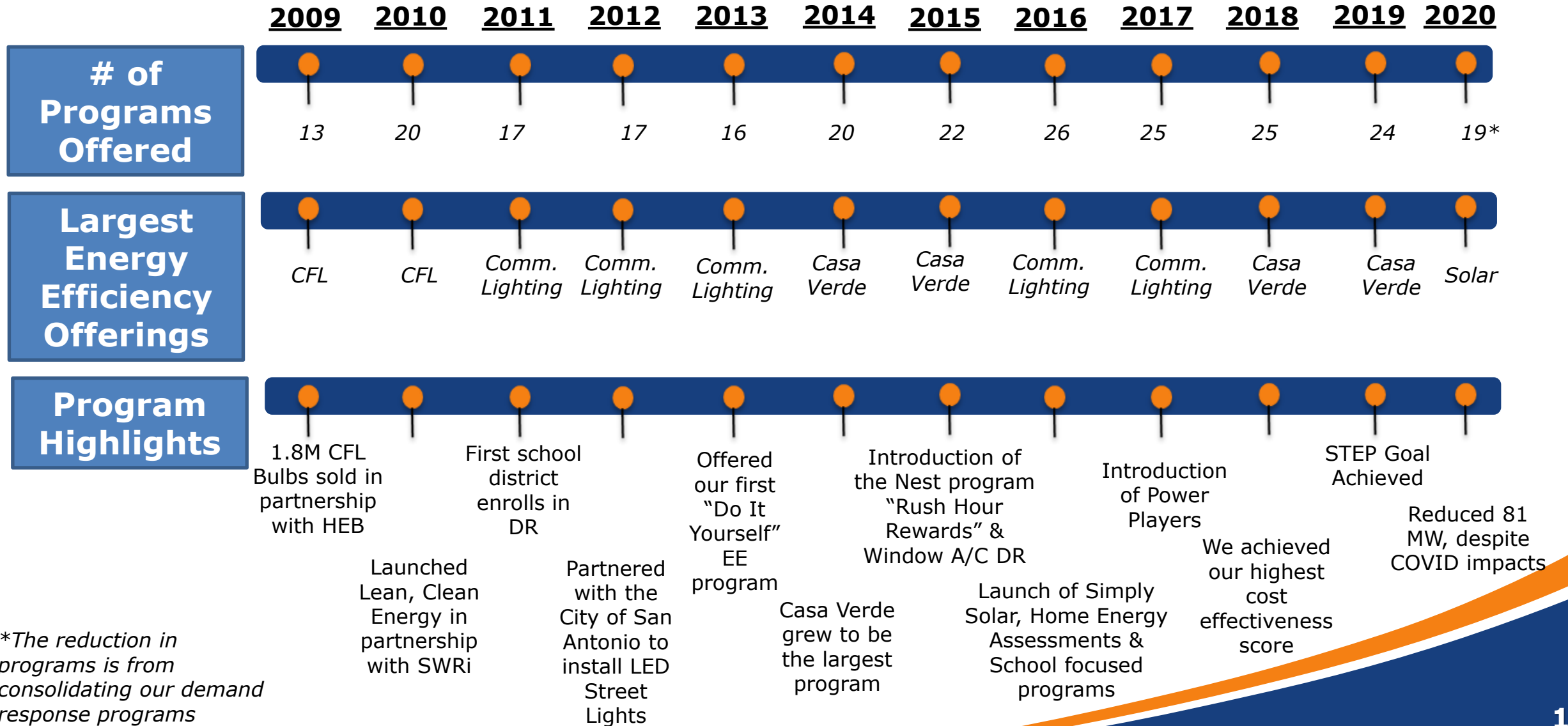
Electric Vehicles

- **FlexEV**SM Smart Rewards
- **FlexEV** Off-Peak Rewards



Our STEP program offers a diverse range of programs with industry leading partnerships.

PROGRAM EVOLUTION



*The reduction in programs is from consolidating our demand response programs



Questions & Discussion

WEATHERIZATION

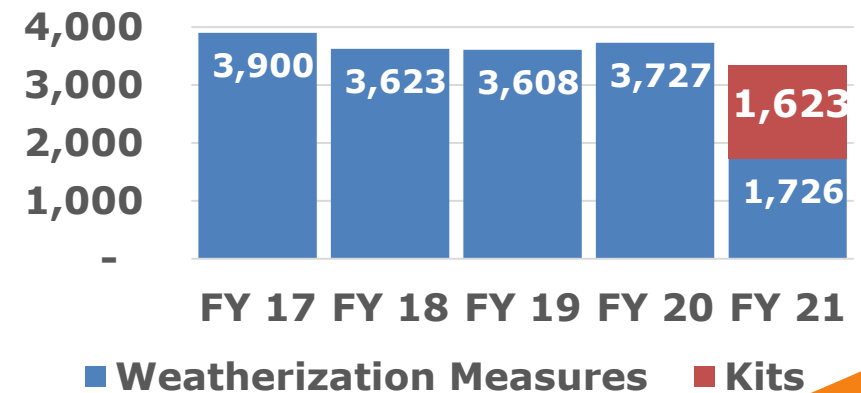
CASA VERDE



Casa Verde	
Program description	Assistance program designed to help families in need reduce their monthly utility bills. Eligible participants, homeowners or renters, may receive free weatherization upgrades designed to increase the energy efficiency of their homes.
Program launch	2009
Annual program spend	\$13.9 million
Customer participation (last 5 Years)	18,207
Application Process	Paper application, must attest to meeting household income requirements.
Target Customers	Energy savings for qualified customers.
Program goal	Casa Verde is focused on supporting our limited income customers and supports equity among our programs.
Program outcomes	Goals include weatherizing a target number of homes and achieving energy savings and demand savings.



Number of Homes Weatherized

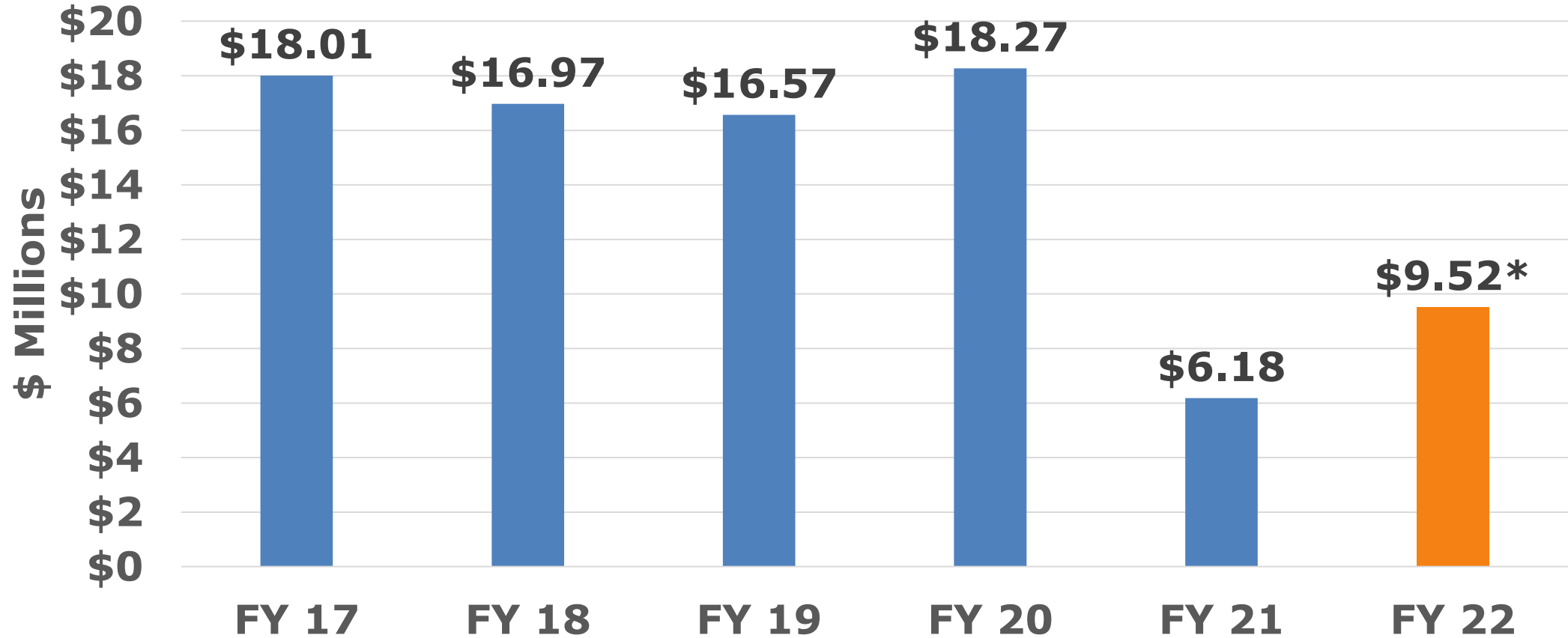


WEATHERIZATION

CASA VERDE



Weatherization



*Projected Spend

RESIDENTIAL HVAC

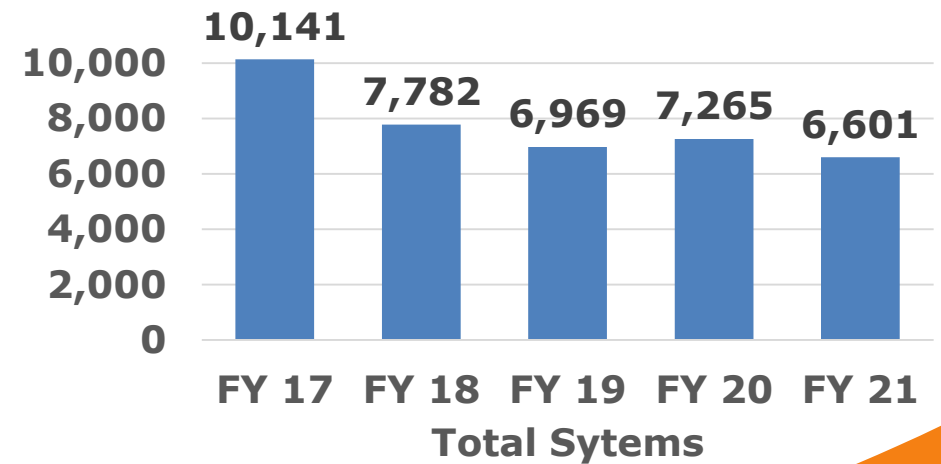
ENERGY EFFICIENCY



	Residential HVAC
Program description	Offers incentives for the purchase of eligible high efficiency central air conditioners, heat pumps and room air conditioners.
Program launch	2009
Annual program spend	\$4.23 million
Customer participation (last 5 Years)	36,399
Application Process	Trade Allies may submit application on behalf of the customer or customer can submit a paper application or online application.
Target Customers	Customers with older central air conditioners, heat pumps and room air conditioners that need replacement.
Program goal	Incentivize customers to purchase or replace an HVAC with a system that is rated more efficient than current code, and drive energy & demand saving.
Program outcomes	Residential HVAC drives the largest amount of energy (kWh) & demand (kW) savings in our residential portfolio.



Number of HVAC Rebates

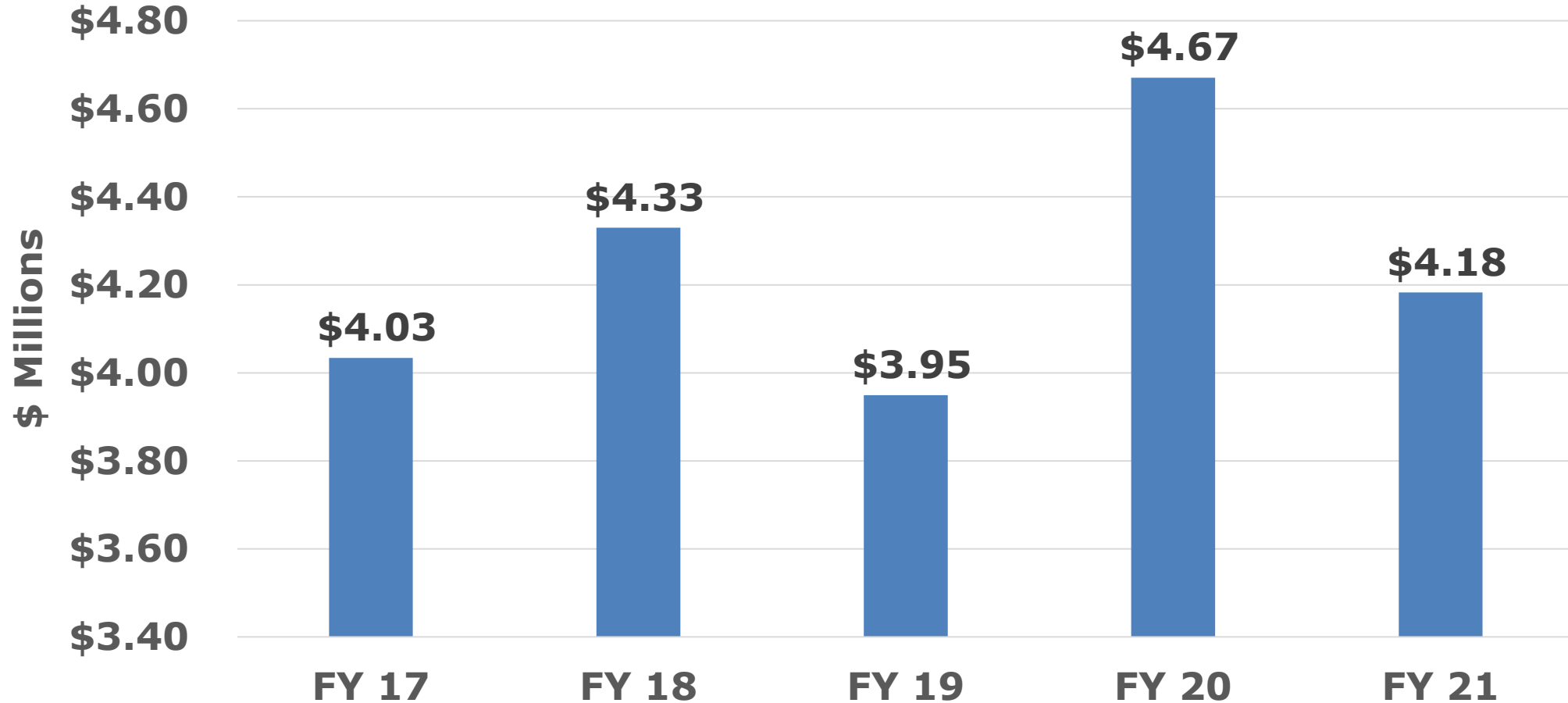


RESIDENTIAL HVAC

ENERGY EFFICIENCY



Residential HVAC



HVAC is the largest user of electricity in most homes.

HOME EFFICIENCY

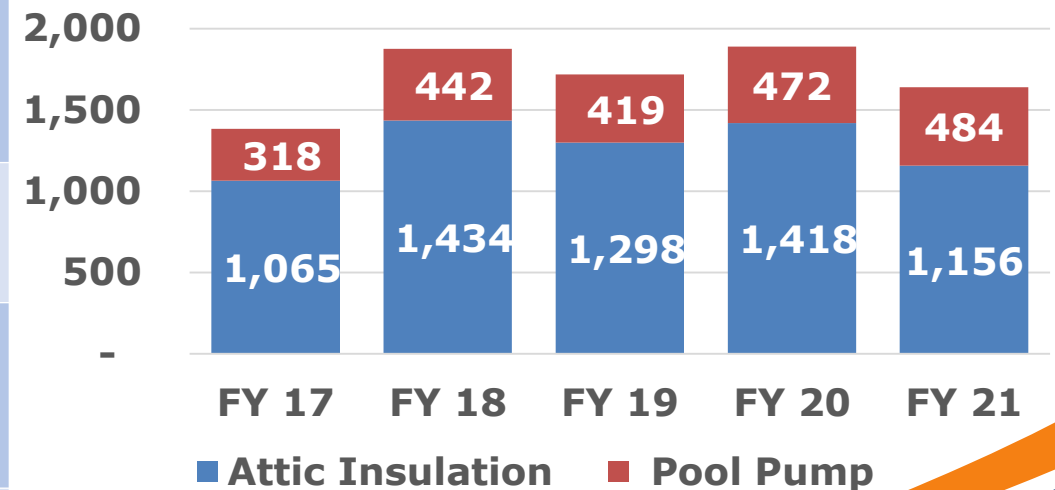
ENERGY EFFICIENCY



Home Efficiency	
Program description	Offers incentives for installation of insulation and variable-speed pool pumps.
Program launch	2009
Annual program spend	\$1.10 million
Customer participation (last 5 Years)	8,512
Application Process	Trade Allies may submit application on behalf of the customer or customer can submit a paper application or online application.
Target Customers	Customers seeking to make their home more energy efficient by adding insulation or upgrading their pool pump.
Program goal	Our insulation is a simple and easy for customers to participation in our STEP program, and provides a "Do It Yourself" option for customers.
Program outcomes	Outcomes include greater comfort in the home and energy and demand savings for the homeowner.



Number of Customers Served

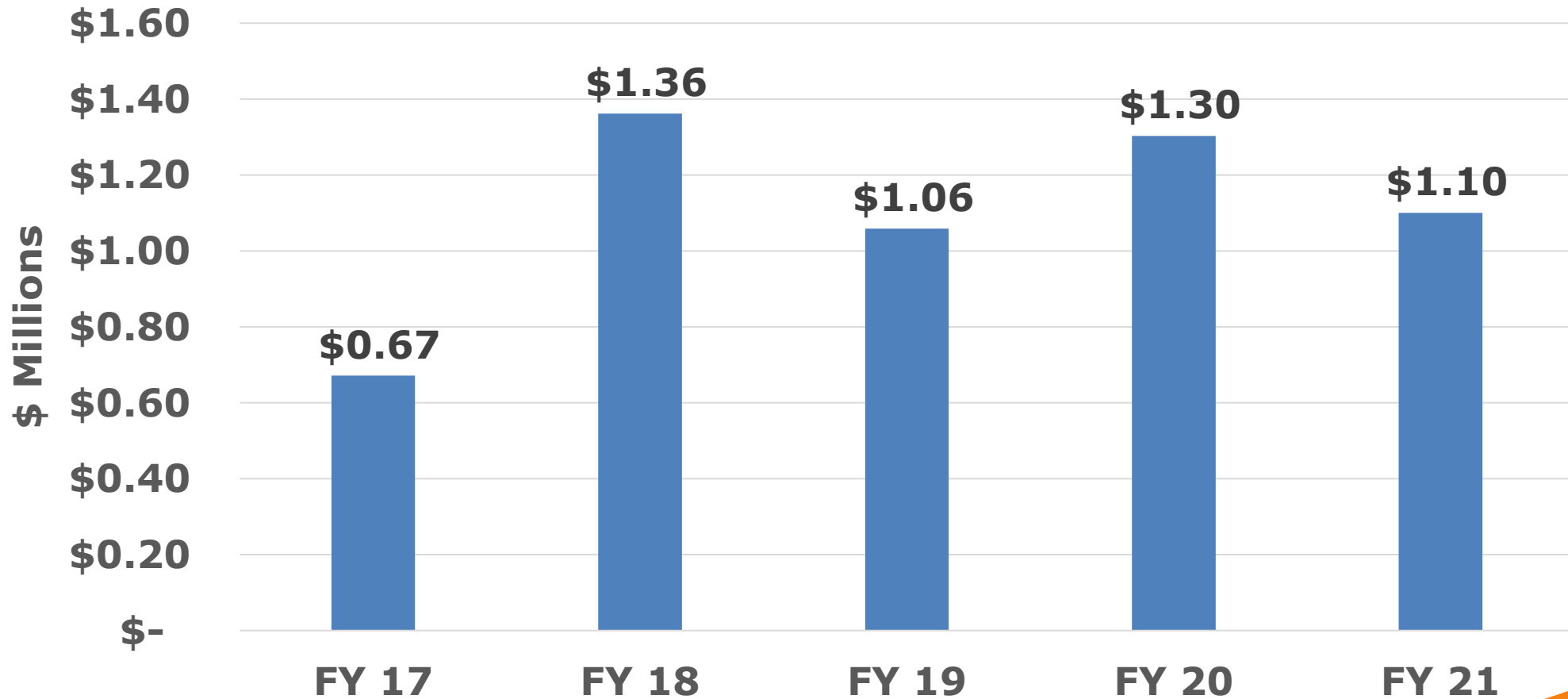


HOME EFFICIENCY

ENERGY EFFICIENCY



Home Efficiency



NEW HOME CONSTRUCTION

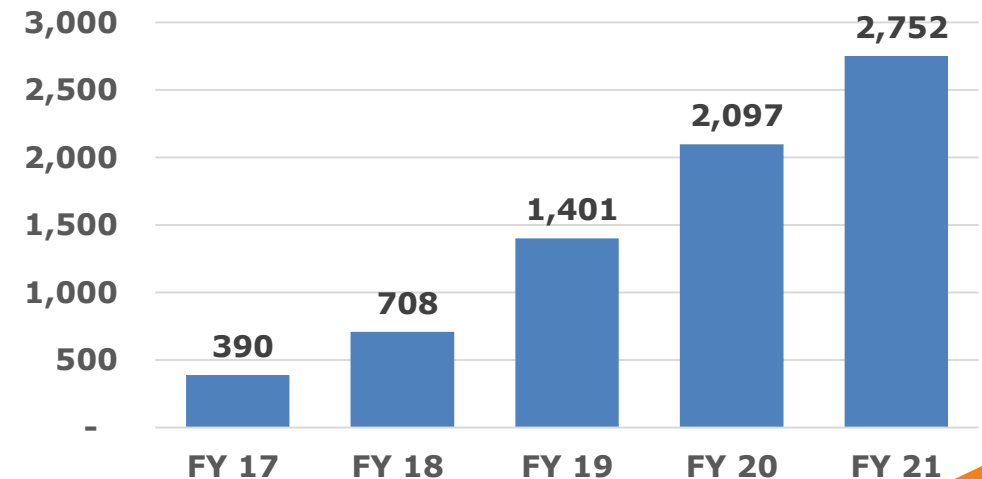
ENERGY EFFICIENCY



New Home Construction	
Program description	Offers incentives to developers for building new homes at least 15% more energy efficient than required by current CoSA building codes.
Program launch	2010
Annual program spend	\$1.92 million
Customer participation (last 5 Years)	7,348
Application Process	Builders apply through Build San Antonio Green (BSAG) or submit an application directly.
Target Customers	Home builders willing to design and build new homes that are more efficient than required by city code.
Program goal	The New Home Construction program works with builders to increase the efficiency of new homes coming onto the market.
Program outcomes	New homes that are more energy efficient and achieve higher energy and demand savings.



Number of Homes

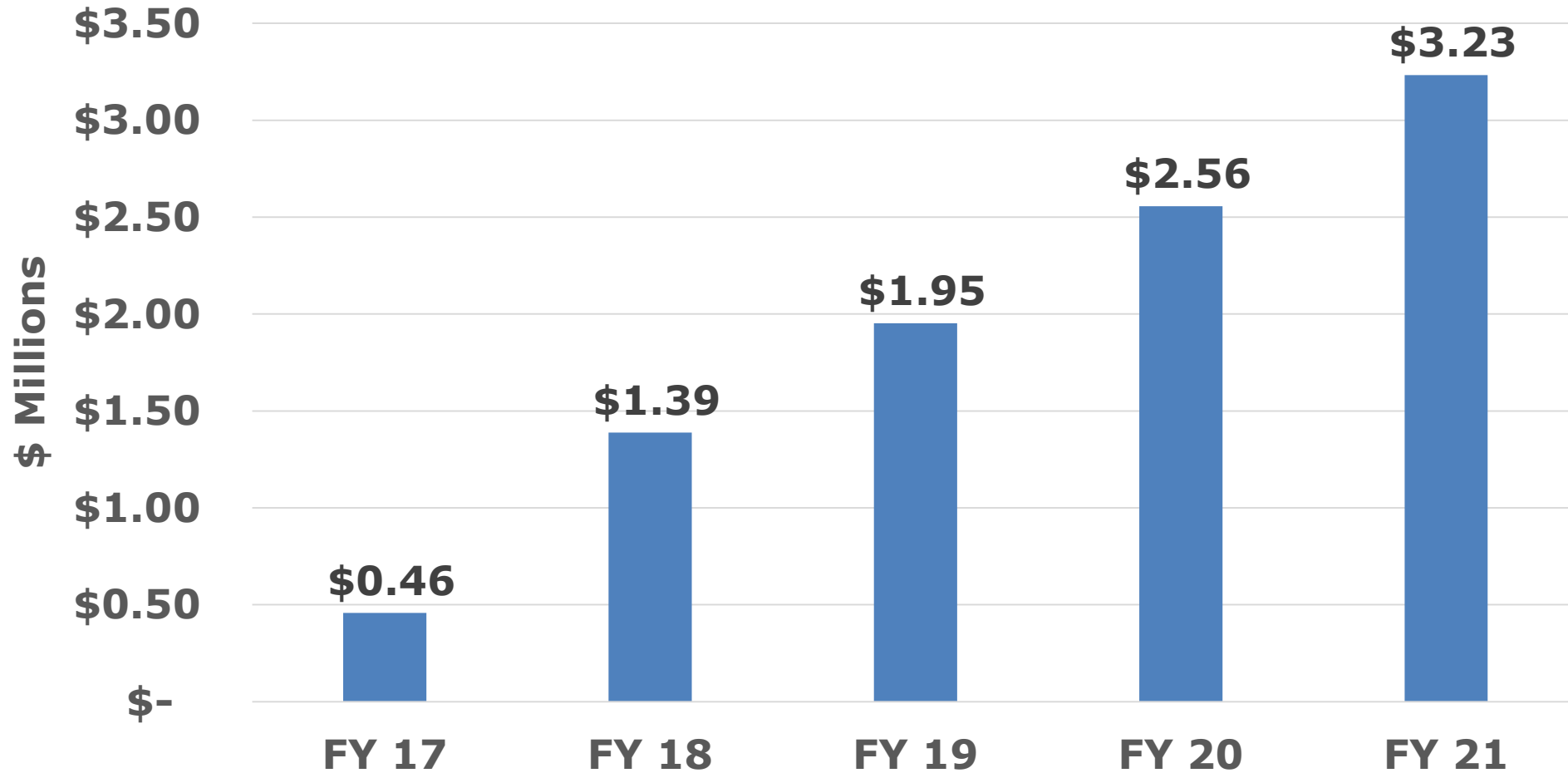


NEW HOME CONSTRUCTION

ENERGY EFFICIENCY



New Home Construction



Above code construction for new homes has been rising steadily since FY17.

HOME ENERGY ASSESSMENTS

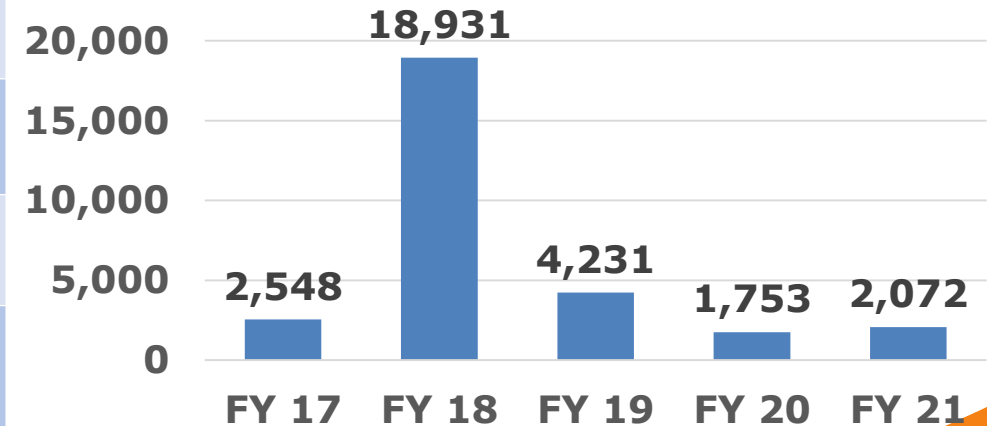
ENERGY EFFICIENCY



	Home Energy Assessments + Kits
Program description	Offers a free in-person assessment helping customers identify energy saving opportunities in their home, which may also include LED lighting and a Wi-Fi programmable thermostat directly installed during the home visit.
Program launch	2016
Annual program spend	\$1.48 million
Customer participation (last 5 Years)	29,535
Application Process	Customers can apply online or sign-up at an outreach event.
Target Customers	Customers seeking feedback on how to become more energy efficient.
Program goal	Offers a free assessment in which the assessor will provide a report on the home and install thermostat, LED lights and water saving measures.
Program outcomes	Provide customers a free in-home assessment to help them identify opportunities to be more efficient.



Count of Home Energy Assessments + Kits

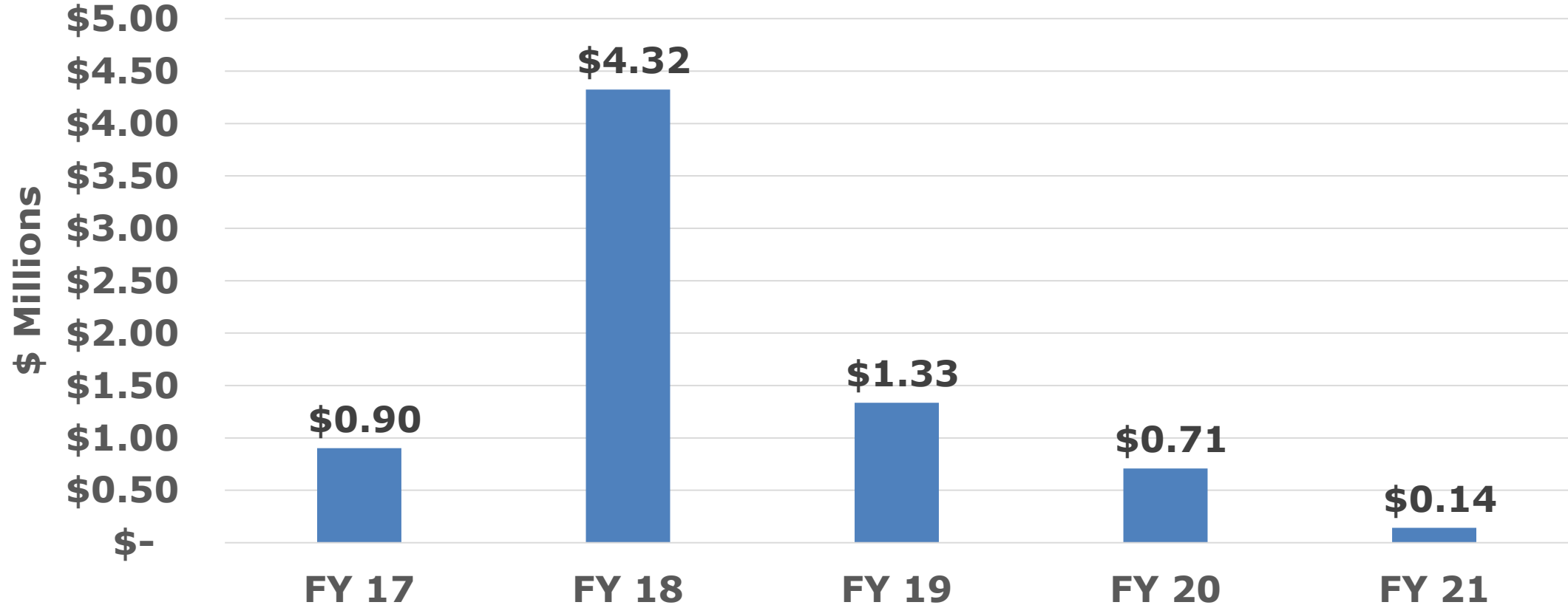


HOME ENERGY ASSESSMENTS

ENERGY EFFICIENCY



Home Energy Assessments



RETAIL CHANNEL PARTNERSHIPS

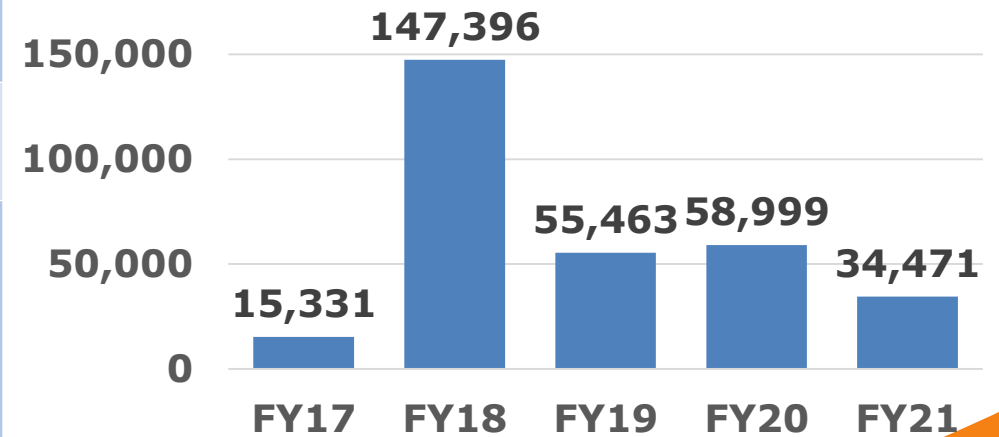
ENERGY EFFICIENCY



Retail Channel Partnerships	
Program description	Offers point of purchase incentives on ENERGY STAR lighting and room air conditioners at participating retailers.
Program launch	2009
Annual program spend	\$1.37 million
Customer participation (last 5 Years)	311,660
Application Process	Retail program apply discounts on lighting products at the point of purchase.
Target Customers	Customers in the market for new light bulbs or room air conditioners.
Program goal	This program targets to influence customer's buying behavior in-store at the time of purchase. Over the last two years, focus has been on offering discounts at 99cent stores, Habitat for Humanity ReHabitat, and Walmart stores in underserved areas.
Program outcomes	Customer receive instant rebates on purchasing more efficient lighting equipment.



Number of Customers Served

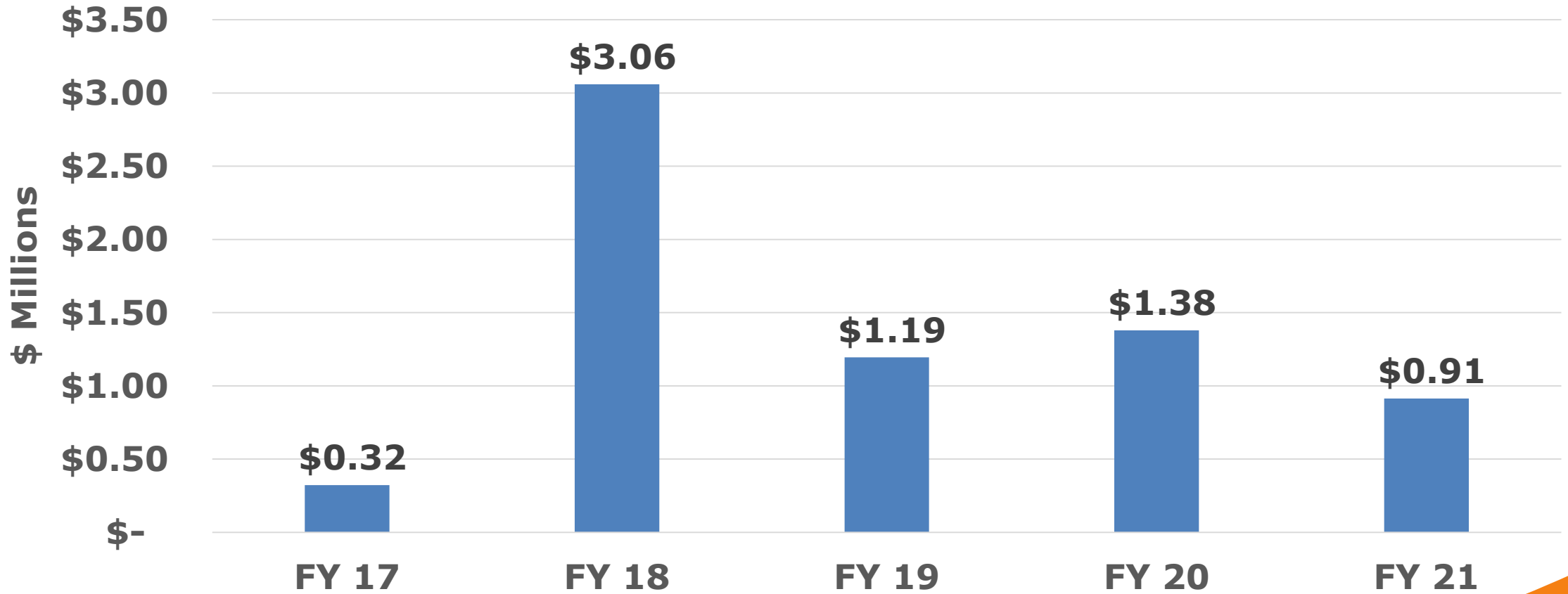


RETAIL CHANNEL PARTNERSHIPS

ENERGY EFFICIENCY



Retail Channel Partnerships



In the last 5 years, we have incentivized over 1.5 Millions light bulbs.

COOL ROOF

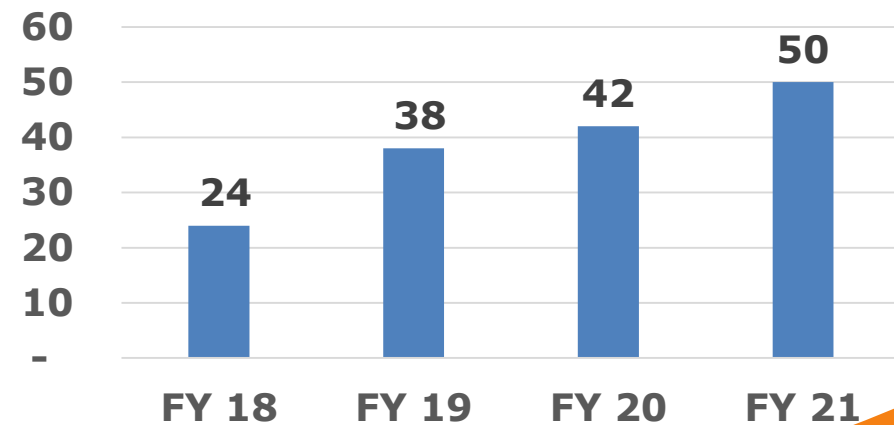
ENERGY EFFICIENCY



	Cool Roof
Program description	Offers incentives to homeowners to install qualified ENERGY STAR certified roofing products which reduce the energy required to cool a home by reflecting solar energy, lowering roof surface temperatures.
Program launch	2017
Annual program spend	\$12,389
Customer participation (last 5 Years)	154
Application Process	Roofing company may submit application on behalf of the customer, or customer can submit a paper application or online application.
Target Customers	Customers replacing their roof and looking to be more energy efficient.
Program goal	Encourage customers to install a cool roof that reflects heat and thereby reduces the amount of energy required to cool the home.
Program outcomes	Encourage customers to install Cool Roof, and also reduce the urban heat island effect.



Number of Customers Served

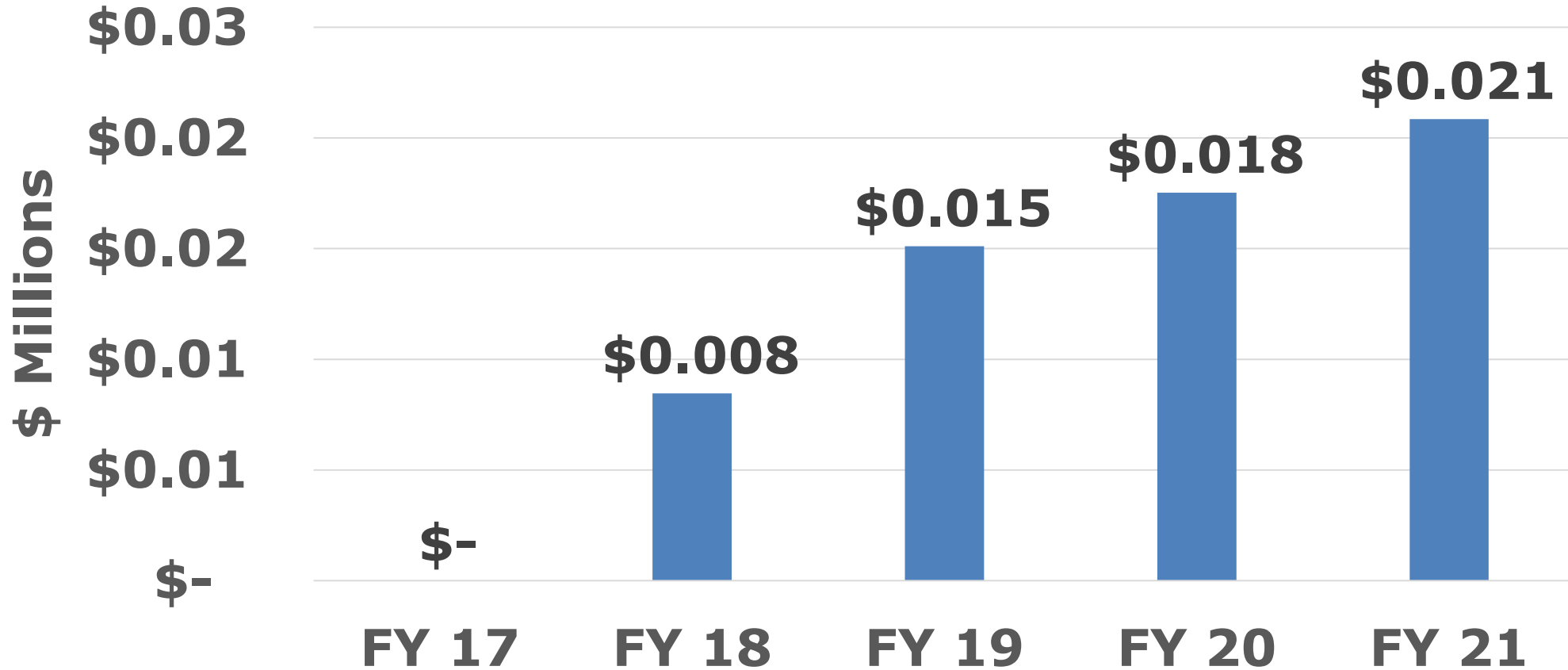


COOL ROOF

RAC QUESTIONS



Cool Roof



Cool Roof participation has more than doubled since it began in FY18.

ENERGY SAVINGS THROUGH SCHOOLS

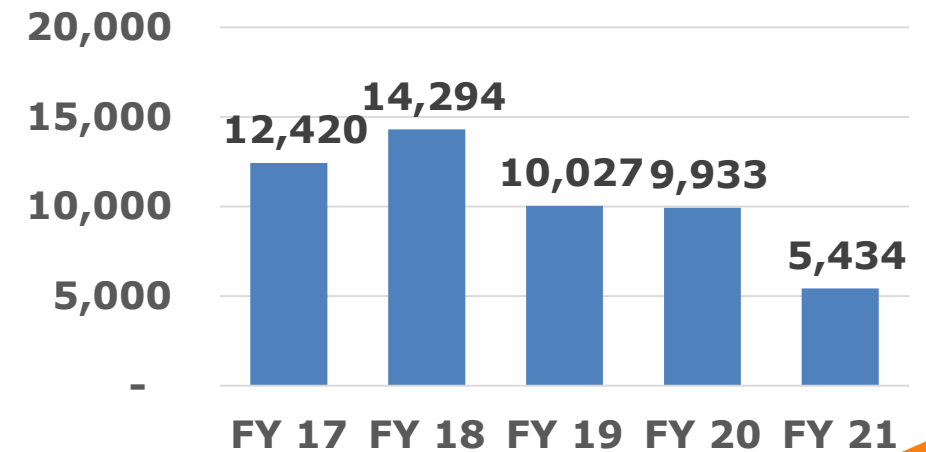
ENERGY EFFICIENCY



Energy Savings Through Schools	
Program description	Incorporates energy efficiency into the 6 th grade classroom by equipping teachers, students and parents with in-class curriculum and take-home kits full of energy efficient products.
Program launch	2016
Annual program spend	\$0.36 million
Customer participation (last 5 Years)	52,108
Application Process	Educators submit applications for classroom participation.
Target Customers	6th grade students and parents.
Program goal	Educate students on home efficiency and encourage the students to apply these principles at their homes.
Program outcomes	Students are educated on energy efficiency ideas, and receive a kit with LED bulbs, pipe wrap and low flow aerator and show heads to be installed in homes.



Number of Kits Distributed

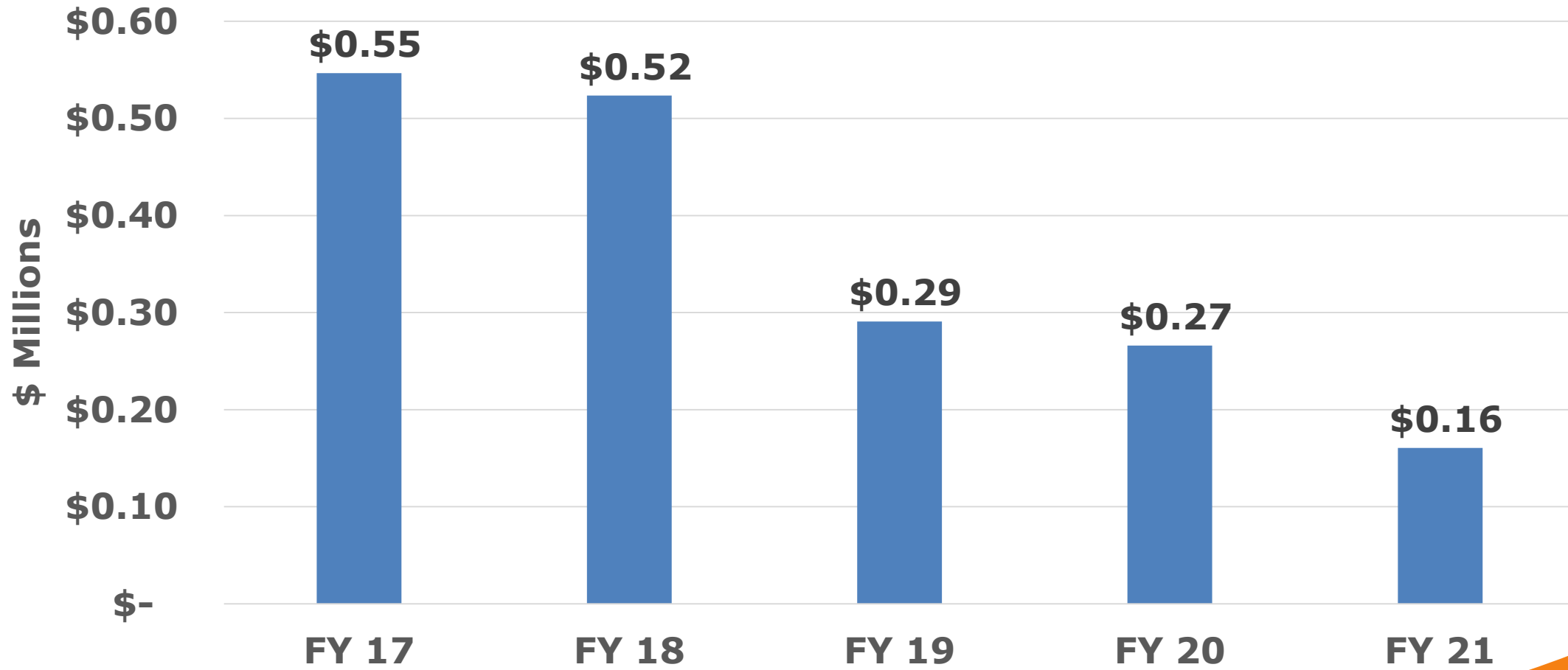


ENERGY SAVINGS THROUGH SCHOOLS

ENERGY EFFICIENCY



Energy Savings Through Schools



The School Kit program saw a participation decrease in FY21 due to school closures.



Questions & Discussion

SMALL BUSINESS SOLUTIONS

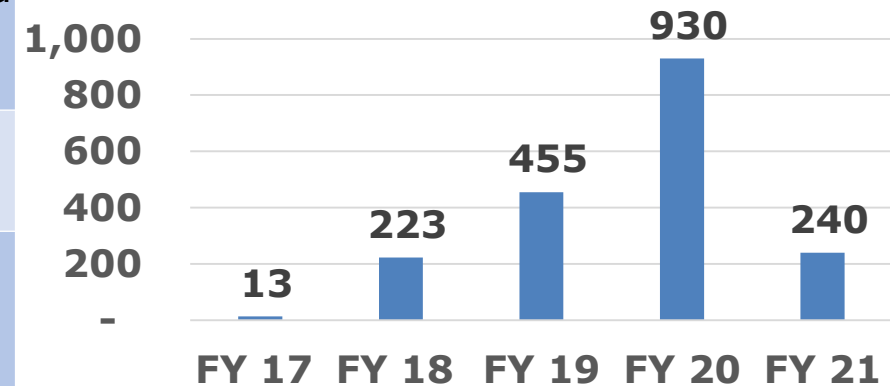
ENERGY EFFICIENCY



	Small Business
Program description	Offers incentives to small business customers for installing energy efficiency measures.
Program launch	2016
Annual program spend	\$2.69 million
Customer participation (last 5 Years)	1,861
Application Process	The small business program engages trade allies and suppliers to offer discounts directly to qualifying customers.
Target Customers	Small business customers with less than 100 kW demand.
Program goal	To make efficiency simple and effortless for small businesses by empowering a network of trade allies to offer discounts on lighting and HVAC tune-ups.
Program outcomes	Increased participation in energy efficiency programs from small business customers.



Number of Customers Served

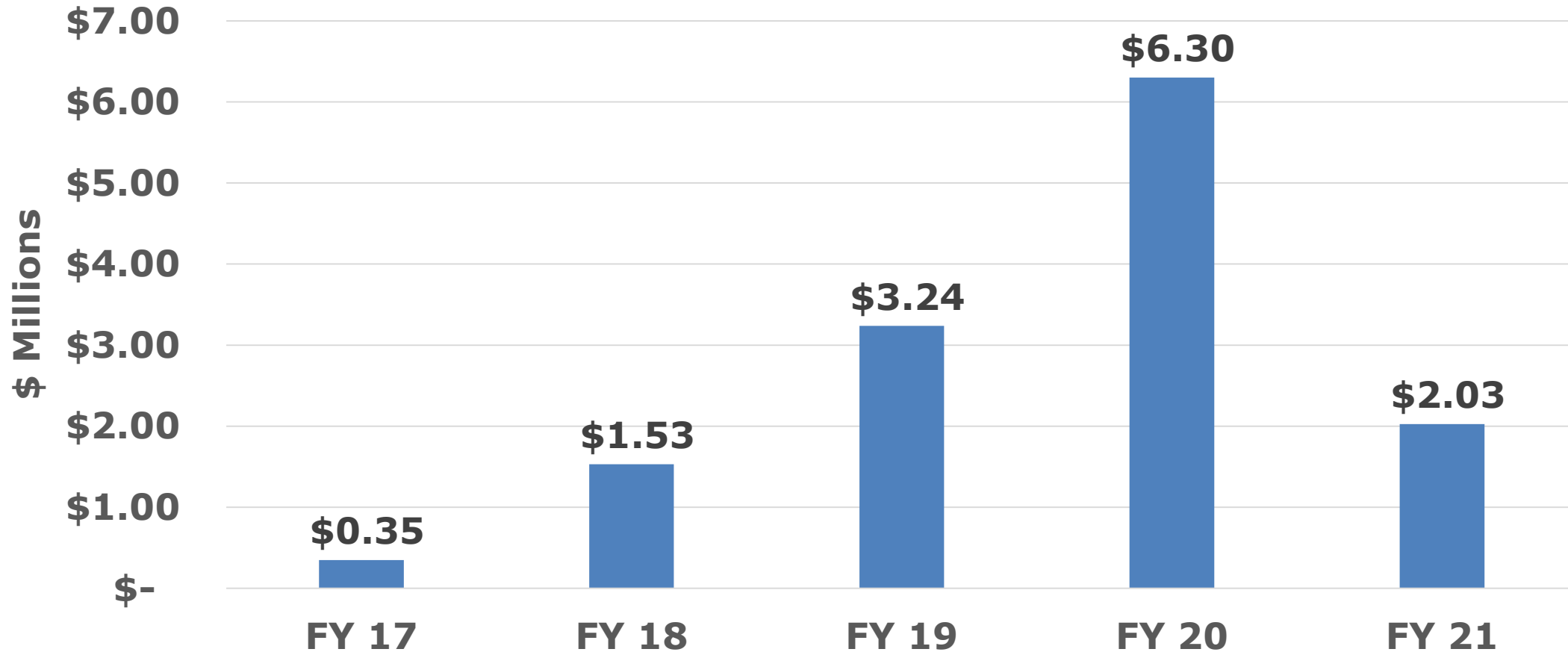


SMALL BUSINESS SOLUTIONS

ENERGY EFFICIENCY



Small Business



C&I SOLUTIONS

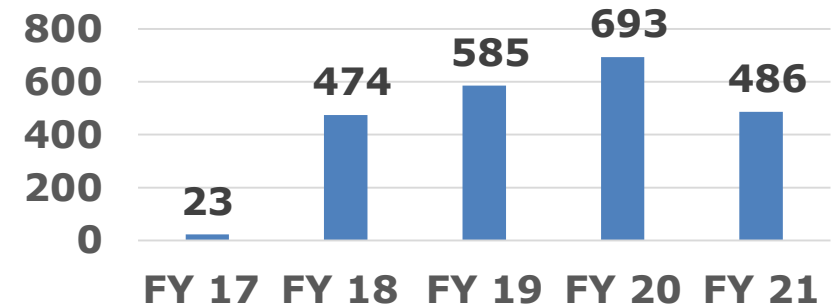
ENERGY EFFICIENCY



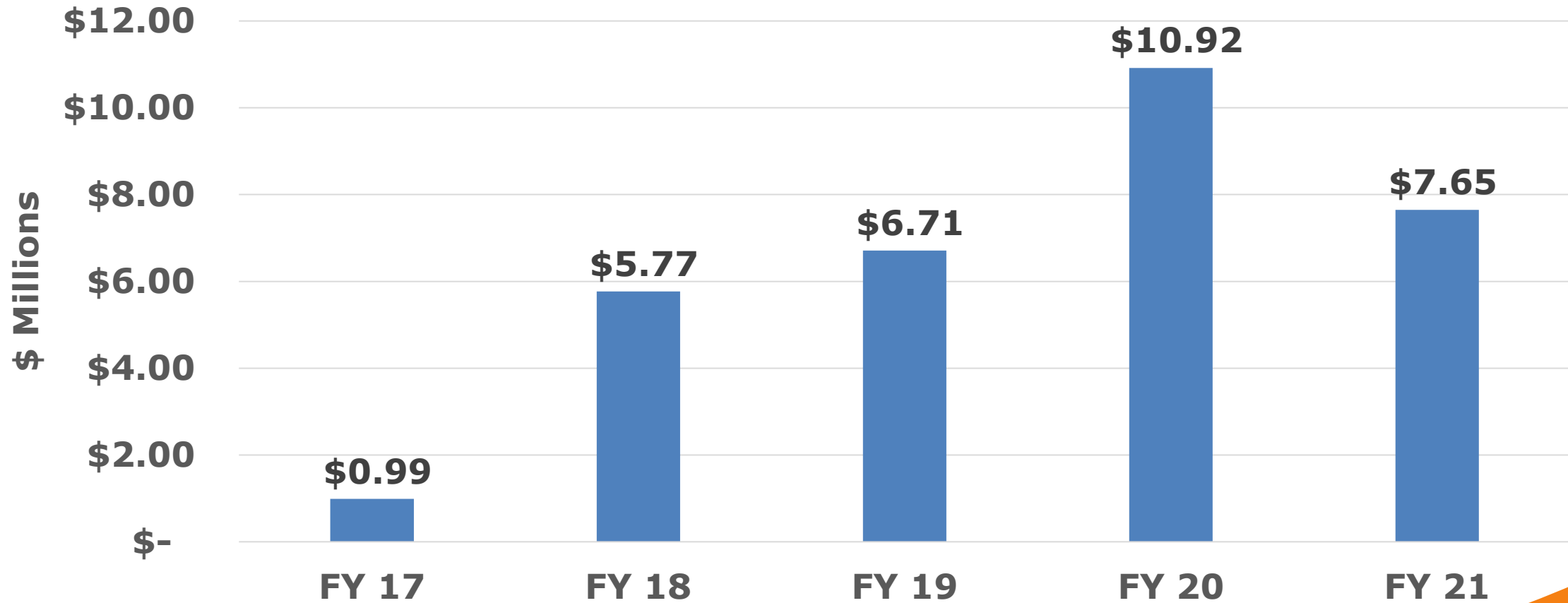
	C&I Solutions
Program description	Energy assessments help business customers identify opportunities and rebate offerings for energy efficiency measures including lighting, HVAC, and refrigeration.
Program launch	2009
Annual program spend	\$6.41 million
Customer participation (last 5 Years)	2,261
Application Process	Trade allies can submit application on behalf of the customer, or customer can submit a paper application or online application.
Target Customers	Commercial and industrial customers seeking to replace or upgrade older equipment, or to maintain current equipment.
Program goal	Encourage customers to upgrade or replace older equipment with new high efficiency equipment or maintain the efficiency of a building or HVAC equipment.
Program outcomes	Encourage business customers to replace or maintain aging equipment and improve their energy performance.



Number of Customers Served



C&I Solutions



In FY17 we combined our Commercial incentives into a streamlined offering called C&I Solutions.

SCHOOLS & INSTITUTIONS

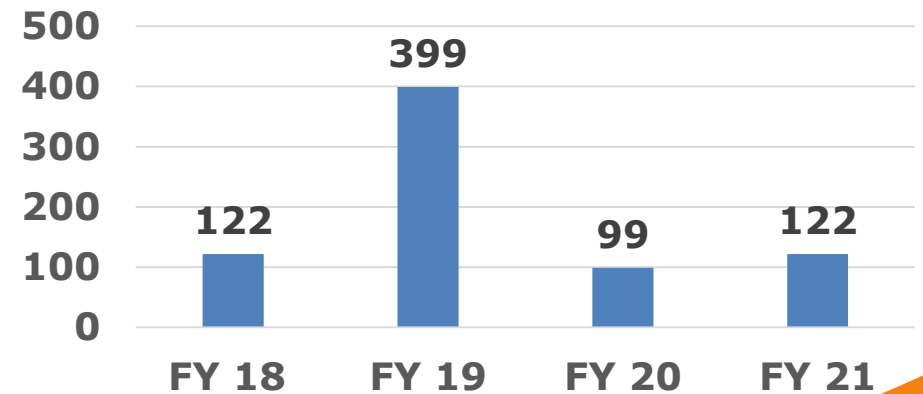
ENERGY EFFICIENCY



	Schools & Institutions
Program description	Offers incentives to schools and government agencies to reduce energy use through benchmarking, technical assistance, energy master planning workshops, and rebate offerings for energy efficiency measures.
Program launch	2016
Annual program spend	\$2.37 million
Customer participation (last 5 Years)	742
Application Process	Trade Allies may submit application on behalf of the customer, or customer can submit a paper application or online application.
Target Customers	Schools and governmental agencies looking for assistance with becoming more efficient.
Program goal	Assist customers in developing an energy master plan and identify energy savings projects.
Program outcomes	Assist schools and government agencies in developing and executing an energy master plan and provide incentives to pursue identified projects.



Number of Customer Served

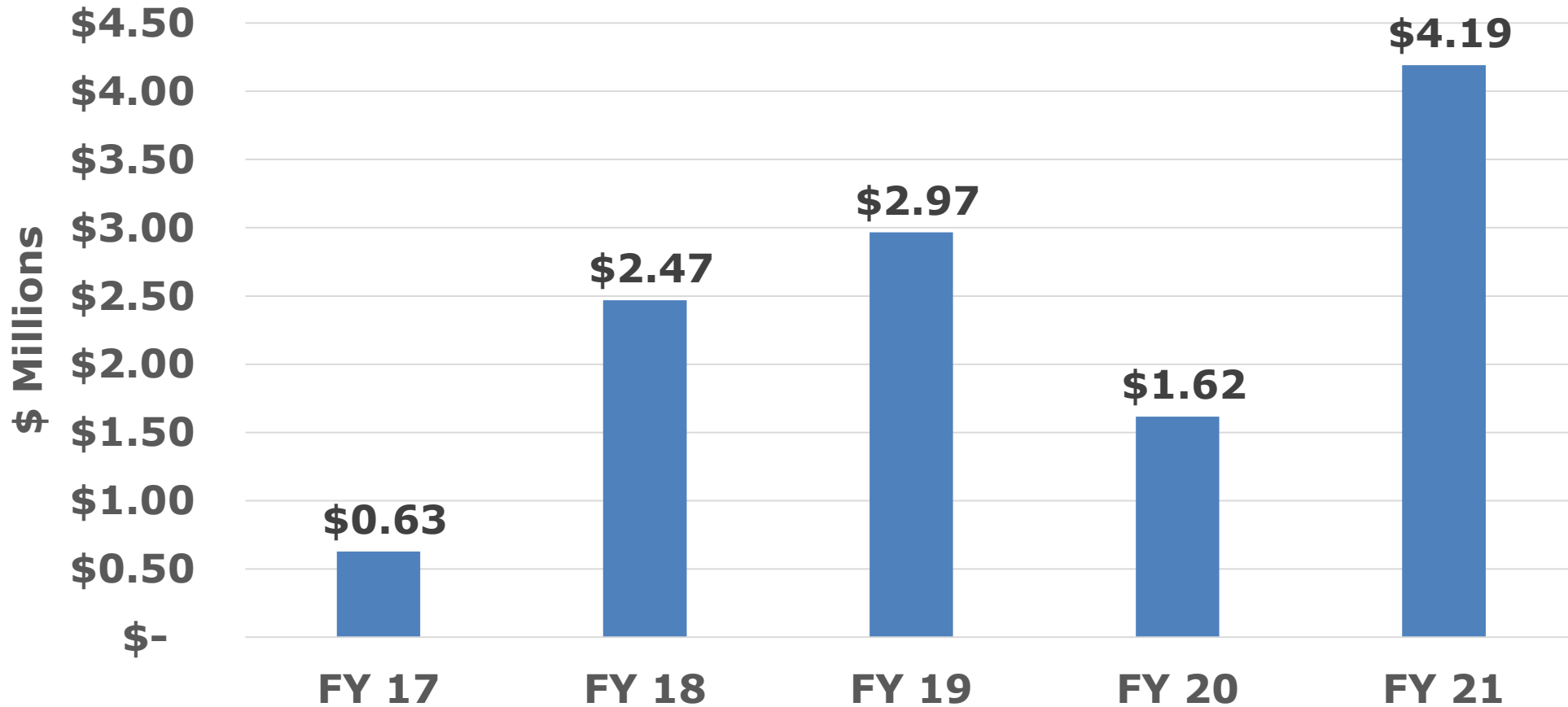


SCHOOLS & INSTITUTIONS

ENERGY EFFICIENCY



Schools & Institutions



In FY17 we combined our incentives for Schools and Government institution into a streamlined offering called Schools & Institution.

Questions & Discussion

SMART THERMOSTAT

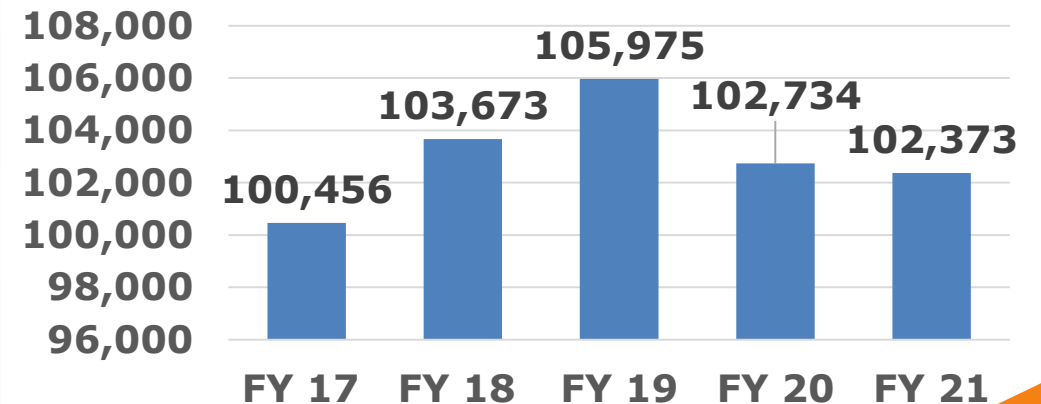
DEMAND RESPONSE



	Smart Thermostat
Program description	Offers a free Honeywell programmable thermostat to participating customers. CPS Energy communicates to the thermostat to cycle off the compressor during periods of peak demand in the summer (June – September).
Program launch	2009
Annual program spend	\$2.32 million
Customer participation (last 5 Years)	102,373
Application Process	Customers can apply online or call to set an appointment for in-home installation of the thermostat.
Target Customers	Customers with central air and non-programmable thermostats.
Program goal	Replace older non-programmable thermostats with newer, smarter thermostats that serve a dual purpose: help customers save energy and allow us to lower demand on peak days.
Program outcomes	Customers save energy with a programmable thermostat and while providing the ability to lower demand on peak days.



Yearly Smart Thermostats Count

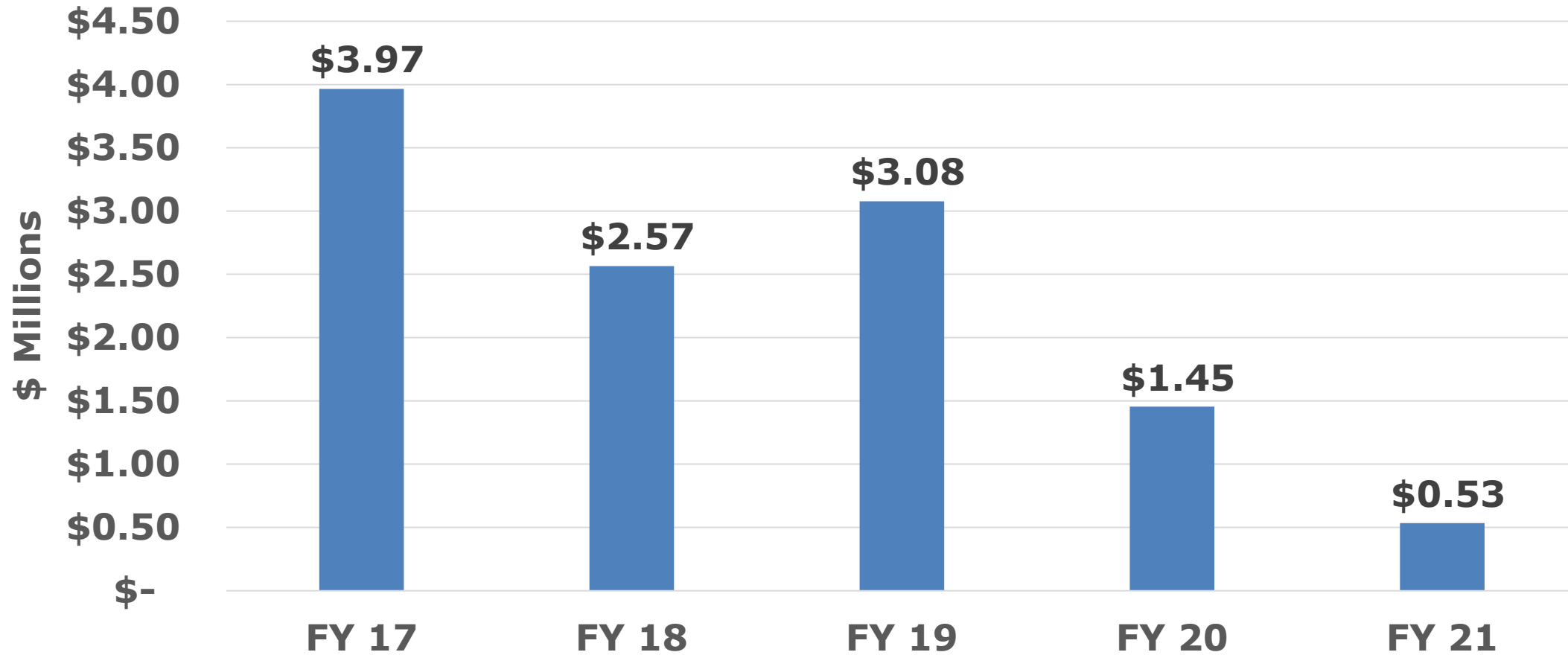


SMART THERMOSTAT

DEMAND RESPONSE



Smart Thermostat



NEST THERMOSTAT PROGRAM

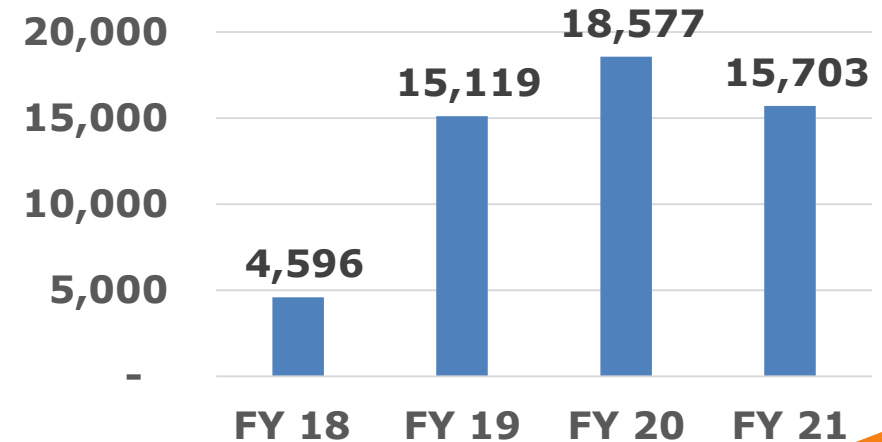
DEMAND RESPONSE



Nest Thermostat Program	
Program description	Offers a free Nest Learning Thermostat for Home Energy Assessments, Weatherization and a free self-installation program.
Program launch	2017
Annual program spend	\$2.07 million
Customer participation (last 5 Years)	15,703
Application Process	CPS Energy reaches out to customer to offer Nest thermostats or install during in-home services.
Target Customers	Customers with central air conditioning.
Program goal	This program is designed increase the penetration of these energy savings thermostats in our customer homes.
Program outcomes	Customers received a free Nest thermostat that actively saves energy and lowers demand on peak days.



Yearly Nest Device Count

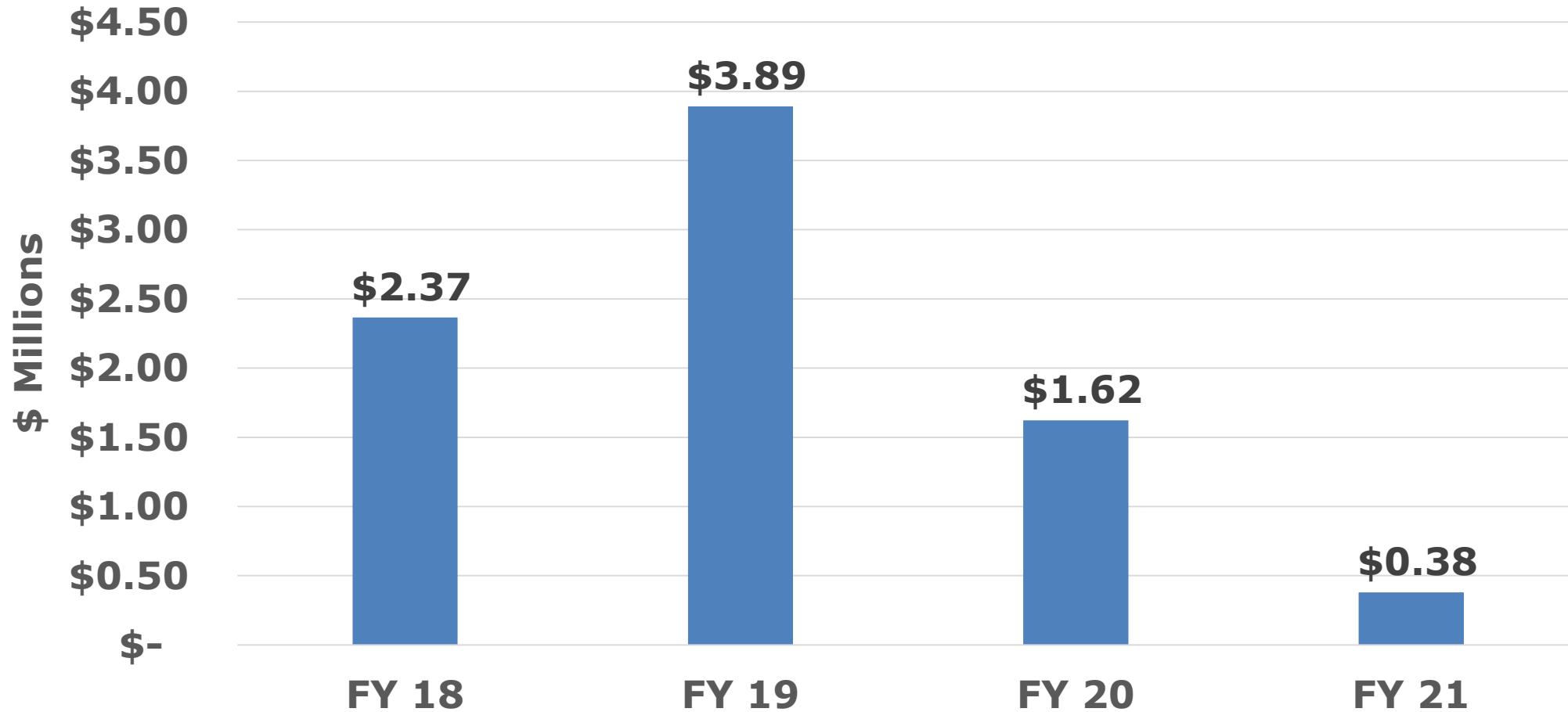


NEST THERMOSTAT PROGRAM

DEMAND RESPONSE



Nest Thermostat Program



BRING YOUR OWN THERMOSTAT

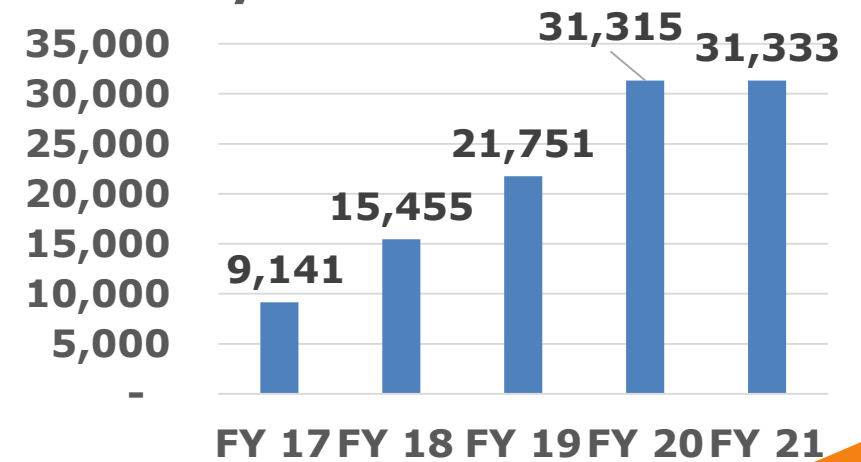
DEMAND RESPONSE



Bring You Own Thermostat	
Program description	Offers incentives to customers who purchase and install a qualifying smart thermostat and enroll in the demand response program.
Program launch	2014
Annual program spend	\$1.84 million
Customer participation (last 5 Years)	31,333
Application Process	Customers receive an offer to enroll while registering their new thermostat device through their app.
Target Customers	Customers that purchase and install qualifying thermostats.
Program goal	Incentivize customers for purchasing and installing a qualified smart thermostat and enrolling in our demand response program.
Program outcomes	Customer thermostats are available to reduce load on peak days which is a major contributor to peak reduction.



Yearly BYOT Device Count

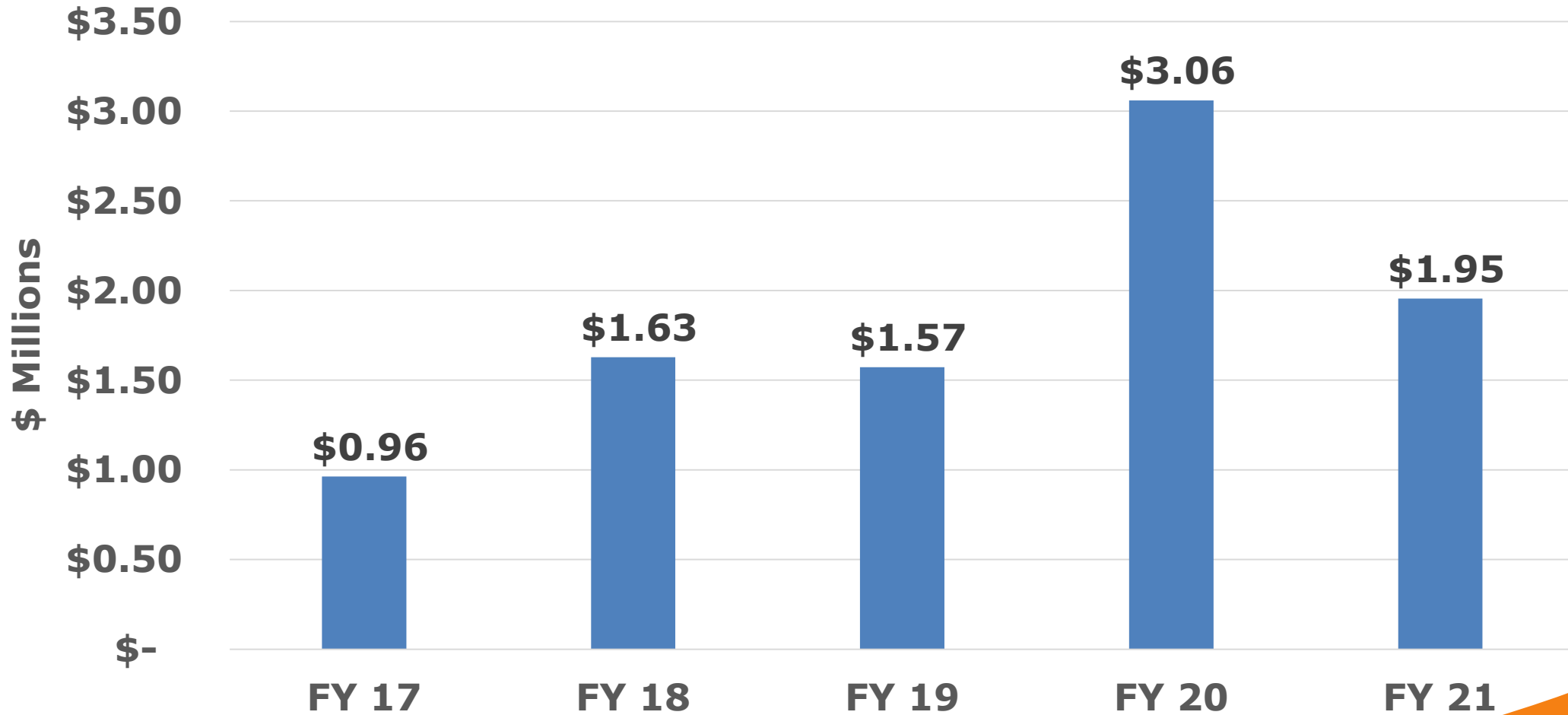


BRING YOUR OWN THERMOSTAT

DEMAND RESPONSE



Bring You Own Thermostat

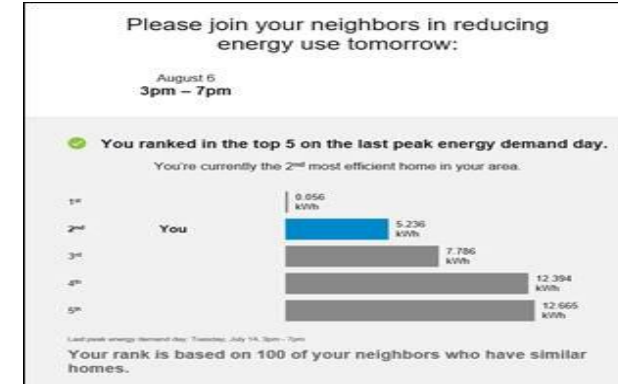


POWER PLAYERS

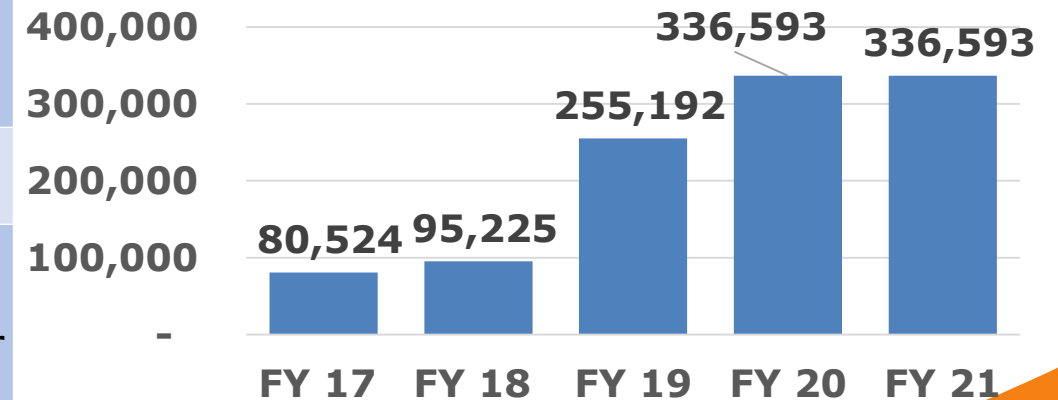
DEMAND RESPONSE



	Power Players
Program description	Utilizes gamification and behavioral science strategies to encourage customers to lower energy use on peak demand days.
Program launch	2017
Annual program spend	\$0.75 million
Customer participation (last 5 Years)	336,593
Application Process	Customers are pre-selected to participate in the program based on their energy usage patterns.
Target Customers	Large energy users that are not currently enrolled on a thermostat program.
Program goal	Encourage customers to reduce energy usage on peak days and provide a comparison tool to show customers how they are doing compared to similar homes.
Program outcomes	Program has been shown to encourage customers to lower energy use on peak days.



Yearly Behavioral Demand Response Customer Count

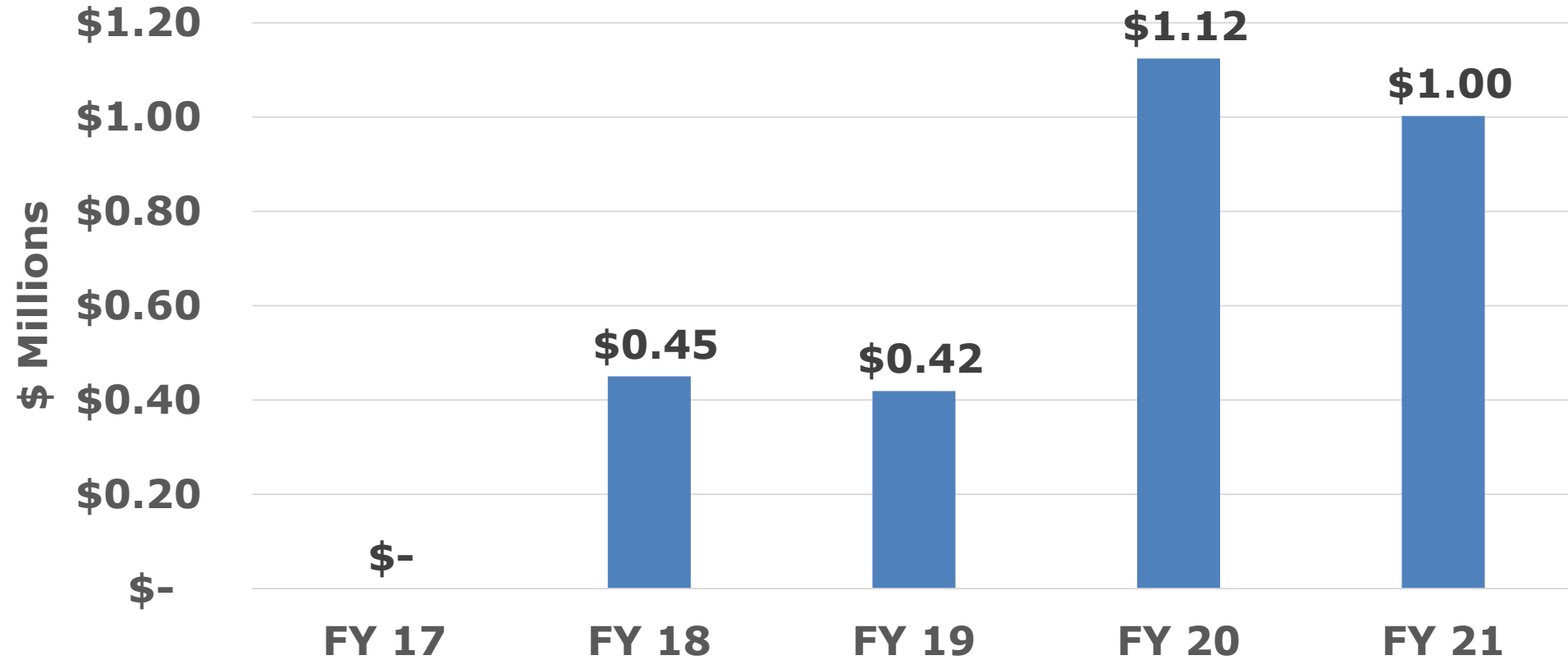


POWER PLAYERS

DEMAND RESPONSE



Power Players



C&I DEMAND RESPONSE

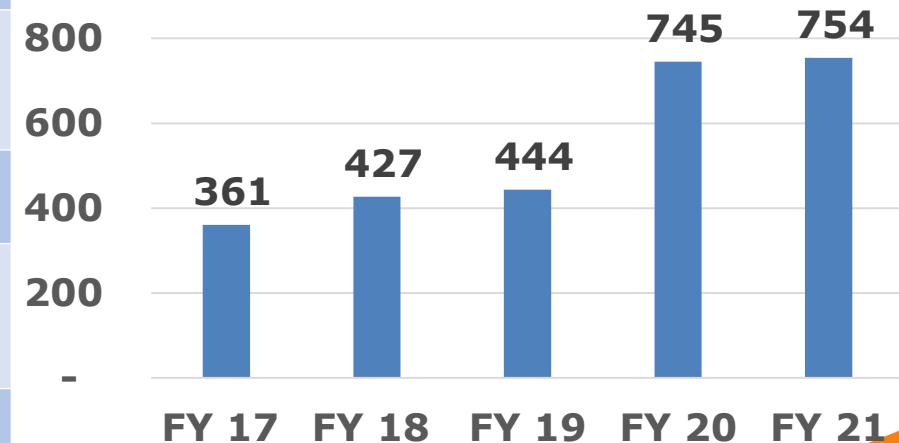
DEMAND RESPONSE



	C&I DR
Program description	Incentivizes Commercial & Industrial customers to reduce energy use during times of peak summer demand. Demand Response customers take steps to lower their facilities' energy demand for a 1 to 3-hour curtailment period. The performance is evaluated, and incentives are tied to the customers' ability to reduce demand.
Program launch	2010
Annual program spend	\$4.3 million
Customer participation (last 5 Years)	754
Application Process	Customers enroll in the program through their CPS Energy account manager.
Target Customers	Commercial and industrial customers capable of making temporary adjustments to business operations during times of peak demand.
Program goal	Work with our largest customers to identify opportunities to lower their energy use on peak days.
Program outcomes	Our largest customers are incentivized with rebates to lower their energy demand on peak days.



Number of Commercial sites

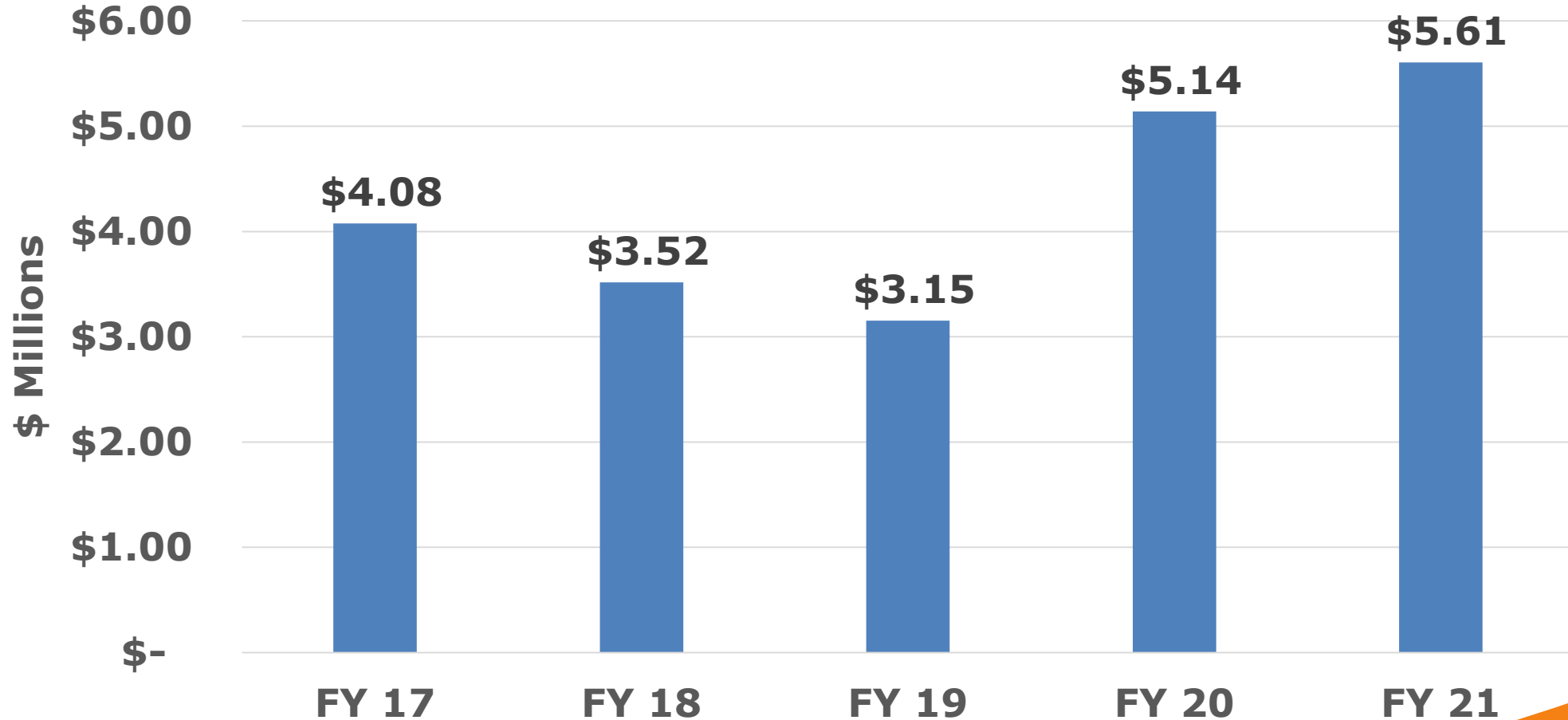


C&I DEMAND RESPONSE

DEMAND RESPONSE



C&I DR



Total number of sites increased to 754 in FY21.



Questions & Discussion

ROOFTOP SOLAR

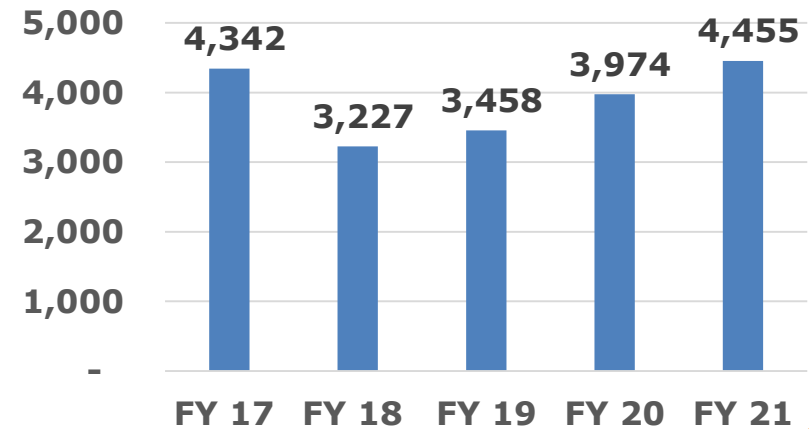
SOLAR PROGRAM



	Residential Solar
Program description	CPS Energy offers rebates to customers to help offset the upfront cost of installing a solar system on their home or business.
Program launch	2008
Annual program spend	\$20.2 million
Customer participation (last 5 Years)	19,456
Application Process	Solar contractors typically submit applications on behalf of the customer.
Target Customers	Residential or commercial customers interested in installing solar at their home or business.
Program goal	The solar rebate program encourages the adoption of renewable energy in the community.
Program outcomes	Customer-owned solar is growing as the cost of solar has come down.



Solar Rebates



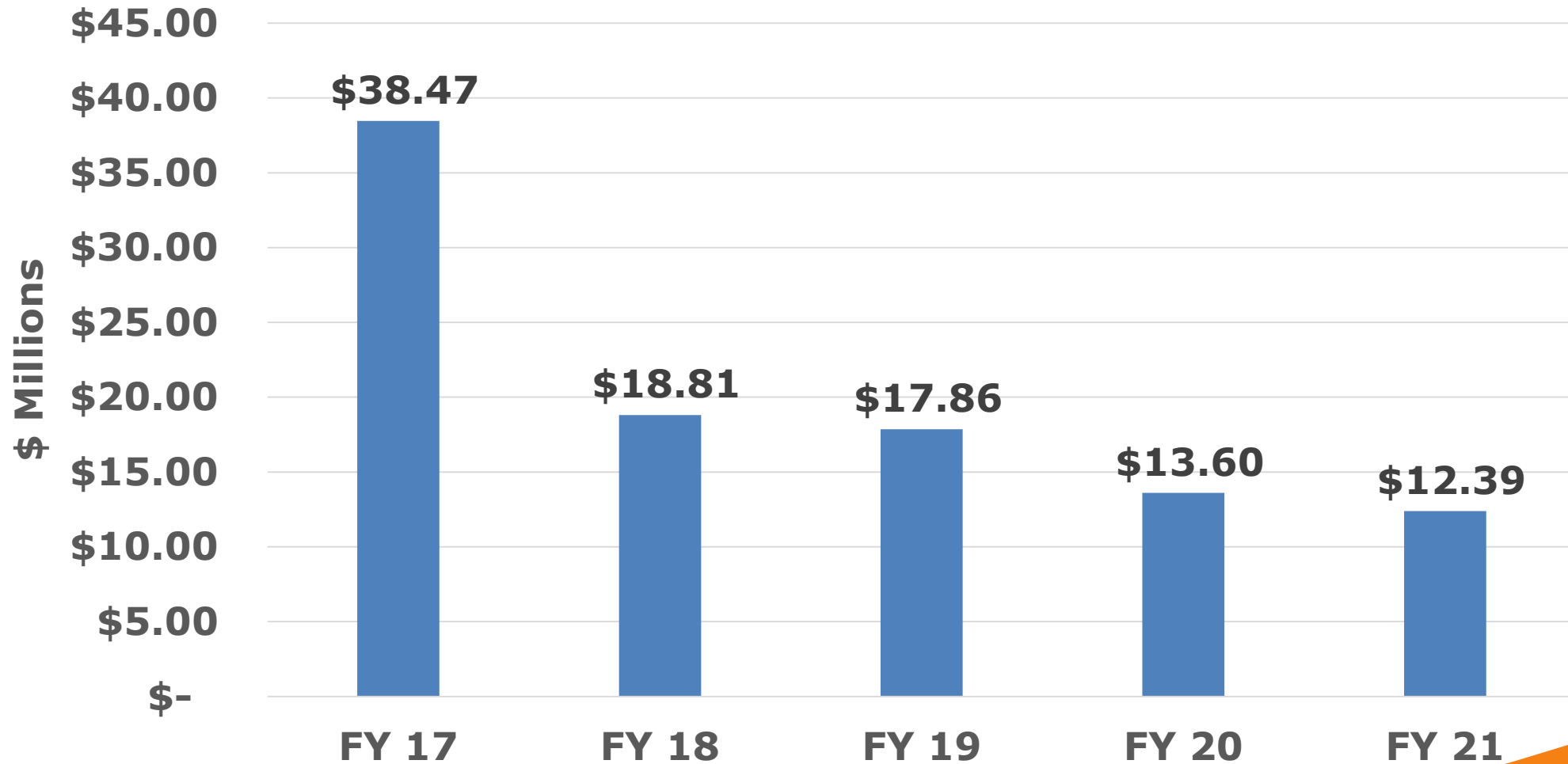
*Data As of 7/15/2021

ROOFTOP SOLAR

SOLAR PROGRAM



Solar



ROOFLESS SOLAR

SOLAR PROGRAM



	Community Solar
Program description	Provides customers a new pathway to going solar. They can purchase panels in a community solar array and receive credits for their output on their CPS Energy bill.
Program launch	2016
Customer participation (last 5 Years)	716
Application Process	Customers can purchase panels through our website.
Target Customers	Customers interested in going solar but not on their roof top. Ideal for renters or customers who live in historical areas or have shading on their rooftops.
Program goal	Lower the barriers to solar participation and give customers another option for owning solar panels.
Program outcomes	A new segment of customers have a pathway for going solar at a reasonable cost.



Program	Type	Customers	Current MW (AC)	Max subscription (MW)
Community Solar	Roofless Solar	247	1	1
	Big Sun	469	5	5

SOLARHOSTSA

SOLAR PROGRAM



	SolarHostSA
Program description	The SolarHostSA program works as a long-term generation contract for solar energy that is produced locally, on the distribution system
Program launch	2016
Customer participation (last 5 Years)	599
Application Process	Customers can apply through our website.
Target Customers	Customers who otherwise could not afford to make an investment in solar PV.
Program goal	Give customers the opportunity to host Solar generators and to earn financial rewards for doing so.
Program outcomes	A new segment of customers have a pathway for going solar.



Program	Type	Customers	Current MW (AC)	Max subscription (MW)
Solar Host	SolarHostSA	599	5	5



Questions & Discussion

SMART REWARDS

FLEXEV PROGRAM



	Smart Rewards
Program description	CPS Energy offers rebates to customers who allow us to temporarily pause electric vehicles charging during times of peak demand.
Program launch	2021
Annual program spend	New Pilot with \$0.5 million shared budget.
Customer participation (last 5 Years)	44
Application Process	Customers can enroll through an online application or through the charger.
Target Customers	Residential customers with a qualified charger.
Program goal	Smart Rewards works to lower the impact of charging electric vehicles on peak demand.
Program outcomes	Customer EV chargers are available to reduce load on peak days.



Program	Type	Customers
Smart Rewards	Rebated	44

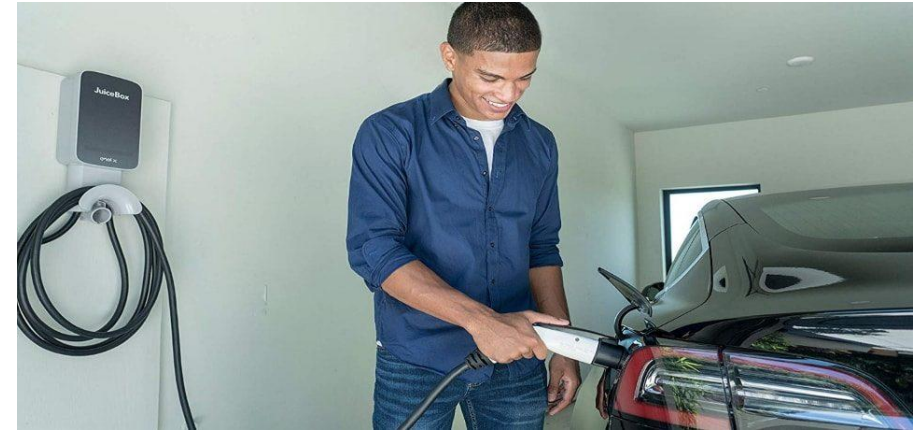
*Data As of 7/15/2021

OFF-PEAK REWARDS

FLEXEV PROGRAM



	Off-Peak Rewards
Program description	CPS Energy offers rebates to customers who choose not charge during peak times.
Program launch	2021
Annual program spend	New Pilot with \$0.5 million shared budget.
Customer participation (last 5 Years)	15
Application Process	Customers can enroll through an online application or through the charger.
Target Customers	Residential customers with a qualified charger.
Program goal	Off-Peak Rewards works to lower the impact of charging electric vehicles on peak demand.
Program outcomes	Customer EV customers are available to reduce load on peak days.



Program	Type	Customers
Off-Peak Rewards	Rebated	15

*Data As of 7/15/2021

Questions & Discussion



Participation Mapping

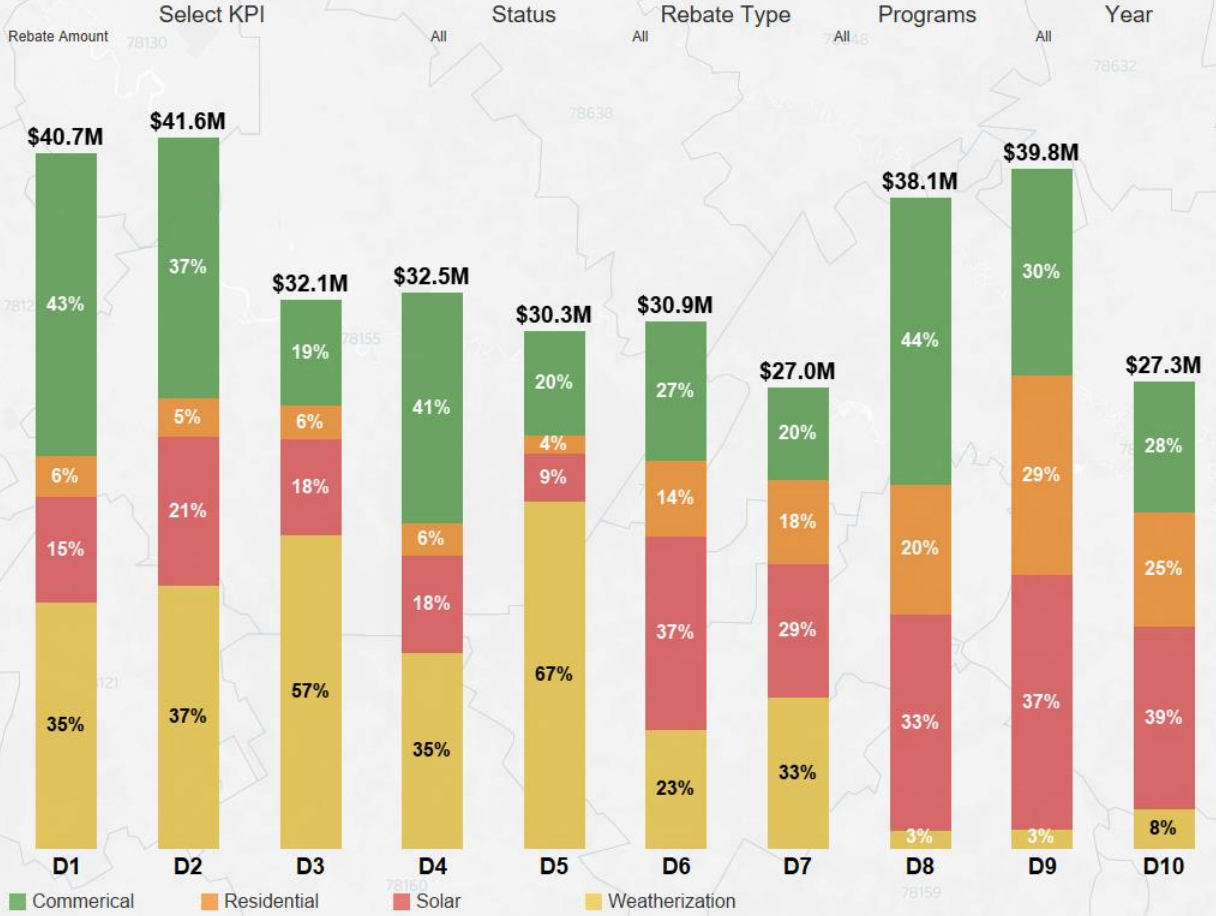
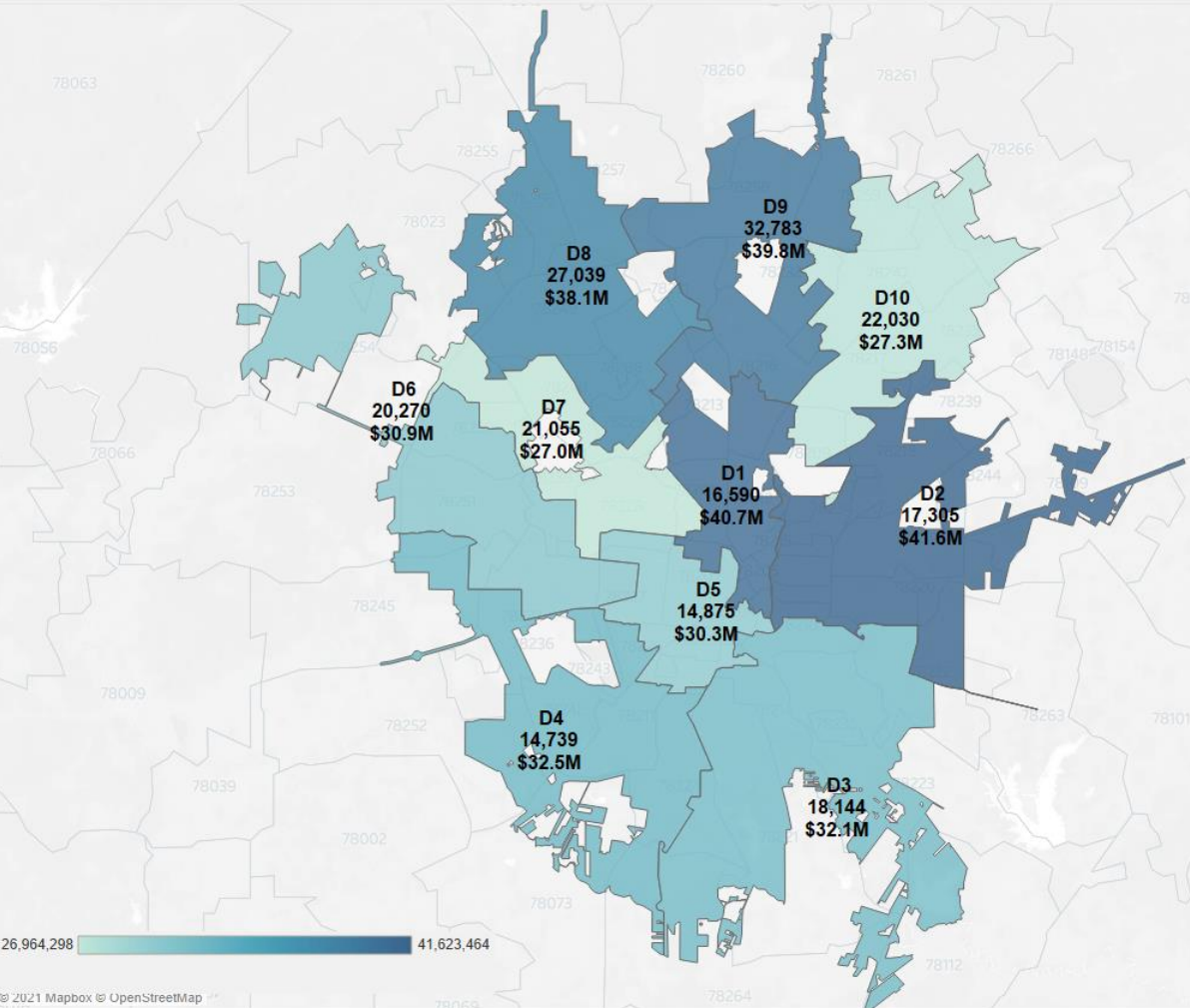


STEP PARTICIPATION

FY09-FY21



STEP REBATES BY COUNCIL DISTRICT



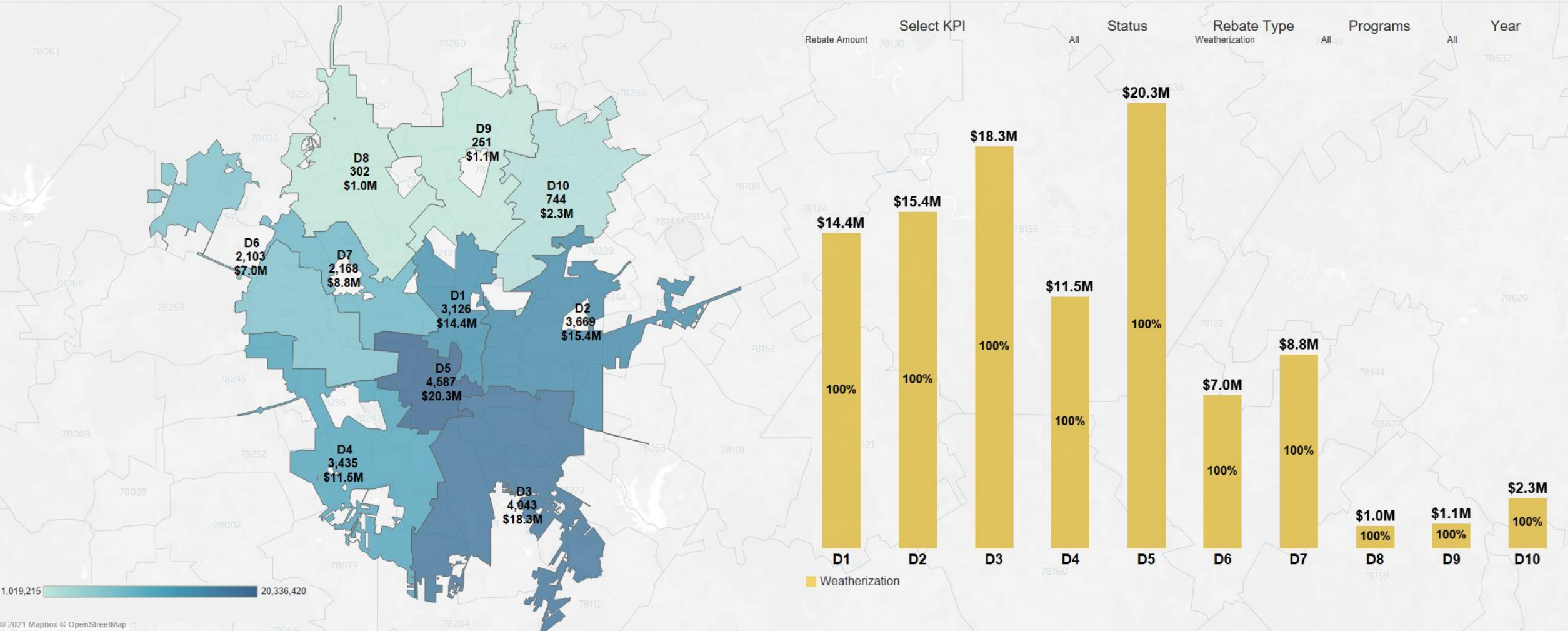
Note: Due to the nature of programs, this data does not include Demand Response, Retail Lighting, Energy Savings Through Schools, and New Home Construction.

WEATHERIZATION

FY09-FY21



STEP REBATES BY COUNCIL DISTRICT



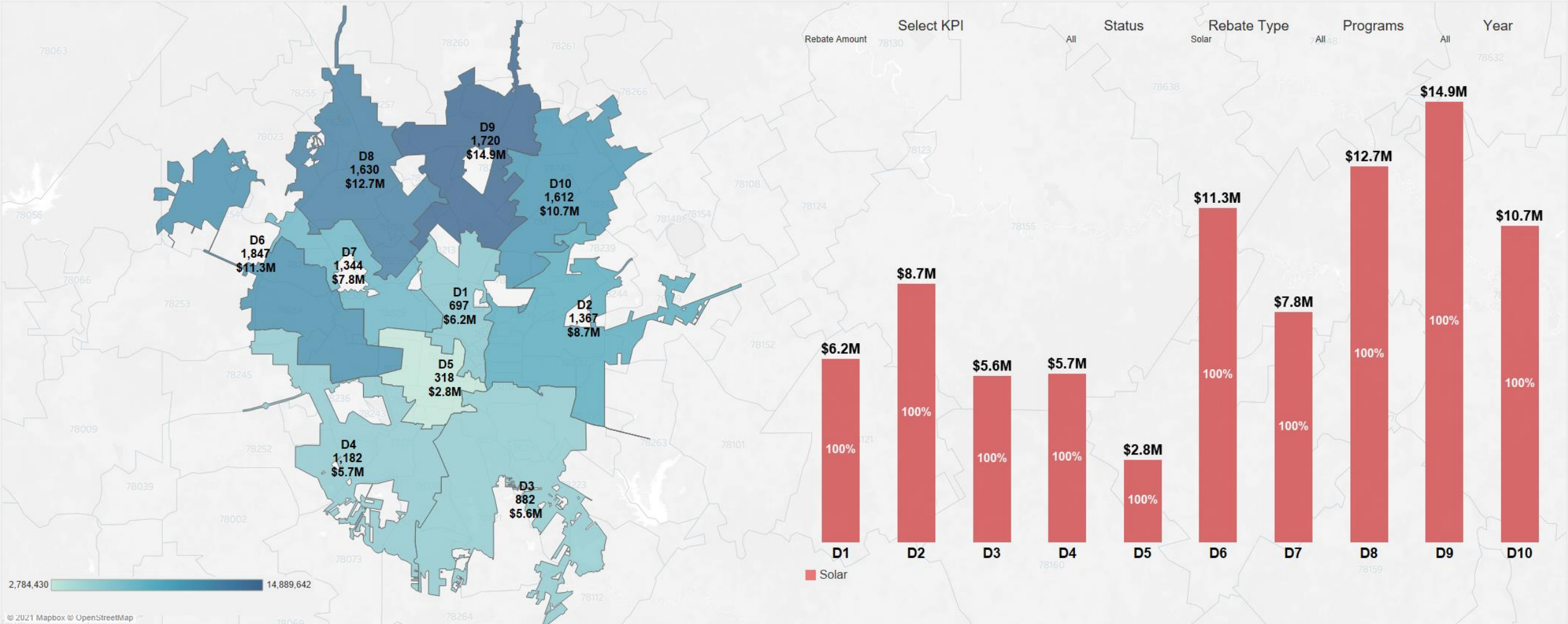
Note: Due to the nature of programs, this data does not include Demand Response, Retail Lighting, Energy Savings Through Schools, and New Home Construction.

STEP SOLAR PARTICIPATION

FY09-FY21



STEP REBATES BY COUNCIL DISTRICT



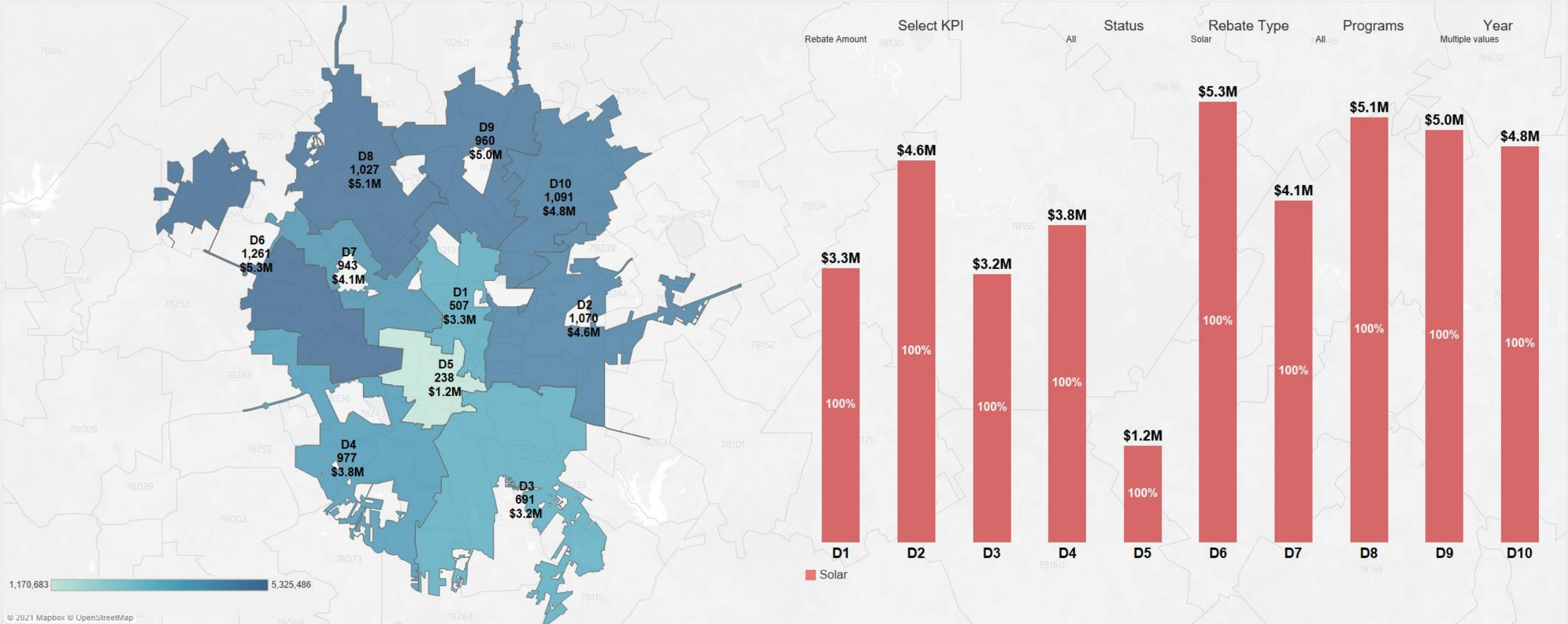
Note: Due to the nature of programs, this data does not include Demand Response, Retail Lighting, Energy Savings Through Schools, and New Home Construction.

STEP SOLAR PARTICIPATION

FY18-FY21



STEP REBATES BY COUNCIL DISTRICT



Note: Due to the nature of programs, this data does not include Demand Response, Retail Lighting, Energy Savings Through Schools, and New Home Construction.



Thank You



Appendix



GLOSSARY/DEFINITIONS



Acronym or Word	Definition
AC	Alternating Current
CFL	Compact fluorescent lamp
CY	Calendar Year
Demand Response (DR)	Demand Response is a change in the power consumption of electric customers to better match the demand for power with the supply. Customers may adjust power demand by reducing or shifting tasks that require large amounts of electric power.
Energy Efficiency (EE)	Energy Efficiency is using technology or services that requires less energy to perform the same function.
FY	Fiscal Year
HVAC	Heating, ventilation and air conditioning. A broadly used term to describe equipment used to keep homes at a comfortable temperature.
LED	A light-emitting diode
M	Million

GLOSSARY/DEFINITIONS



Acronym or Word	Definition
Megawatt (MW)	A measure of capacity to produce electric power. A megawatt equals 1,000 kilowatts or 1,000,000 watts.
SM	Service Mark
Solar	A solar system employs solar modules to generate electrical power.
STEP	CPS Energy's Save for Tomorrow Energy Plan
UCT	Utility Cost Test
Weatherization/Casa Verde	Weatherization is the process of modifying a building to reduce energy consumption and optimize energy efficiency.
Wi-Fi	The wireless technology used to connect computers, tablets, smartphones and other devices to the internet.
Yr	Year