



Public Utility Commission of Texas

FINAL 2021 ENERGY EFFICIENCY ACCOMPLISHMENTS

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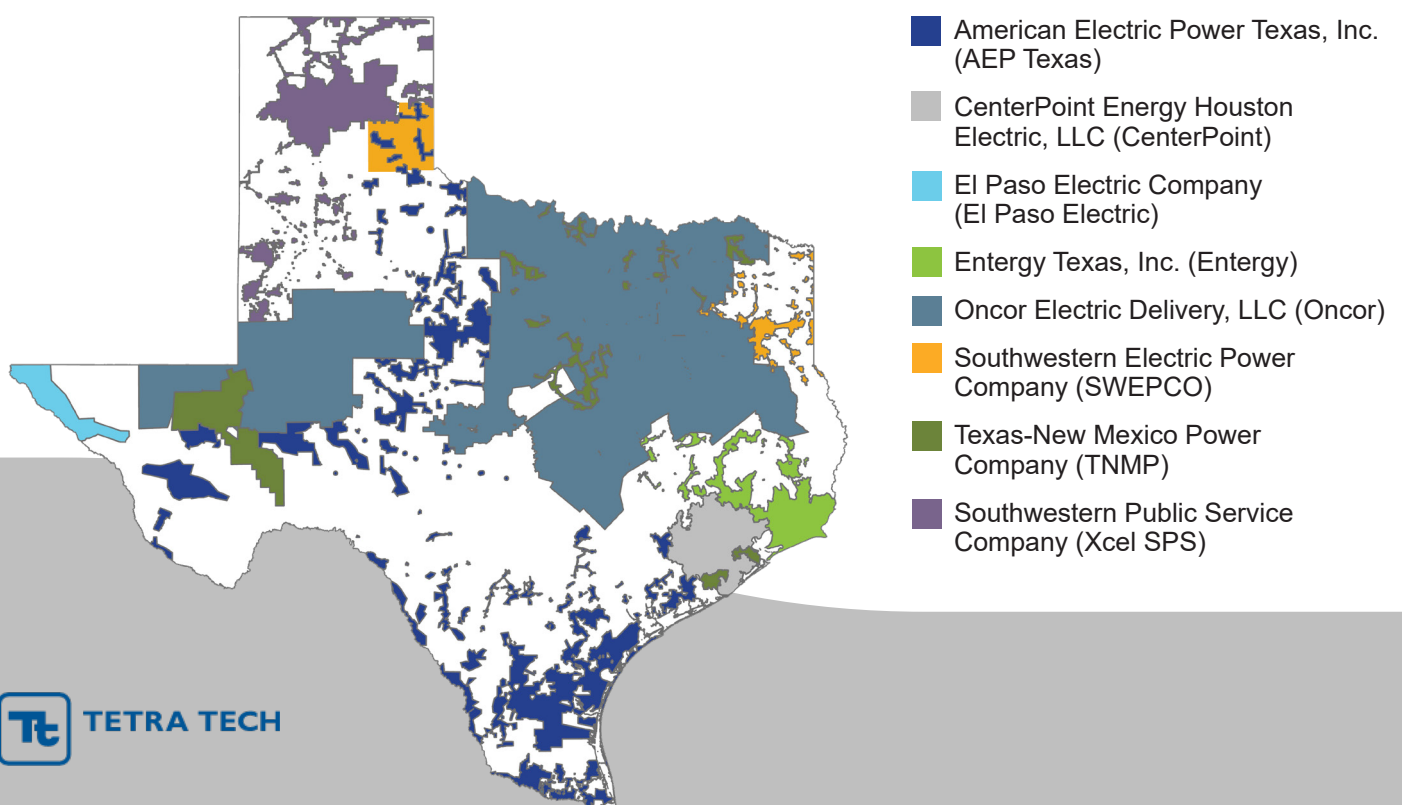
SECTION 1

Executive Summary

The Public Utility Commission of Texas (PUCT) oversees the energy efficiency programs delivered by the state's eight investor-owned electric utilities. Four of the utilities are fully deregulated and operate as part of the Electric Reliability Council of Texas (ERCOT): American Electric Power Texas, Inc. (AEP Texas), CenterPoint Energy Houston Electric, LLC (CenterPoint), Oncor Electric Delivery, LLC (Oncor) and Texas-New Mexico Power Company (TNMP). The other four utilities—Entergy Texas, Inc. (Entergy); El Paso Electric Company (El Paso Electric); Southwestern Electric Power Company (SWEPCO); and Southwestern Public Service Company (Xcel SPS)—are vertically-integrated and operate as part of the Midwest Independent System Operator or the Southwest Power Pool. 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, reducing both peak demand on the electric grid and annual electric use. Standard offer programs (SOP) develop the infrastructure of 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 (MTP). MTPs provide additional outreach, technical assistance, and education to customers in harder-to-serve markets (e.g., small business, education, health care, data centers, and local governments) or for select technologies (e.g., recommissioning, air conditioner (AC) tune-ups, pool pumps).

Figure 1. Territories of Regulated Electric Utilities in Texas



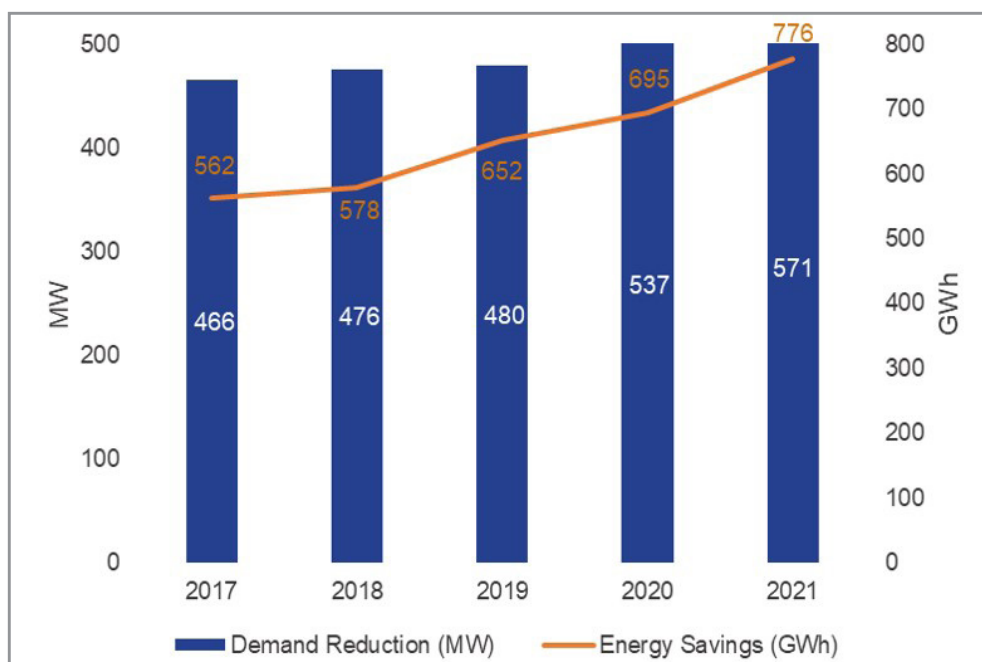
All utilities provide energy efficiency offerings to low-income (LI) customers through hard-to-reach (HTR) programs that are delivered similarly to the residential SOPs. The ERCOT utilities also offer targeted LI programs that coordinate with the existing federal weatherization program. Finally, the utilities manage load management programs, which are designed to reduce peak demand for a specified amount of time (typically two to four hours) if needed for either grid or system reliability. Seven of the utilities offer summer load management programs and one utility offers both a winter and summer program as part of its energy efficiency portfolio.

SECTION 2

PY2021 Energy Efficiency Summary Results

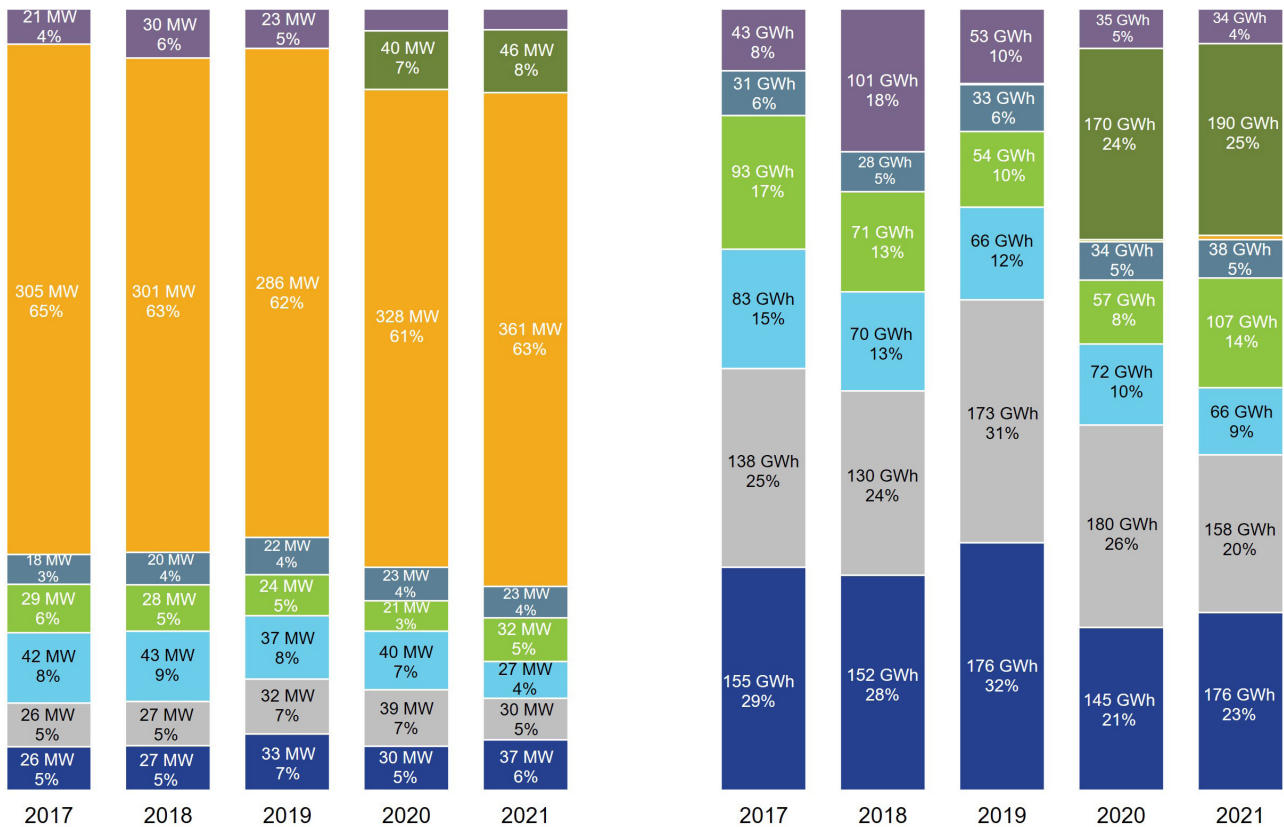
In program year (PY) 2021 (PY2021), the Texas electric utilities achieved statewide demand reductions of 571,164 kilowatts (kW) at a lifetime savings cost of \$12.66 per kW. The utilities achieved statewide energy savings of 776,084,924 kilowatt-hours (kWh) at a lifetime savings cost of \$0.016 per kWh.

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



Load management programs consistently account for the majority of the statewide demand reductions (MW). Upstream and midstream program delivery¹ continued in PY2021 similarly to PY2020 as a larger percentage of total savings. These programs are the largest contributor to statewide energy savings after the combined savings from commercial MTPs and SOPs (Figure 3).

Figure 3. Evaluated Gross Demand Reduction and Energy Savings by Program Type²



Other: HTR MTP, LI, PV/Solar (prior to PY2020, *Midstream* was captured under *Other*)

- Com SOP
- Res SOP
- HTR SOP
- Upstream/Midstream
- Com MTP
- Res MTP
- Load Management
- Other

Energy savings and demand reductions from the energy efficiency programs persist beyond the program year. The duration of savings is based on the type of energy efficiency improvement made and how long it typically lasts. The cumulative savings the utilities had achieved since PY2012—when the EM&V effort began—are shown in Figure 4 (demand reduction) and Figure 5 (energy savings). Demand reductions and energy savings are expected to continue to 2049. Lighting, HVAC, and building shell improvements deliver the most savings over time. Load management delivers demand reductions only in the program year and accounts for the spike and drop-off after 2020.

¹ Upstream programs are delivered at the retailer level and the customer purchasing is not known. The most common example is a point-of-purchase discount for lighting. Midstream programs can be delivered at the retailer or distributor level and the customer purchasing is known. Common examples include discounted smart thermostats (retailer) or HVAC equipment (distributor).

² Values less than four percent have been suppressed for visualization purposes.

Figure 4. PY2012–PY2050 Life Cycle Demand Reduction by Measure Category (MW)

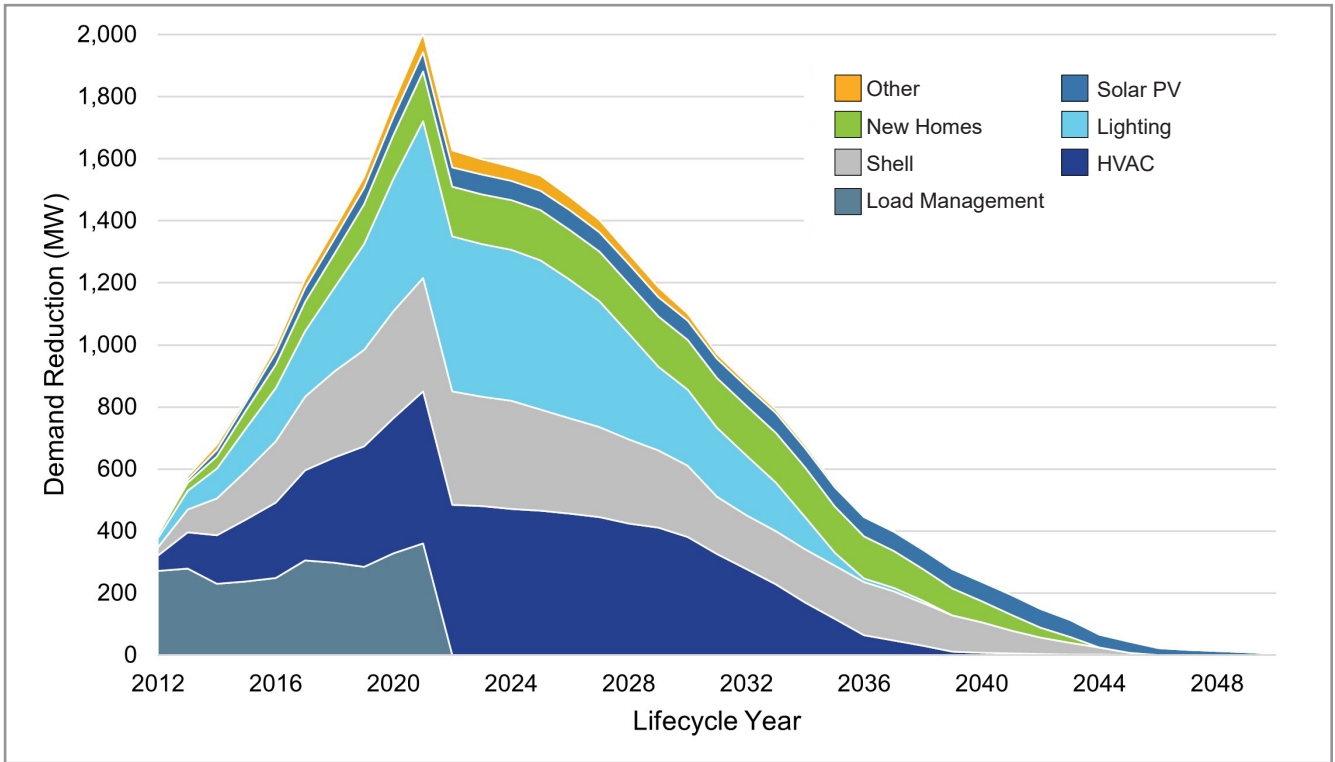
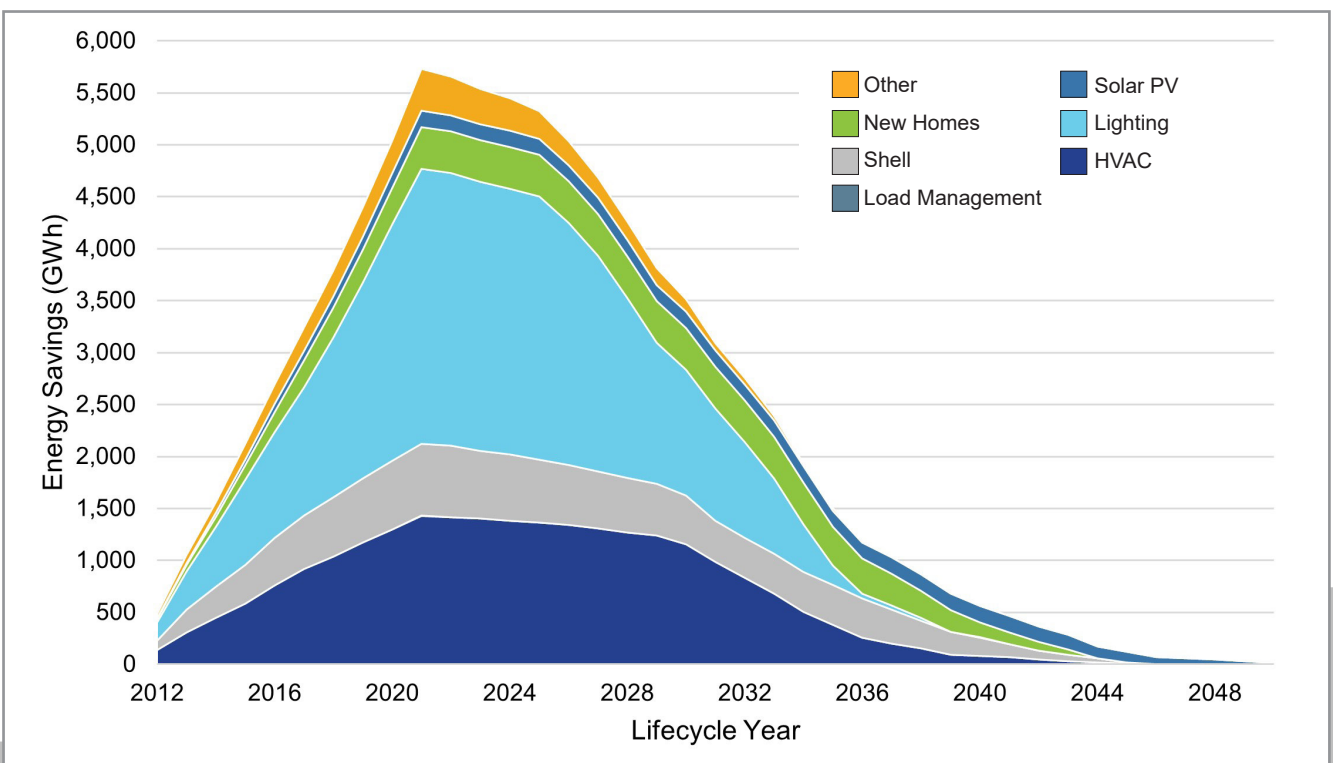


Figure 5. PY2012–PY2050 Life Cycle Energy Savings by Measure Category (GWh)

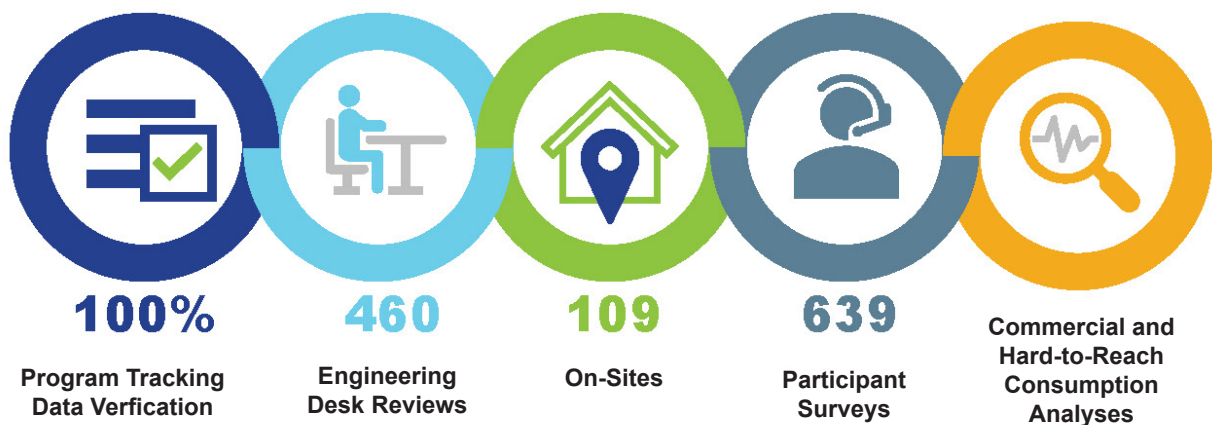


SECTION 3

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 independently verifies claimed savings across all programs through program tracking data that is received from the utilities. Additional EM&V activities included engineering desk reviews, on-site inspections, interval meter data analysis, and participant surveys.

Figure 6. PY2021 Evaluation, Measurement, and Verification Activities



PUC staff approve the Texas Technical Reference Manual (TRM)—a centralized reference document on how to calculate savings for the wide range of energy efficiency improvements. The PUC's EM&V contractor is tasked with updating the TRM annually. Findings from the PY2021 EM&V inform updates for the PY2023 TRM.

SECTION 4

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 and delivery processes, tracking systems, documentation, and savings tools coupled with the utilities' collaboration with and responsiveness to the EM&V effort and improvements in the TRM.

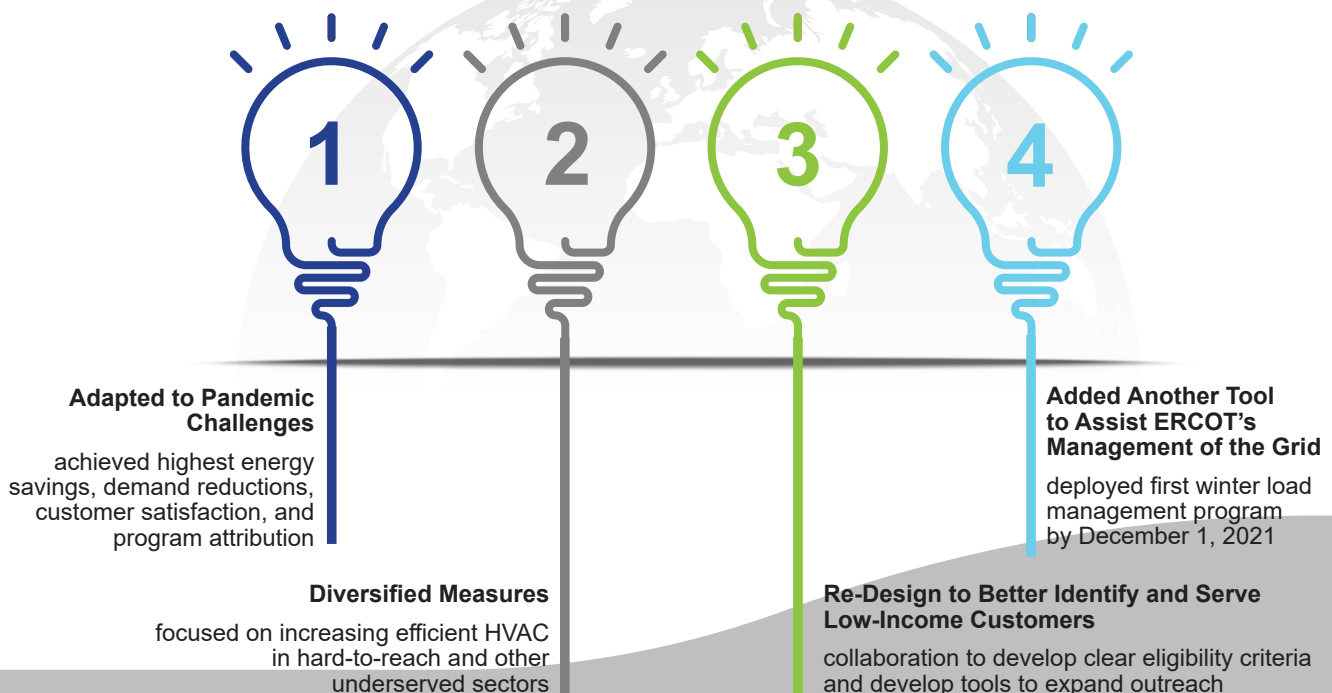
SECTION 5

PY2021 Energy Efficiency Accomplishments

PY2021 saw many successes. Utilities continued their commitment to diversifying the types of measures delivered through the programs, with a specific focus on HVAC as a substantial peak-demand-reducing measure. Utilities also continued to expand the types of distribution channels used to reach customers, delivering energy-efficient products by working with retailers, distributors, and contractors, as well as adding online offerings. The utilities adapted to continuing challenges from the COVID-19 pandemic in PY2021, including customer health and safety considerations, supply chain issues, and contractor staff shortages. The utilities collaborated with PUCT staff and the EM&V team to re-design eligibility criteria for low-income households in order to better serve this sector starting in PY2022, including the development of an online tool for contractors to use in the field.

In response to Winter Storm Uri, ERCOT utilities worked to quickly roll out new winter load management programs, with Oncor first offering a winter load management pilot as part of its energy efficiency offerings on December 1, 2021. Commercial and residential participant surveys indicate high customer satisfaction with the programs, and the majority of claimed savings result because of the financial incentive and technical assistance provided.

Figure 7. PY2021 Energy Efficiency Accomplishments



SECTION 6

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 PY2021, the utilities responded to 30 recommendations from the PY2018 EM&V completed in 2019. The PY2021 evaluation resulted in an additional 39 recommendations for PY2023 implementation across commercial programs (15), residential programs (12), load management programs (4), and at the portfolio-level (9). Recommendations include opportunities to improve program performance, internal processes, tracking data and documentation, and TRM updates for more accurate savings calculations.

Recommendations made based on PY2019 evaluation research, which was completed in 2020, were expected to be implemented in PY2021. Likewise, recommendations resulting from the PY2021 EM&V completed in 2022 are expected to be implemented in PY2023 (see Figure 8).

Figure 8. Recommendations Timeline

