

Public Utility  
Commission of Texas

# 2019

## Energy Efficiency Accomplishments

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Please send any questions or comments on the report to Therese Harris ([therese.harris@puc.texas.gov](mailto:therese.harris@puc.texas.gov)) and Lark Lee ([lark.lee@tetrattech.com](mailto:lark.lee@tetrattech.com)).

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*Shutterstock:* Powerline vector (cover page), village street (cover page), man changing light bulb (cover page), power lines in green field (table of contents), light bulb efficiency accomplishments (section 5), AC tune-up (section 6), installing LED bulb (section 6), smart thermostat (section 6).

*Unsplash:* Power lines in field (cover page), smart thermostat (section 4).

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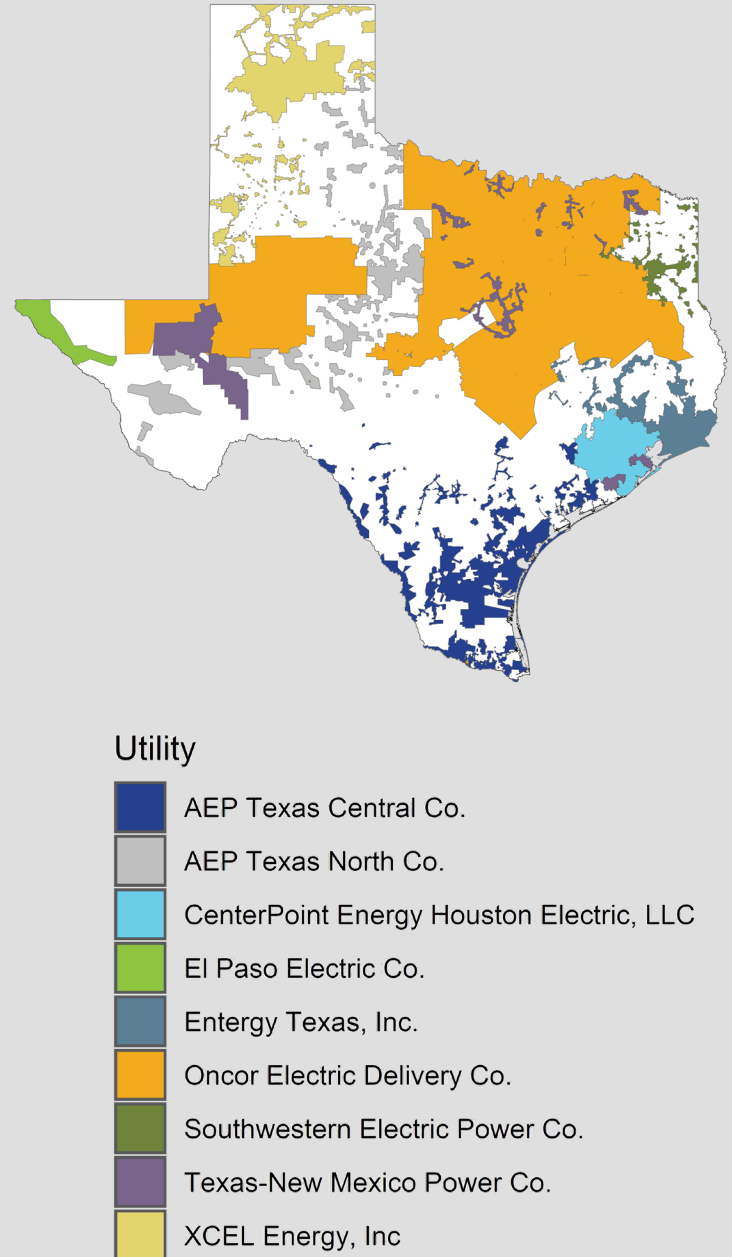


# SECTION ONE INTRODUCTION

The PUCT oversees the energy efficiency programs delivered by Texas investor-owned electric utilities: AEP Texas<sup>1</sup>, CenterPoint, Entergy, El Paso Electric, Oncor, SWEPCO, Xcel SPS, and TNMP. The utilities’ service territories are shown in Figure 1.

The Texas electric utilities administer a variety of programs that improve the energy efficiency of residential and commercial customers’ homes and businesses. Standard offer programs (SOPs) develop an infrastructure for service providers (e.g., contractors, distributors) and provide financial incentives to deliver higher-efficiency products and services. Utilities select implementation firms to run market transformation programs (MTPs). MTPs provide additional outreach, technical assistance, and education to customers in harder-to-serve markets (e.g., small businesses, health care, schools, local government) and for select technologies (e.g., recommissioning, air conditioner tune-ups, pool pumps). All utilities provide energy efficiency products and services to low-income customers through hard-to-reach (HTR) programs that are delivered similarly to the residential SOPs. The utilities that are part of Electric Reliability Council of Texas (ERCOT) also offer targeted low-income (LI) programs that coordinate with the existing federal weatherization program. Finally, the utilities manage load management programs, which are designed to reduce peak demand when needed.

**Figure 1. Territories of Regulated Electric Utilities in Texas**



<sup>1</sup> The PUCT approved AEP’s application to merge AEP TCC and AEP TNC into AEP Utilities. For PY2019, Texas reported energy efficiency programs by the legacy AEP TCC and AEP TNC territories.

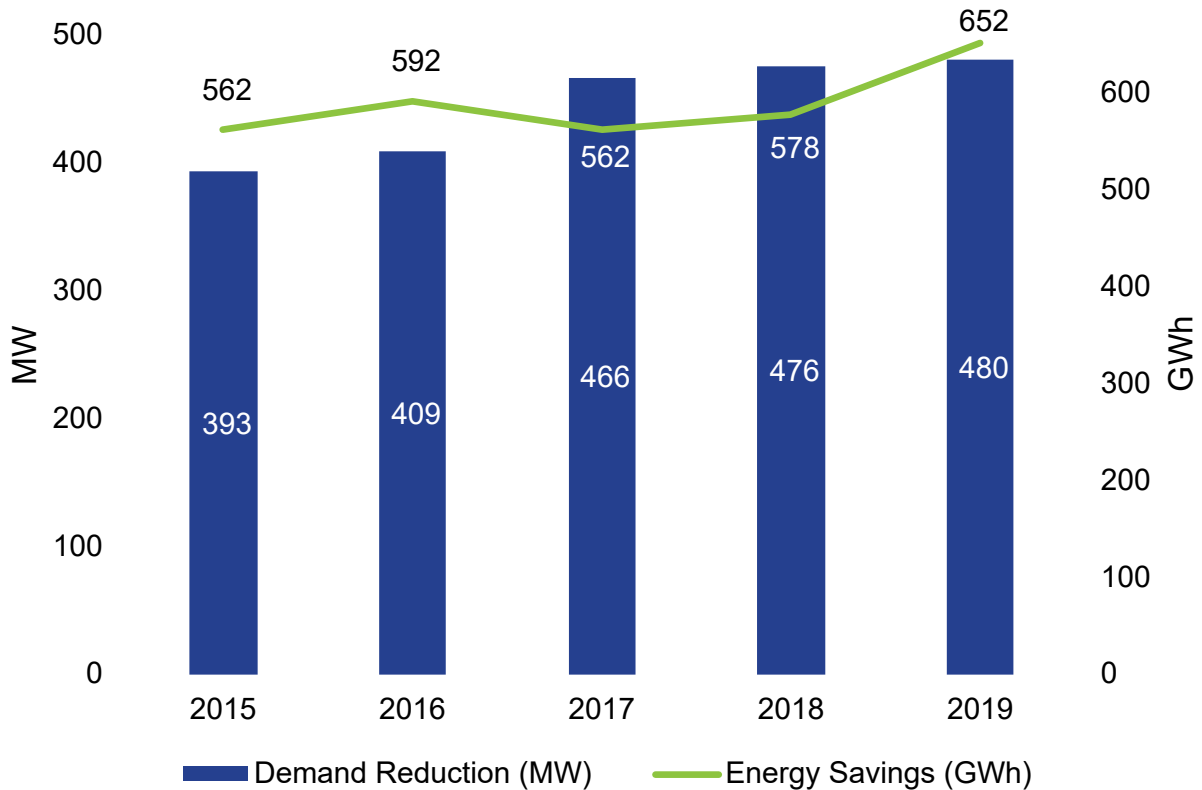
## SECTION TWO

# PY2019 ENERGY EFFICIENCY SUMMARY RESULTS

In program year 2019, the Texas electric utilities achieved statewide demand reductions of 479,912 kilowatts (kW) at a lifetime savings cost of \$16.94<sup>2</sup> per kW. The utilities achieved statewide energy savings

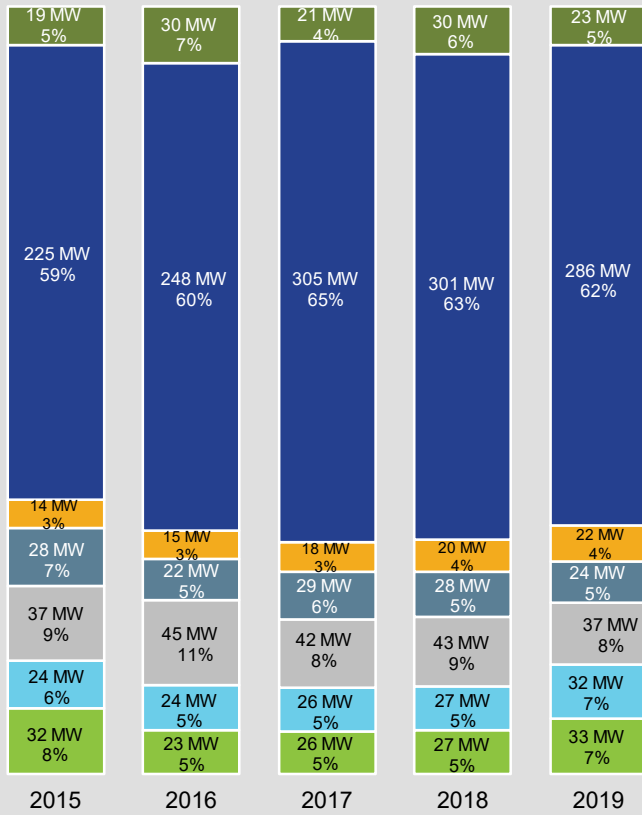
of 651,950,467 kilowatt-hours (kWh) at a lifetime savings cost of \$0.01 per kWh. PY2019 saw both the highest demand reductions and energy savings in the last five years (Figure 2).

**Figure 2. Total Statewide Portfolio: Evaluated Gross Demand Reduction and Energy Savings by Program Year**



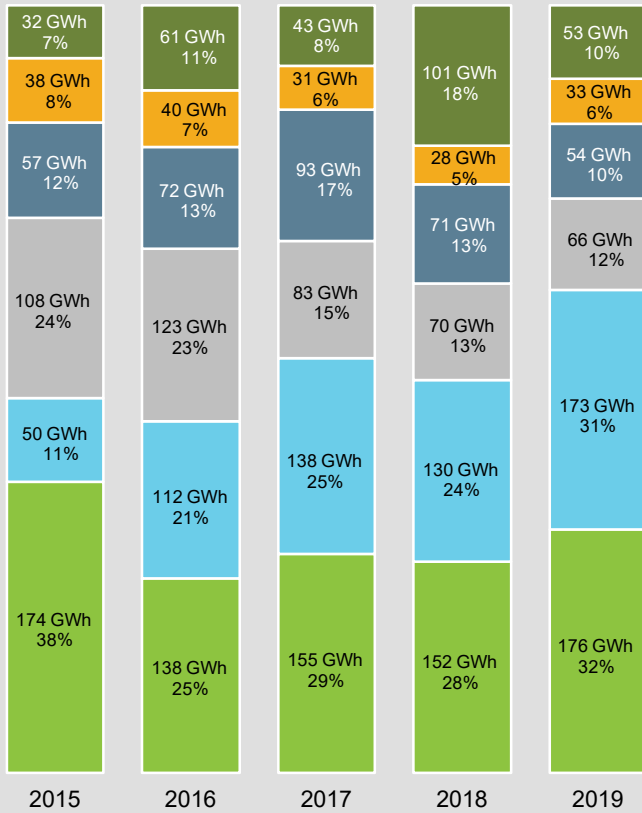
<sup>2</sup> Excluding load management programs, the lifetime savings cost is \$15.41 per kW.

**Figure 3. Evaluated Gross Demand Reduction and Energy Savings by Program Type**



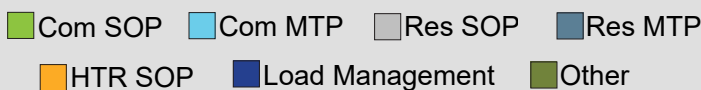
Other: HTR MTP, LI, Midstream, PV/Solar

Load management programs consistently account for approximately 60 percent of the statewide gross demand reduction (MW) (Figure 3). Commercial programs accounted for approximately half of statewide energy savings.



Other: HTR MTP, LI, Midstream, PV/Solar, Load Management

*PY2019 resulted in a ten percent increase in overall statewide savings, with commercial SOPs and MTPs increasing to 32 and 31 percent, respectively.*

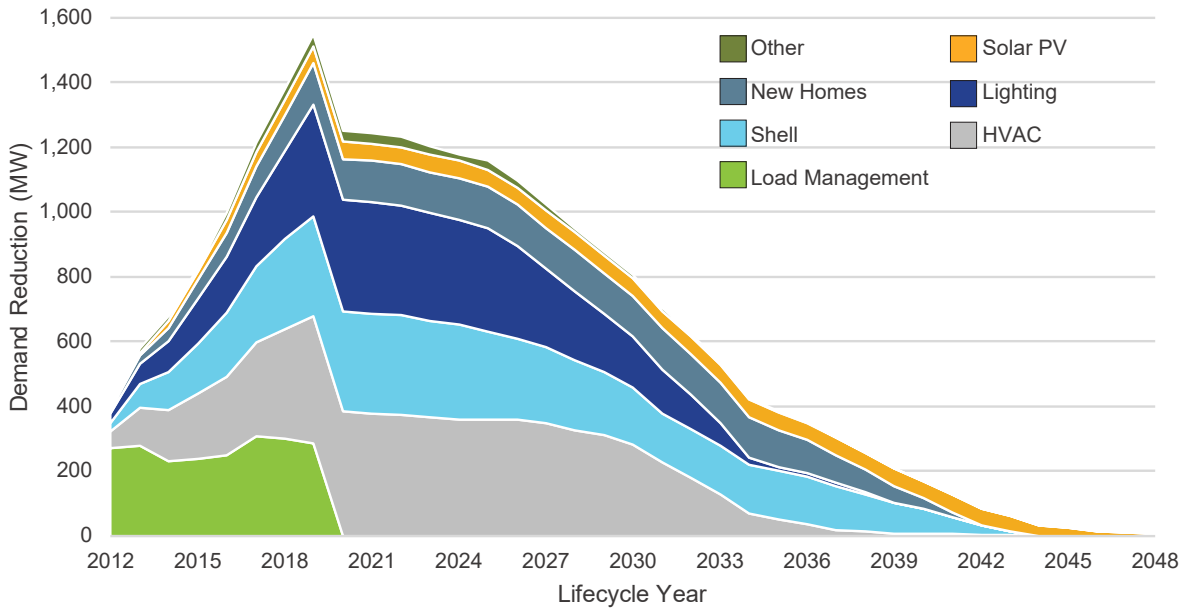


## 4 2019 ENERGY EFFICIENCY ACCOMPLISHMENTS

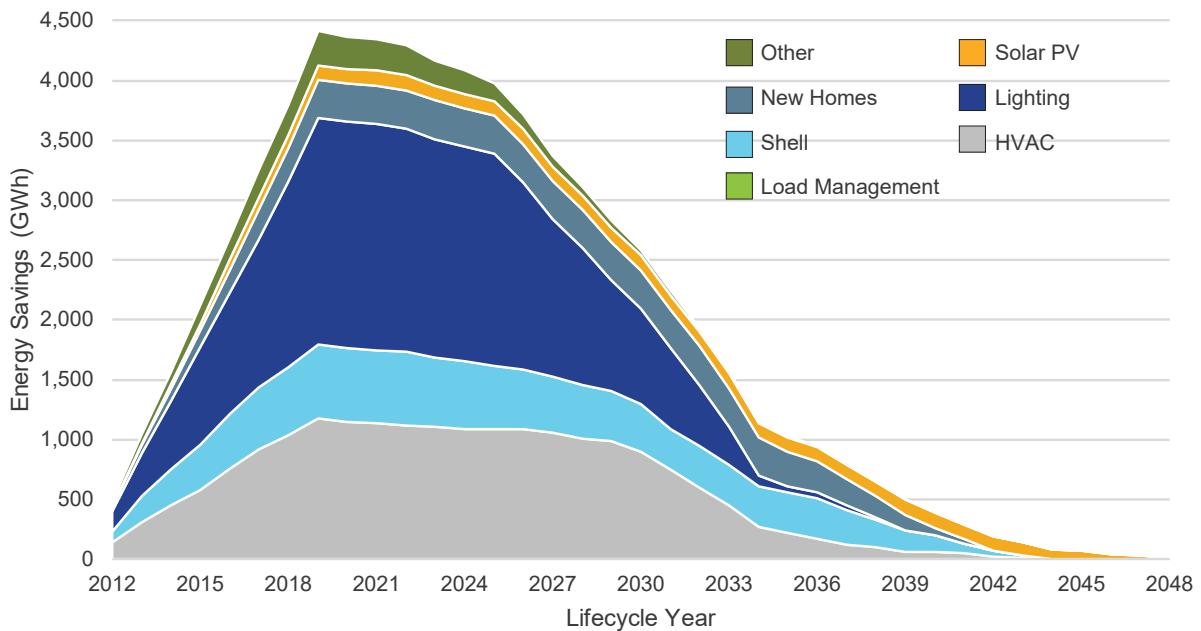
Energy savings and demand reductions from the energy efficiency programs persist beyond the program year they are installed based on the type of energy efficiency improvement made and how long it typically lasts. The cumulative savings that the utilities achieved since PY2012

are shown in Figure 4 (demand reduction) and Figure 5 (energy savings). Half of the demand reductions and energy savings achieved to date are expected to continue through 2030. Lighting, HVAC, and building shell improvements are delivering the most savings over time.

**Figure 4. PY2012–PY2048 Lifecycle Demand Reduction by Measure Category (MW)**



**Figure 5. PY2012–PY2048 Lifecycle Energy Savings by Measure Category (GWh)**



## SECTION THREE

# EVALUATION, MEASUREMENT, AND VERIFICATION OVERVIEW

In 2011, the Texas Legislature enacted SB 1125, which required the Public Utility Commission of Texas (PUC) to develop an evaluation, measurement, and verification (EM&V) framework that promotes effective program design and consistent and streamlined reporting. The PUC's EM&V team independently verifies claimed savings across all programs through program tracking data provided by the utilities.

The PUC's EM&V team maintains the Texas Technical Reference Manual (TRM)—a centralized reference document updated annually that provides guidance on how to calculate savings for the wide range of energy efficiency improvements included in the programs. Findings from the PY2019 EM&V inform updates for the PY2021 TRM.

### Additional Evaluation, Measurement, and Verification Activities Include:

- Engineering desk reviews
- On-site M&V
- Interval meter data analysis
- Participant surveys
- In-depth interviews

## SECTION FOUR

# KEY FINDINGS

The overall evaluation results for the utilities' portfolios are positive, with claimed savings similar to evaluated savings. This is a result of well established program design, delivery processes, tracking systems, documentation requirements, and savings tools coupled with utilities' collaboration with and responsiveness to the EM&V effort and improvements in the TRM. One improvement previously made to the TRM—consistently defining demand reductions—has placed Texas

as a national leader in defining demand reduction savings through energy efficiency programs.<sup>3</sup> The programs demonstrated marked improvement in the diversity of measures offered through the programs, in particular, increasing residential and commercial HVAC projects.

<sup>3</sup> Collecting and Analyzing Peak Demand Impacts from Electricity Efficiency Programs, Energy Analysis and Environmental Impacts Division, Lawrence Berkeley National Laboratory, 2019.





## SECTION FIVE

PY2019 ENERGY EFFICIENCY  
ACCOMPLISHMENTS

## SECTION SIX

# RECOMMENDATIONS

The PUCT's EM&V recommendations facilitate more accurate, transparent, and consistent savings calculations and program reporting across the Texas energy efficiency programs, as well as provide feedback that can lead to improved program design and delivery. The PUCT and EM&V team work with the utilities to document "action plans" on how the utilities will respond to recommendations within the next program year. Utilities have been responsive to prior recommended changes in their program implementation, savings calculations, and reporting. In PY2019, the utilities responded to 22 EM&V recommendations. They are responding to 42 EM&V recommendations in 2020. The PY2019 evaluation resulted in an additional 35 recommendations across 8 commercial programs, 9 residential programs, 4 load management programs, and

14 cross-sector areas. Recommendations include opportunities to improve program performance, internal processes, tracking data, documentation, and TRM updates for more accurate savings calculations.

The PY2019 evaluation resulted in

**35 NEW**  
RECOMMENDATIONS

