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EVALUATION, MEASUREMENT & VERIFICATION (EM&V) KEY FINDINGS

LARK LEE, COMMISSION EM&V CONTRACTOR LEAD

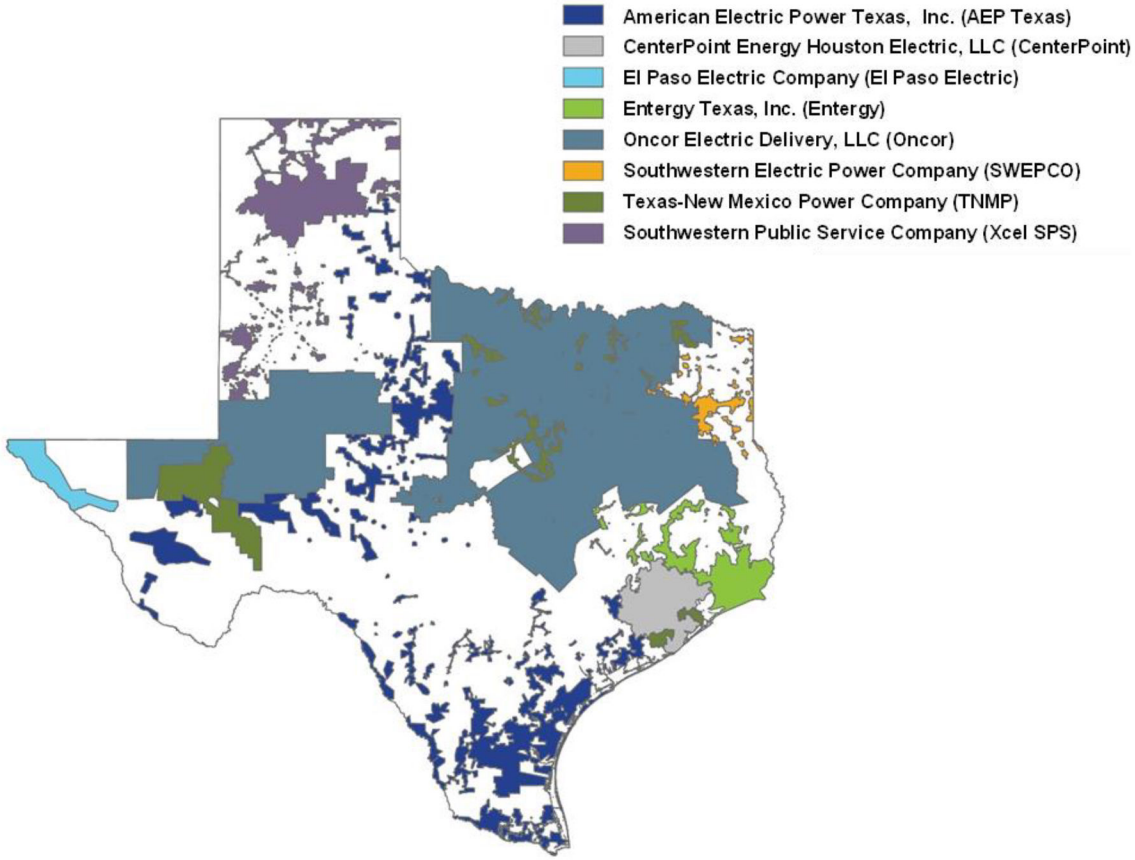
FALL EEIP MEETING, OCTOBER 18, 2022

TETRA TECH

TEXAS ENERGY ENGINEERING SERVICES, INC. (www.tecsi.com)

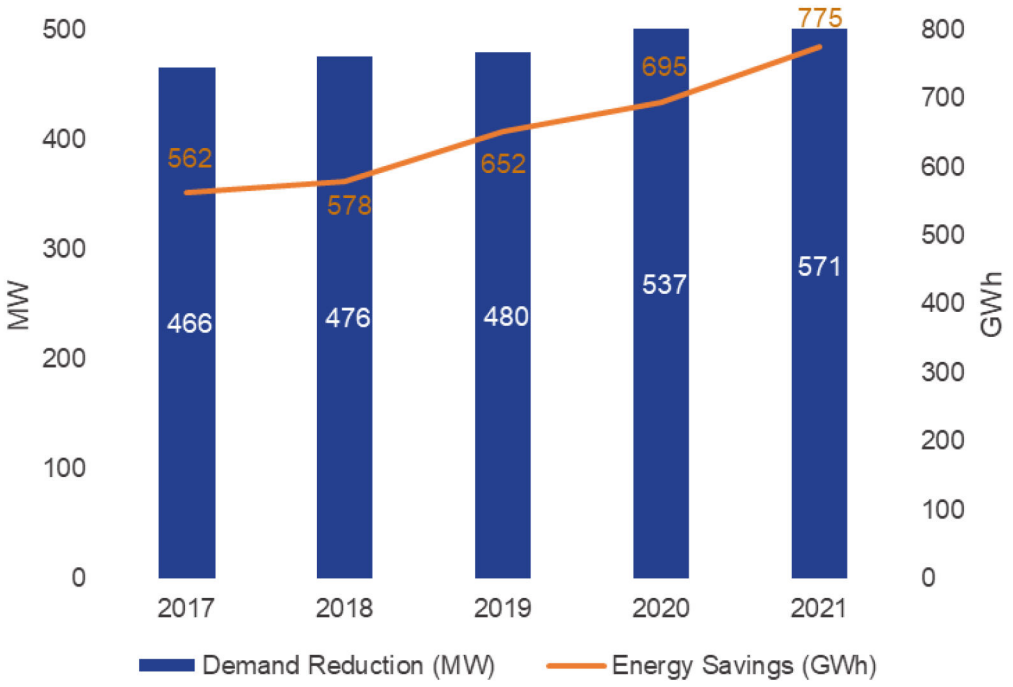
ENERGY BEES

IOU ENERGY EFFICIENCY PROGRAM ACCOMPLISHMENTS



TEXAS IOU ENERGY EFFICIENCY HISTORY

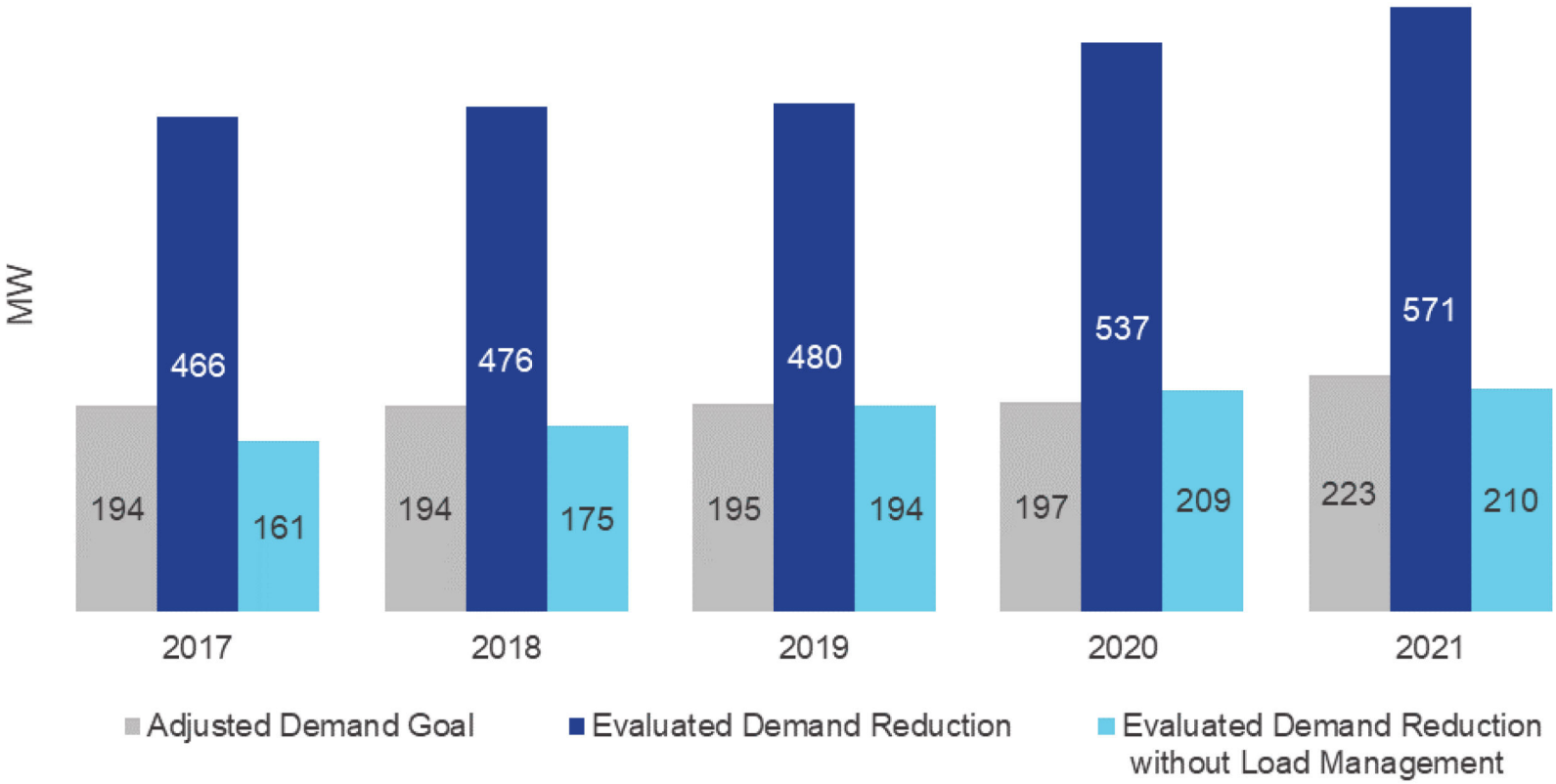
- The Public Utility Regulatory Act (PURA) Section 39.905 first established long-term goals in 1999 for the IOUs
  - Since 2013, "floor" of 30 percent of demand growth or 4/10th of 1% of summer peak
  - Due to consistent demand growth, IOUs are generally pursuing larger kW and kWh reductions



DEMAND REDUCTIONS AND ENERGY SAVINGS 2017 – 2021

PY2021 saw highest demand reductions & energy savings to-date.

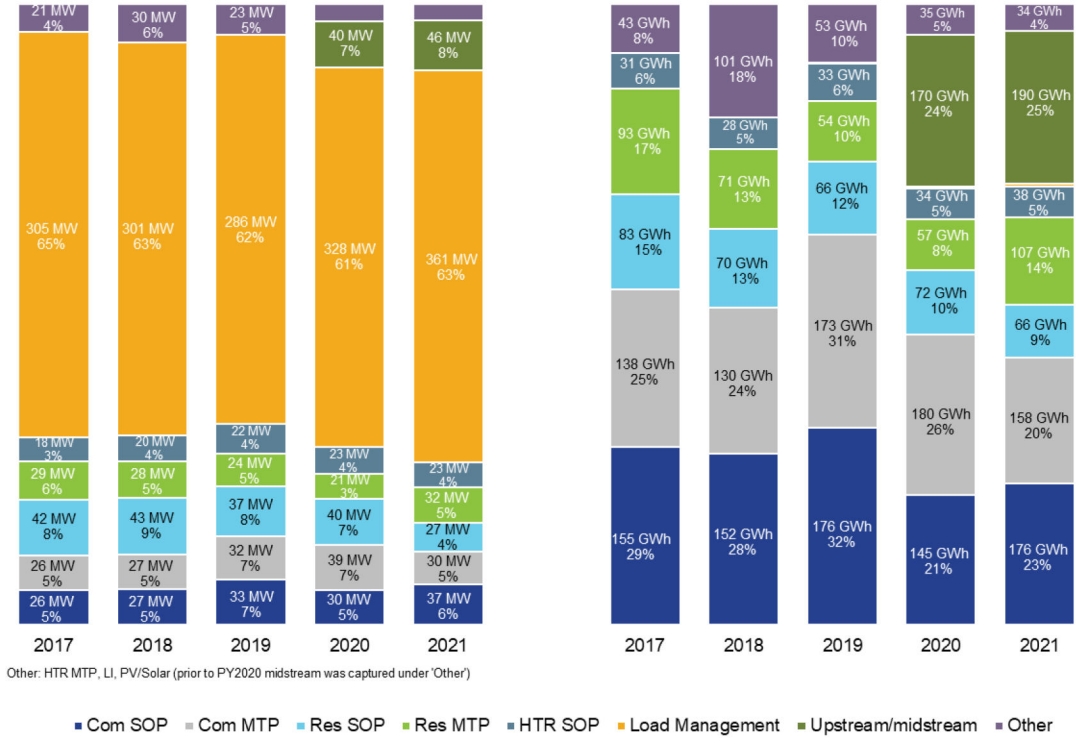
PY2021 PROGRAMS ACHIEVED LIFETIME SAVINGS AT COST OF $ 27 PER KW, $0.015 PER KWH



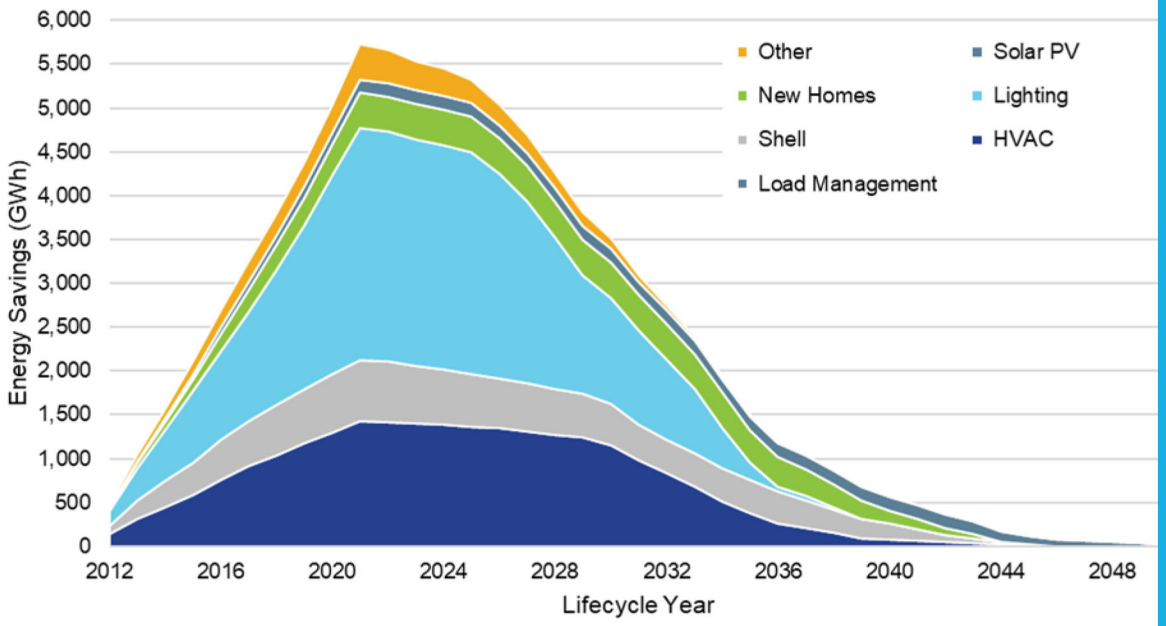
UTILITIES CONTINUE TO SIGNIFICANTLY EXCEED LEGISLATED DEMAND REDUCTION GOALS; DUE PRIMARILY TO THE LOAD MANAGEMENT PROGRAMS.

PY2017–PY2021 Legislated Goals and Evaluated Demand Reduction

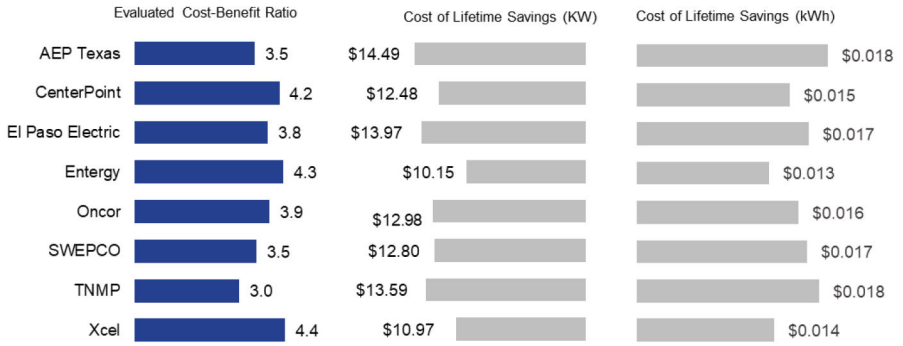
SAVINGS BY PROGRAM TYPE, GROWTH IN UPSTREAM &MIDSTREAM

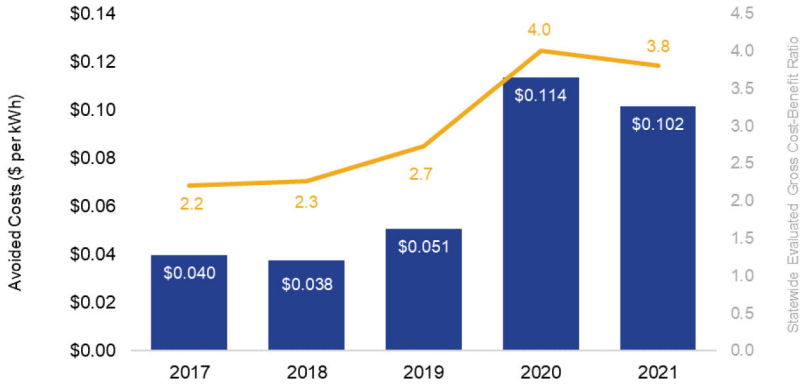


LIGHTING, HVAC, & BUILDING SHELL IMPROVEMENTS ARE DELIVERING THE MOST SAVINGS OVER TIME.



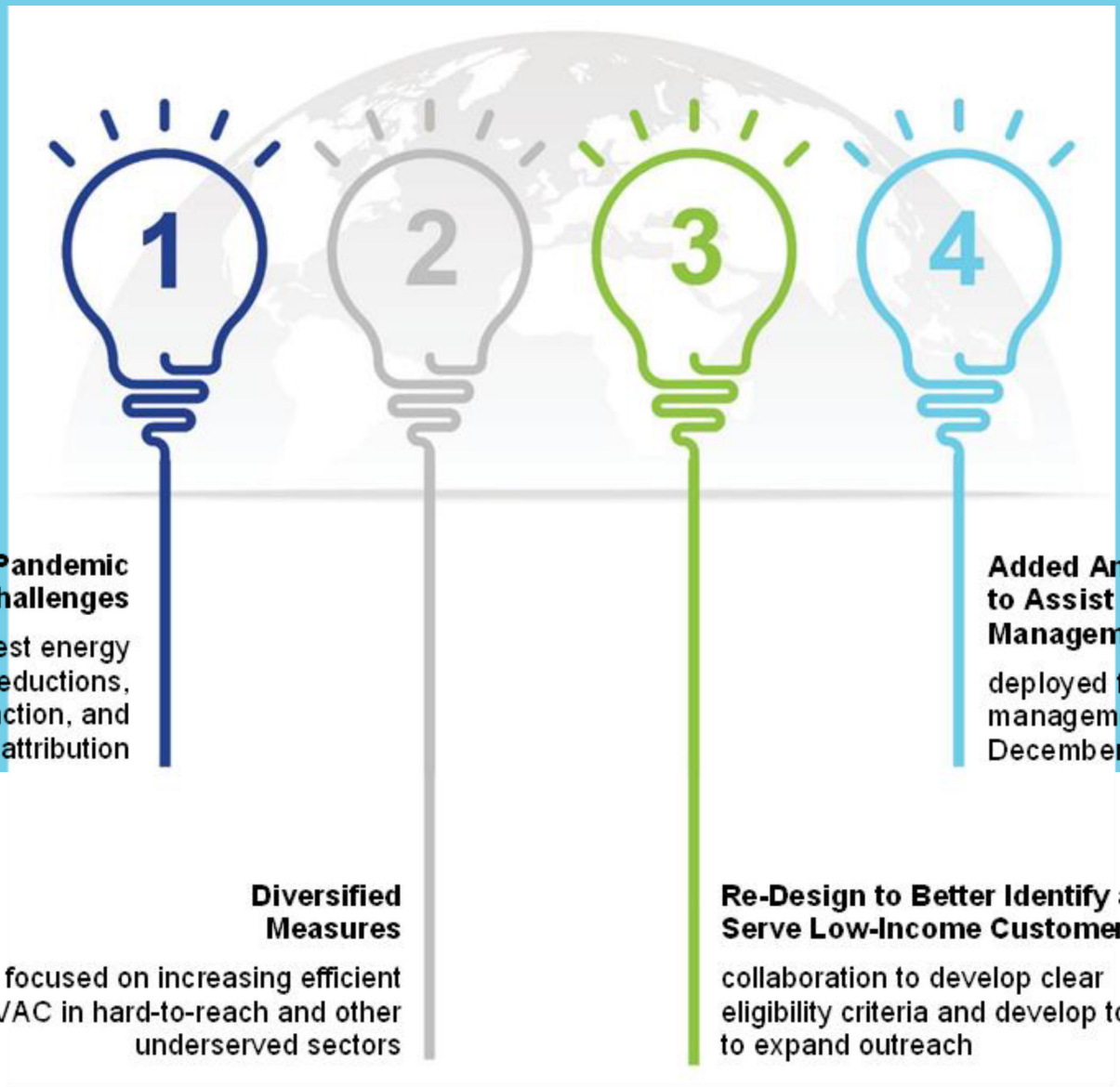
PY2012—2049 Lifecycle Energy Savings by End Use (GWh)





STATEWIDE COST-EFFECTIVENESS

3.8 Statewide, ranging from 3.0 to 4.4 across utilities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2
3
4
Adapted to Pandemic Challenges
achieved highest energy savings, demand reductions, customer satisfaction, and program attribution
Diversified Measures
focused on increasing efficient HVAC in hard-to-reach and other underserved sectors
Re-Design to Better Identify and Serve Low-Income Customers
collaboration to develop clear eligibility criteria and develop tools to expand outreach
Added Another Tool to Assist ERCOT's Management of the Grid
deployed first winter load management program by December 1, 2021

Evaluation Overview

Evaluation, Measurement and Verification (EM&V) Background

EM&V Objectives

TRM	Maintain the statewide Technical Reference Manual (TRM) that directs how savings and demand reductions are calculated
Savings	Verify gross and net energy and demand savings, improve savings estimates prospectively
Cost effective-ness	Calculate program and portfolio cost-effectiveness
Feedback	Provide information to improve program performance

How are EM&V objectives reached?

Statewide Database compiled from all utilities program tracking data

- 100% program tracking data verification
- Engineering desk reviews
- On-site M&V
- interval meter data analysis for all load management, prioritized energy efficiency programs
- participant surveys, program design and delivery and market actor interviews

Ongoing technical support and reviews

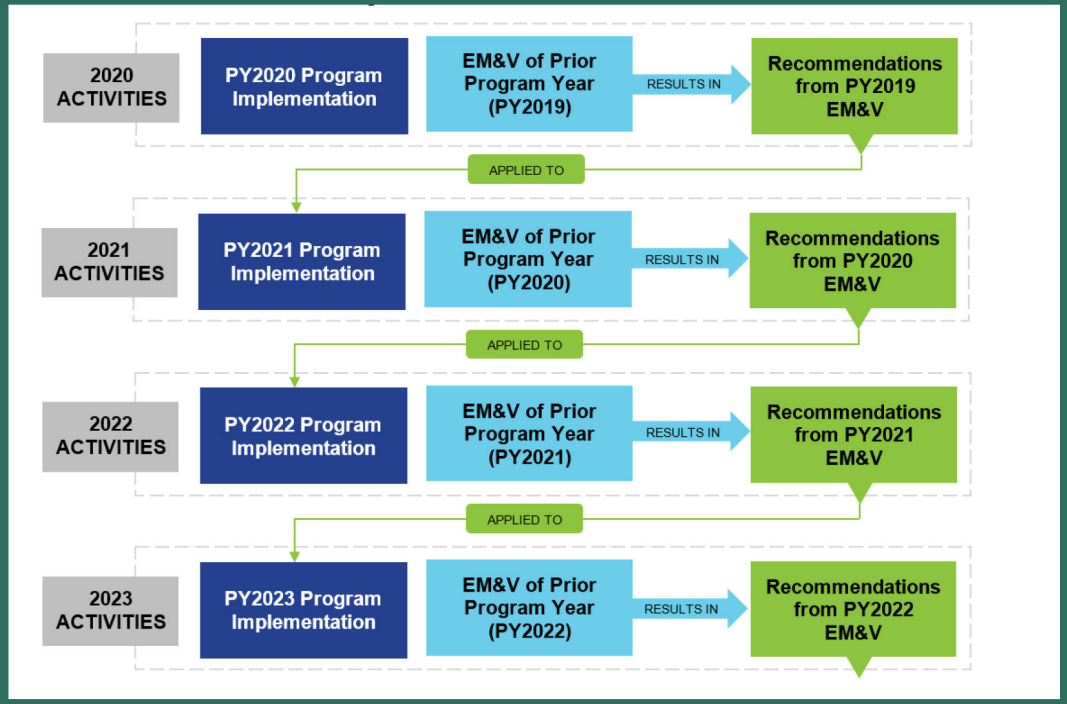
Utility	kW	kWh
AEP Texas	-86	39,689
CenterPoint	-282	-1,531,571
El Paso Electric	-702	30,490
Entergy	6	58,348
Oncor	11	-11,246
SWEPCO	15	-17,838
TNMP	-63	-257,868
Xcel SPS	2	-16,631
Overall	**-1,099**	**-1,706,627**

EVALUATED AND CLAIMED SAVINGS WERE SIMILAR, UPFRONT M&V REVIEWS OR ADDITIONAL TECHNICAL ASSISTANCE OR INPUT CAN REDUCE UNCERTAINTY IN SAVINGS ESTIMATES

The utilities have demonstrated a willingness to work with the EM&V team

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).



EEIP INPUT RECOMMENDATION

Within this context of program progress, the EM&V team offers recommendations to foster continuous improvement in the programs. At the same time, the EM&V team notes new challenges are particularly on the horizon for PY2023 as new codes and standards, coupled with supply chain and inflationary pressures, are predicted to result in increased costs for energy efficiency gains.

Therefore, continued collaboration with stakeholders through the EEIP is also critical for the continuous improvement of the programs to serve Texans most effectively (p. 11).

THANK YOU!

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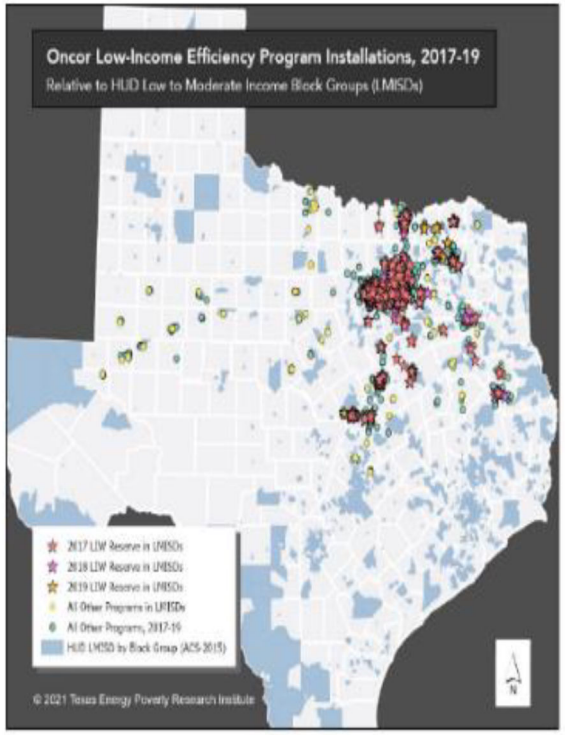
Low Income Geographic Tool

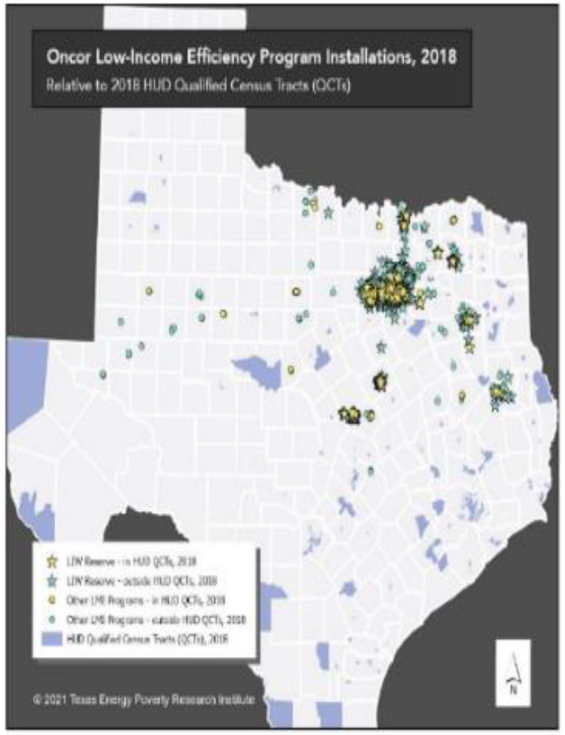
October 18, 2022

Jean Perez

Background on Low Income Tool Development

Analysis: Compare Oncor installations from 2017-19 to two geo-eligibility methods, LMISD & QCTs





Texas Energy Poverty Research Institute • 2021

- Developed to better identify and qualify low-income customers for services
- Analysis conducted by TEPRI for Oncor utilizing LMISD and QCT data
- Included Opportunity Zones based on stakeholder feedback

LI Geographical Tool – www.e4-tx.com

Oncor has selected the Easier Energy Efficiency Eligibility for Texas website www.e4-tx.com as it's look-up tool for the Low-Income Weatherization Program's verification source.

How to use the Look Up tool:

Visit www.e4-tx.com

Enter login:

- Username: Oncor
- Password: Oncor

Once logged in follow the below steps:

Enter:

- "Address" and Meter #
- Residence Type
- Utility Co
- SP Name
- SP email

***Please note that these are REQUIRED fields.**

15

Result: Qualified

Results will produce a **"GREEN"** checkmark if the address Qualifies for the LIW Program.

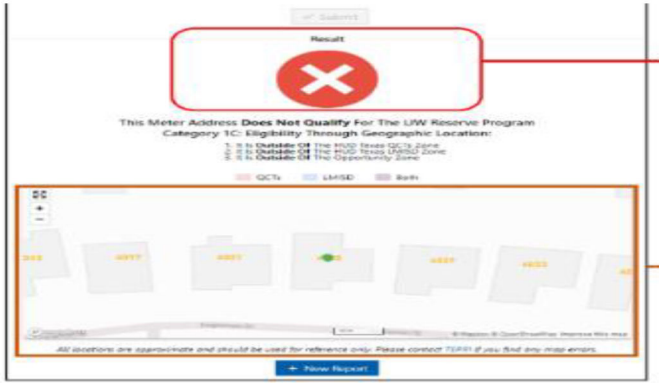
A unique report ID will be created

A **"Print"** button is ready for accessing the required **"Certificate"**

Map validates the address and is available for looking at surrounding area

16

Result: Not Qualified

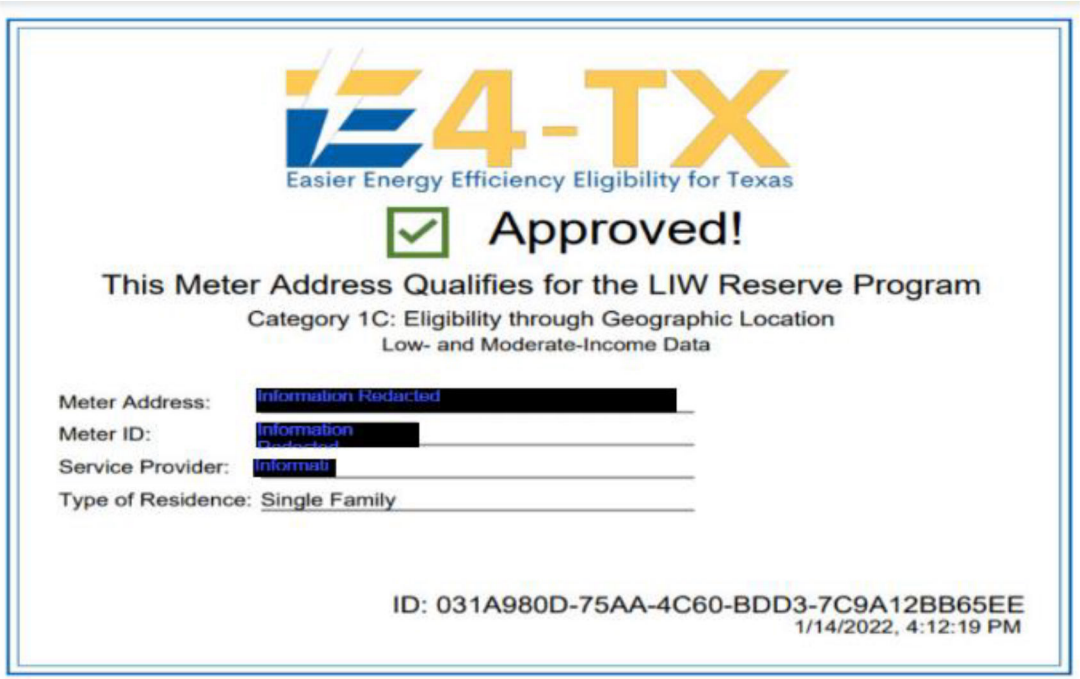


Results will produce a **"RED" X** if the address Does Not Qualifies for the LIW Program.

There is NO "Print" button to access the required "Certificate"

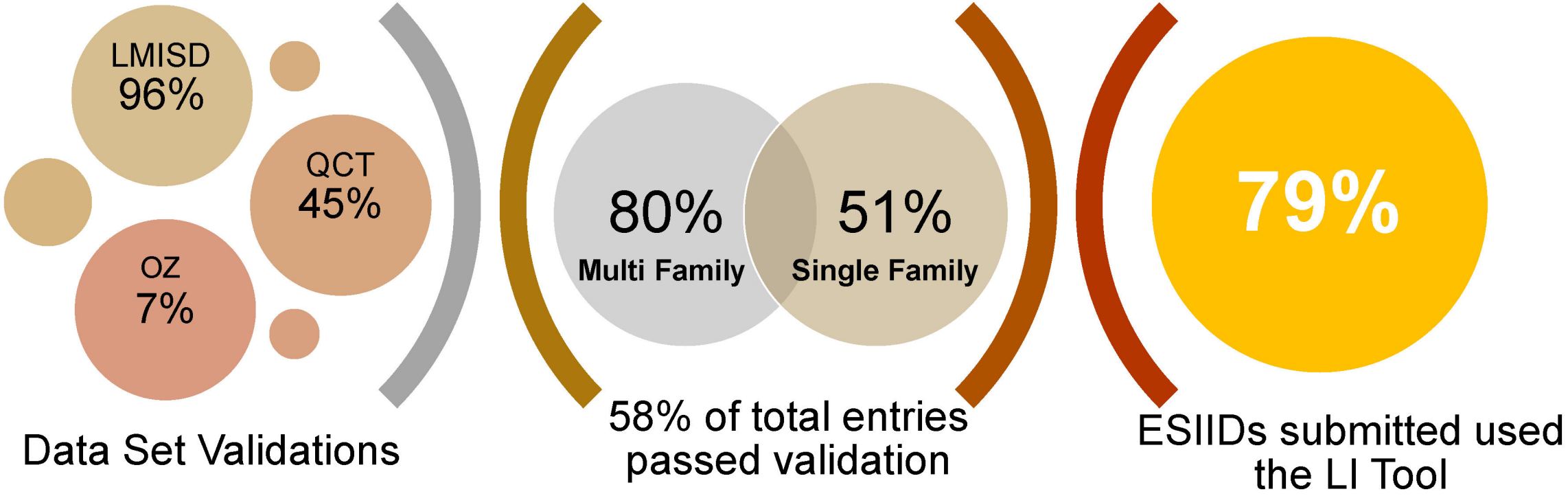
Map available with the address and is available for looking at surrounding area and verifying the location

Low Income Geographical Tool – www.e4-tx.com

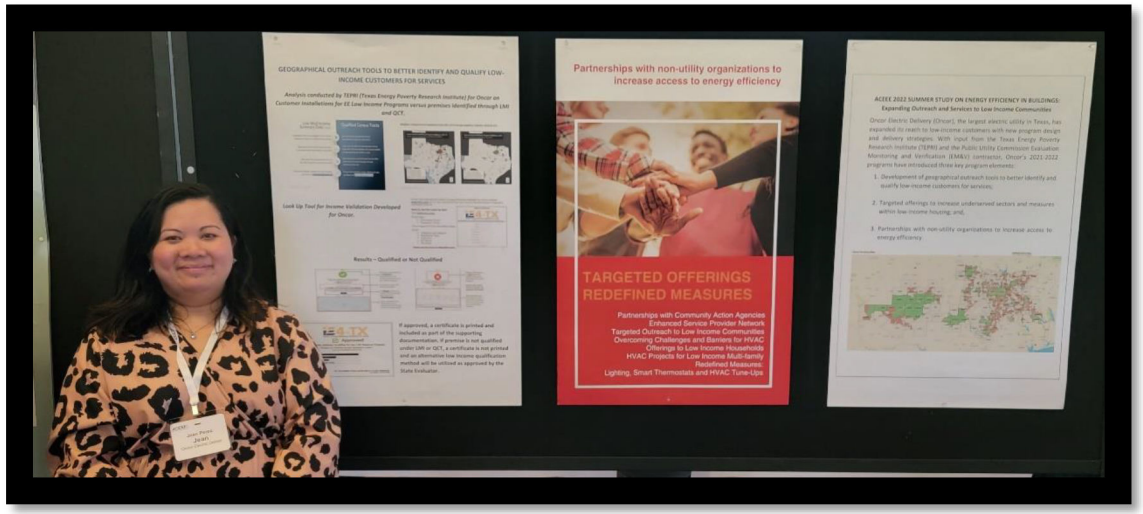


- Once approved, a certificate is printed and included as part of the supporting documentation for submission.
- If premise does not validate against either the LMISD, QCT or OZ, a certificate is not printed.
- An alternative low income qualification method as outlined and approved by the state evaluator will be utilized.
- If premise does not qualify for a low income program, alternative energy efficiency offerings are offered by service provider through the Home Energy Efficiency Program.

Low Income Program to Date



2022 ACEEE Summer Study on EE in Buildings



- Held in Asilomar, CA – August, 2022
- Poster Session on Expanding Outreach and Services to Low Income Communities

FRONTIER energy

Energy Efficiency Implementation Project (EEIP) Meeting

Austin, Texas

October 18, 2022

EUMMOT ELECTRIC UTILITY MARKETING MANAGERS OF TEXAS

PY 2023 TRM 10.0

Summary of Key Measure Updates

Vol 2 Residential

2.1 Lighting:

- 2.1.1 Omnidirectional LEDs (now General Service Lamp LEDs)
  - Incorporated updated DOE GSL/GSIL definition
  - Incorporated reinstated EISA 45 lumen/watt backstop
  - Delayed implementation of new baseline until March 1, 2023 based on DOE enforcement schedule end of progressive enforcement warning period for retailers before penalties are levied
  - Added early retirement baseline for HTR and low-income direct install programs to claim additional savings from replacing existing inefficient lighting
  - Added lab testing report compliance path for non-ENERGY STAR certified lamps
  - Reverted temporary market EUL to previous product life estimate

Vol 2 Residential

2.1 Lighting:

- 2.1.2 Specialty LEDs
  - Most specialty lamps moved to GSL LED measure
  - PY23 specialty designation limited to uncommon classes of G, MR, and R-shape lamps
  - Reverted temporary market EUL to previous product life estimate
- 2.1.3 LED Nightlights (NEW)
  - Primarily distributed in kit programs, but still available for direct install and midstream/upstream

Vol 2 Residential

SEER vs. SEER2

- The main difference between SEER and SEER2 are the testing conditions for each rating system. DOE raised the total external static pressure testing conditions for SEER2 to better represent field conditions and give consumers a clearer, more accurate idea of a unit's efficiency.
- Go to www.SEER2.com for more info.

	SEER	SEER2	HSPF	HSPF2
AC	15.0	14.3		
HP	15.0	14.3	8.8	7.5
SPP	14.0	13.4	8.0	6.7

Vol 2 Residential

2.2 HVAC:

- 2.2.2 Central HPs without SEER2 ratings
  - Existing measure restricted to HPs without SEER2 ratings to account for sell-through allowance (temporary for PY23)
- 2.2.3 Mini-Split HPs without SEER2 ratings: same as previous measure
- 2.2.4 Central & Mini-Split AC/HPs with SEER2 ratings
  - Adjusted new measure baselines for SEER2 compliance; incorporated updated federal standard
  - Same eligibility requirements as previous measure
  - Algorithm savings methodology consistent with other RES HVAC measures
  - While EER was previously used only as a minimum requirement to claim summer demand savings, summer kW savings now directly correlate with EER2 ratings

Vol 2 Residential

2.2 HVAC:

- 2.2.5 Room ACs: Updated efficiency condition for units with connected functionality
- 2.2.6 PTHPs: Clarified heating efficiency baseline for replacing electric resistance heat
- 2.2.7 GSHPs: Increased EUL from 20 to 24 years
- Multiple measures: applies to any RES HVAC measures referencing algorithm savings methodology
  - Modeled demand factors calculated in accordance with current peak definition are lower than expected for the Texas climate and counter to EM&V consumption analysis
  - Temporarily reverted to previous TRM 4.0 summer/winter coincidence factors pending additional investigation

Vol 2 Residential

2.2 HVAC:

- Variable speed HPs
  - SPEER recommendation: consider variable speed HP efficiency case to capture savings for reduced annual capacity and further incentivize technology adoption.
  - General consensus among utilities, evaluators, and stakeholders that additional savings are justified for this technology. However, no clear path to quantify savings has been identified at this time.
  - Considerations:
    1. This type of adjustment has not been observed in other jurisdictions or state TRMs. SPEER recommendation does not include methodology proposal or reference data/studies.
    2. TRM 9.0 methodology referenced NREL performance curves that transitioned from single to multi-stage at 17 SEER. No performance curves included for variable speed.
    3. TRM 9.0 savings aligned well with previous EM&V consumption analysis.
    4. TRM 10.0 already includes major overhaul with incorporation of new federal standard and SEER2 test procedure, as well as switch to algorithm savings calculation methodology.

Vol 2 Residential

2.2 HVAC:

- Variable speed HPs
  - Current steps:
    1. Added compressor type as recommended documentation requirement for TRM 10.0 to leverage AMI data for future installations
    2. Engaging manufacturers and implementers to solicit relevant consumption data
  - Future Steps:
    1. Continue monitoring action in other jurisdictions and state TRMs
    2. Reconsider for TRM 11.0 pending success of data collection efforts
    3. Mid-year adjustments may be considered if data collection yields compelling case
    4. Consider additional barriers to installation and how to address them (e.g., compatible thermostats)

Vol 2 Residential

2.3 Envelope:

- 2.3.6 Radiant Barriers (NEW): only applicable to retrofit applications
- 2.3.7 Cool Roofs: addressed sunsetting of ENERGY STAR roof program; refer to Cool Roof Rating Council (CRRC) product directory
- 2.3.9 Windows: added weighted baseline for single/double pane windows
- 2.3.10 Low-E Storm Windows: same as previous measure

Vol 2 Residential

2.4 DHW:

- 2.4.2 HPWHs: Updated to algorithm savings calculation methodology to align with other DHW measures
- 2.4.10 DHW Temperature Setback (NEW): reduction of high default DHW temperature setpoints down to 120°F
- All measures: updated documentation requirements to align across DHW measures

Vol 2 Residential

2.5 Appliances:

- 2.5.1 Ceiling Fans: reduced lighting baseline wattage for compliance with EISA 45 lumens/watt backstop
- 2.4.8 Air Purifiers
  - Updated dust clean air delivery rate (CADR) references to refer to smoke CADR
  - Updated deemed savings CADR ranges to align with ENERGY STAR specification
- 2.4.9 Pool Pumps: increased maximum pump size to 5 horsepower
- 2.5.10 Advanced Power Strips:
  - Corrected deemed savings table typos from TRM 9.0 update (minor impact on select savings values)
  - Redefined default assemblies

Vol 2 Residential

2.5 Appliances:

- 2.4.11 Electric Vehicle Supply Equipment
  - Updated reference studies to better align with regional state TRMs, resulting in small increase to energy savings
  - Differentiated energy savings for networked and non-networked chargers
- 2.4.12 Induction Cooking (NEW)
  - Applies to the installation of an electric range with an induction cooktop or a standalone induction cooktop in new construction and retrofit applications
  - Savings vary by number of burners (default = 4 burners)

Vol 3 Non-Residential

2.1 Lighting:

- 2.1.1 Lamps and Fixtures:
  - Corrected DLC version requirements omitted from previous TRM v8.0 update
  - Added guidance for fixtures with field-adjustable light output (wattage setpoints)
  - Incorporated updated DOE GSL/GSIL definition
  - Incorporated reinstated EISA 45 lumens/watt backstop for GSLs
  - Added guidance and EUL for solar fixtures
  - Added guidance for exterior lighting new construction zone selection
  - Added guidance for building type selection (building type combinations, manufacturing shift definitions, outdoor control definitions)
  - Clarified midstream exterior coincidence factors refer to winter peak

Vol 3 Non-Residential

2.1 Lighting:

- 2.1.2 Lighting Controls: clarified baseline controls for new construction are occupancy sensors unless specific exception is allowed by code
- 2.1.3 Exterior Photocell and Time Clock Repair (NEW): high savings opportunity in combination with 1-year EUL

Vol 3 Non-Residential

2.2 HVAC:

- 2.2.2 Split & Packaged AC/HPs: Added guidance for building type selection (building type combinations, custom projects)
- 2.2.3 HVAC Chillers: Added guidance for redundant chiller configurations
- 2.2.6 Computer Room Air Handler Motor Efficiency; 2.2.7 HVAC Variable Frequency Drives: added guidance for rounding down to unlisted horsepower designations
- 2.2.11 Small Commercial Smart Thermostats (NEW):
  - Preliminary measure references savings reduction from RES smart thermostat measure
  - Goal of increasing small commercial adoption to leverage utility AMI data for future TRM update
  - Different applications, but other state TRMs have followed same path and have demonstrated that RES consumption reduction assumptions are reasonable or conservative for COM applications

Vol 3 Non-Residential

2.3 Envelope:

- 2.3.1 Cool Roofs: addressed sunsetting of ENERGY STAR roof program; refer to Cool Roof Rating Council (CRRC) product directory

2.4 Food Service

- 2.4.1 Combination Ovens; 2.4.2 Electric Convection Ovens: updated for compliance with updated ENERGY STAR specification
- 2.4.6 Electric Steam Cookers: corrected formula error (savings not impacted)
- 2.4.8 Demand-Controlled Kitchen Ventilation: assumption table correction (savings not impacted)

Vol 3 Non-Residential

2.5 Refrigeration:

- Several measures: added schools as eligible building type
- 2.5.8 Zero-Energy Doors: clarified that open refrigerated cases are not an applicable baseline without preliminary evaluator approval

2.6 DHW:

- No major revisions

Vol 3 Non-Residential

2.7 Miscellaneous:

- 2.7.4 Pool Pumps: increased maximum pump size to 5 horsepower
- 2.7.6 Premium Efficiency Motors: added guidance for rounding down to unlisted horsepower designations
- 2.7.12 Hand Dryers (NEW): replacing manual push-button dryers with high-efficiency automatic dryers

Vol 4 M&V protocols

2.1.3 Variable Refrigerant Flow (VRF) Systems

- Clarified no M&V plan requirement for claiming deemed path using Volume 3 measure

2.2.2 Smart Home Energy Management Systems (NEW)

- Controls used to manage multiple end uses in a residential application

2.3.1 RES Energy Code Compliance (NEW)

- Savings protocol and required research documentation to determine program level savings for utility efforts to improve energy code compliance

2.5.1 Behavioral Measure

- Updated to comply with IPMVP Core Concepts 2022

2.5.3 Non-RES Measurement & Verification (previously Retro-Commissioning)

- Updated to be more broadly applicable to M&V beyond RCx
- Updated to comply with IPMVP Core Concepts 2022

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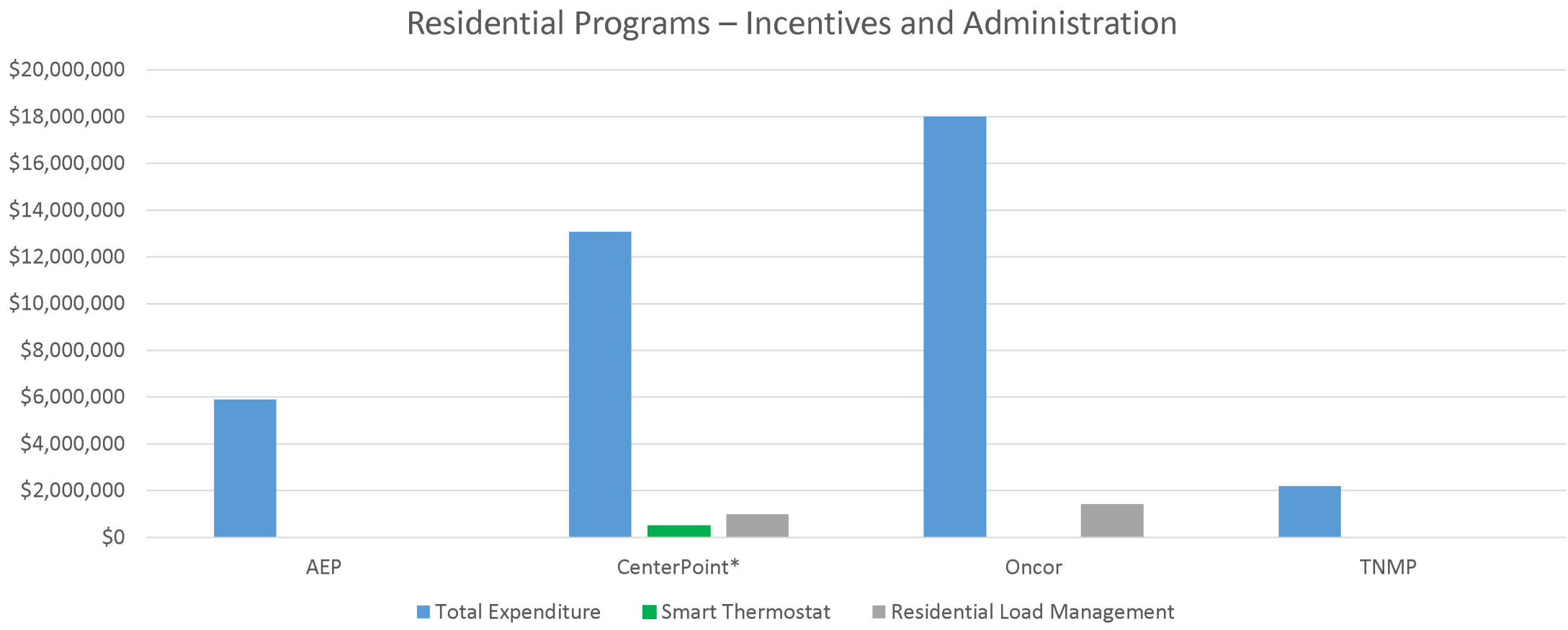
PROPOSALS TO FACILITATE RETAIL ELECTRIC PROVIDER INVOLVEMENT IN THE DELIVERY OF ENERGY EFFICIENCY AND DEMAND RESPONSE PROGRAMS

Texas Energy Association *for* Marketers

EEIP Meeting, October 18, 2022

PY 2021 – Actual Expenditures

Total spending on Incentives and Administration for programs for Residential customers (not including hard-to-reach customers) was $42,002,258, while spending on Smart Thermostat programs was $483,521 and spending on Load Management programs was $2,395,538



*CenterPoint was the only company offering a Smart Thermostat Program.

PY 2022 – Residential Programs Offered

Program	Target Market	Application
High-Performance Homes MTP	Residential	New Construction
High-Performance New Homes MTP	Residential	New Construction
High Efficiency Home MTP	Residential	New Construction
Multi-Family MTP Market Rate	Residential	New Construction
Residential Solar Photovoltaic Installation SOP	Residential	New Construction
Residential & Small Commercial SOP	Residential & Commercial	Retrofit
Residential SOP	Residential	Retrofit
CoolSaver A/C Tune-Up MTP	Residential & Commercial	Retrofit
Retail Electric Provider MTP (Residential CoolSaver and Efficiency Connection)	Residential	Retrofit
Home Energy Efficiency SOP	Residential	Retrofit

Program	Target Market	Application
Residential SOP	Residential	Retrofit & New Construction
SMART Source Solar PV MTP	Residential & Commercial	Retrofit & New Construction
Advanced Lighting MTP	Residential	Retrofit & New Construction
Smart Thermostat Program	Residential	Retrofit & New Construction
Midstream MTP (HVAC and Pool Pump Distributor)	Residential	Retrofit & New Construction
Retail Products MTP*	Residential & Commercial	Retrofit & New Construction
Residential New Home Construction MTP	Residential	Retrofit & New Construction
Residential Load Management SOP	Residential	Load Management
Residential Load Management SOP	Residential	Load Management

*Table does not include programs offered to hard-to-reach customers

Source: Project No. 52949 - CY 2022 Electric Utility Energy Efficiency Plan and Report Under 16 TAC § 25.181 (Item Nos. 15, 16, 18, and 19)

PY 2022 – Proposed Budgets vs. Projected Savings

Together, the two Load Management Programs accounted for 5.1% of the total budgeted for programs serving residential customers, but were projected to provide 32.8% of the demand savings (at the meter).

Proposed Budget
Incentives and Administration

	Total Proposed Budget
Load Management	$2,130,741
AEP	$5,993,614
CenterPoint	$12,400,671
Oncor	$19,128,082
TNMP	$1,939,536
TOTAL	**$41,592,644**

Projected Demand Savings

	kW Savings
Load Management	57,000
AEP	6,754
CenterPoint	45,514
Oncor	62,231
TNMP	2,284
TOTAL	**173,783**

Source: Project No. 52949 - CY 2022 Electric Utility Energy Efficiency Plan and Report Under 16 TAC § 25.181 (Item Nos. 15, 16, 18, and 19 at Tables 5 and 6)

Expanding DR through REPs – Proposal #1

- ✓ Allocate EECRF program dollars (at least $500K per TDU) to Smart Thermostat programs to be used by REPs to increase residential DR.
  - Divert EECRF program dollars away from lower performing programs to Smart Thermostat programs.
- ➢ Make participation in the programs simple.
  - REPs sign up customers. Only customers who consent to being enrolled in demand response/load management programs will be eligible.
  - REPs confirm customer eligibility and performance with TDU.
  - Protect customer information. Only usage and ESI ID information handled by TDU.
- ➢ Solve the installation hurdle.
  - TDUs could vet and develop a list of preferred installers, with installation costs being funded by the program.
  - REPs could also arrange for installation and obtain funding for same through the program.

Expanding DR through REPs – Proposal #2

- ✓ Allocate more TDU EECRF program dollars to Residential Load Management (RLM) Programs.
  - Current programs appear to be at the limit.
  - Divert EECRF program dollars away from lower performing programs to increase RLM budgets.
  - More RLM program dollars would enable REPs to provide more attractive incentives to customers for participation.

- ➢ Reduce administrative hurdles for participation.
  - In our experience, it can be difficult to add new customers to a TDU RLM program during the DR season.
  - This fixed window does not reflect the fact that REPs are continually enrolling new customers.

- ➢ Streamline process to resolve conflicting registrations.
  - Provide a process for resolving conflicting registrations (e.g., REP could provide verification).

Outreach and Information: Facilitating REP Involvement

16 TAC § 25.181(r) directs utilities to "conduct outreach and information programs and otherwise use its best efforts to encourage and facilitate the involvement of retail electric providers *as energy efficiency service companies*…"

- Current focus of outreach is providing information
  - Maintain a website dedicated to energy efficiency programs;
  - Attend industry-related meetings to generate awareness and interest;
  - Work with REPs to recruit and enroll customers—REPs market some programs to existing customers via e-mail, social media, and direct mail;
  - Invite REPs to program outreach meetings with Energy Efficiency Service Providers;
  - Coordinate with REP relations group to provide information and awareness of new energy efficiency programs;
- Expand the focus to involving REPs in program design to facilitate involvement

Questions?

For questions, please contact:

Cathy Webking
(512) 575-6060
cwebking@spencerfane.com

Eleanor D'Ambrosio
(512) 575-6059
edambrosio@spencerfane.com

SpencerFane®

Increasing DR Through REPs

EEIP, 10/18/2022

The Potential

- There are approximately 7.2 million residential customers in the Oncor, CenterPoint, AEP Texas, and TNMP service territories.
- With limited exception, these customers all have advanced meters (i.e., Smart Meters).
- However, only about 12% of these customers (less than 900K) have a smart thermostat.
- Each customer with a smart thermostat could potentially yield 1 kW of demand response (DR) when engaged.
  - Current smart thermostat saturation = 867 MW potential
  - With growth to 25% saturation (1.8M customers) = 1,806 MW potential

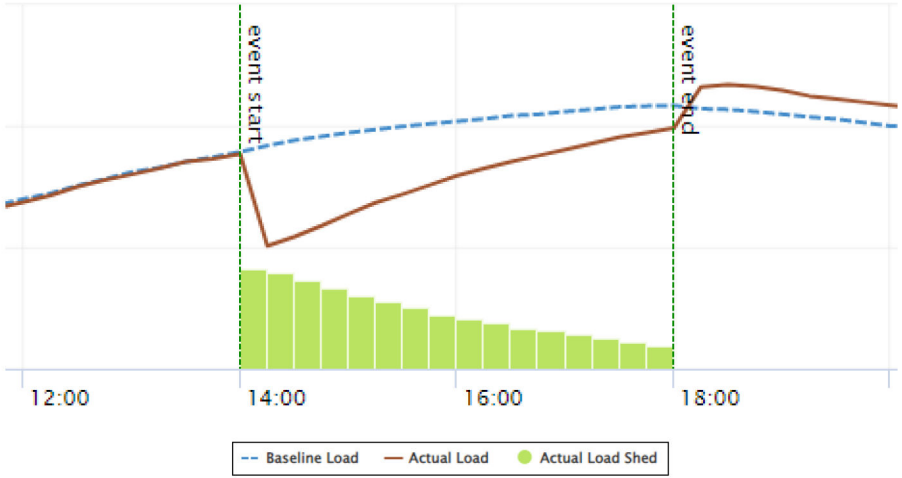
A Tale of Two Thermostats

- Device DR, where a device (such as a smart thermostat) is controlled and where a customer retains override capability.
  - Very effective but limited to customers who have that device.
  - Customers want to retain the option to control/override.
- Behavioral DR, where a customer is given an incentive to conserve or shift their electricity usage.
  - Depends on the customer to take action (e.g., dial down non-programmable thermostat in response to an email message).
  - Can be used by a wide range of customers.
  - Generally ineligible for participation in TDU EE/DR programs.

Device DR v. Behavioral DR

- Device DR = more "bang" for the buck.
  - Average 20-30% reduction in customer demand during the period thermostat is controlled.
- Behavioral DR = less impactful, but still helpful.
  - Customers who actively participate lower their demand by approximately 10-15%.
  - However, a relatively small percentage of program customers actively participate in any given event.
- With either Device or Behavioral DR, load reductions of participating customers averages about 1 kW per customer.
  - So, if 1,000 customers participated, there is the potential for ~1 MW total reduction in demand when deployed.

Smart Thermostat DR is a very effective resource for limited durations



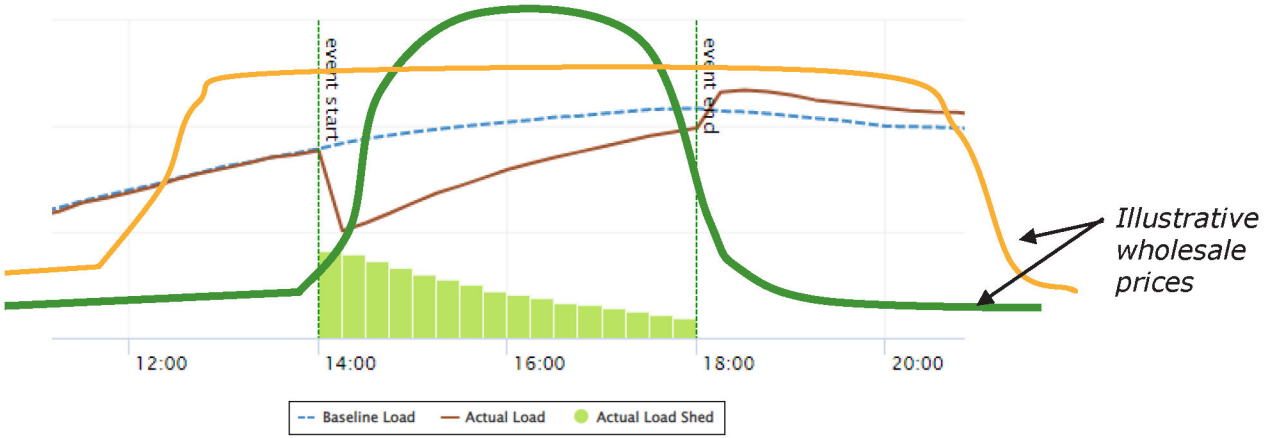
Typical load reduction for a Summer DR event in 2022

- Long DR events eventually lose participants to opt-outs
- Load shed of the last interval in a 4-hour event is 22% of the first interval

DR is most valuable if market price is predictably high for a window of a few hours

Market price signals that last longer than a few minutes but less than many hours is optimal for DR

Stretching high prices over several hours is not useful for most DR



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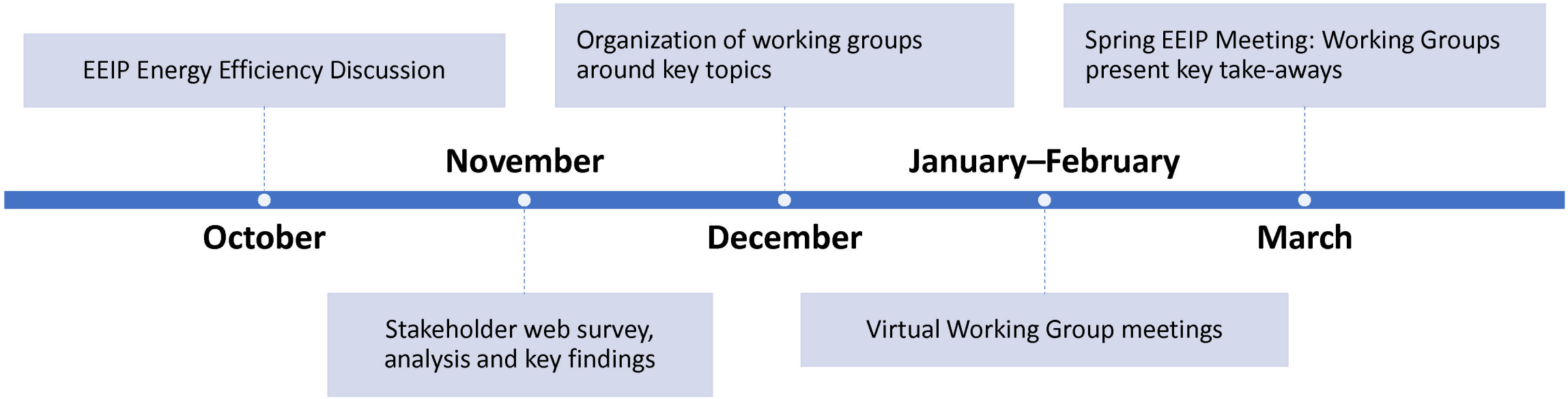
Questions?

Energy Efficiency Discussion

Potential Rulemaking

Public Utility Commission of Texas

Stakeholder Input Prior to Initiating a Rulemaking Project



Questions?

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Energy Efficiency Rulemaking

Brainstorming Discussion

EEIP Meeting

October 18, 2022

Session Purpose

A brainstorming session to gather topics and issues that should be discussed in a future rulemaking.

- Input into a prioritization survey
- Topics for stakeholder workshops

Session Guidelines

- We will discuss six topic areas related to the energy efficiency rule
- There will be a open discussion session at the end
- If its of concern, or an area that you feel should be discussed during the rulemaking, please present it
- We aren't trying to solution topics, just capturing the ideas that should be discussed during upcoming stakeholder meetings
- Speak up and bring your ideas
- Build on other ideas presented
- If you prefer not to speak, but have topics, please write them on the paper left on your chair, and leave them in the tray outside the room

Energy Efficiency Policy

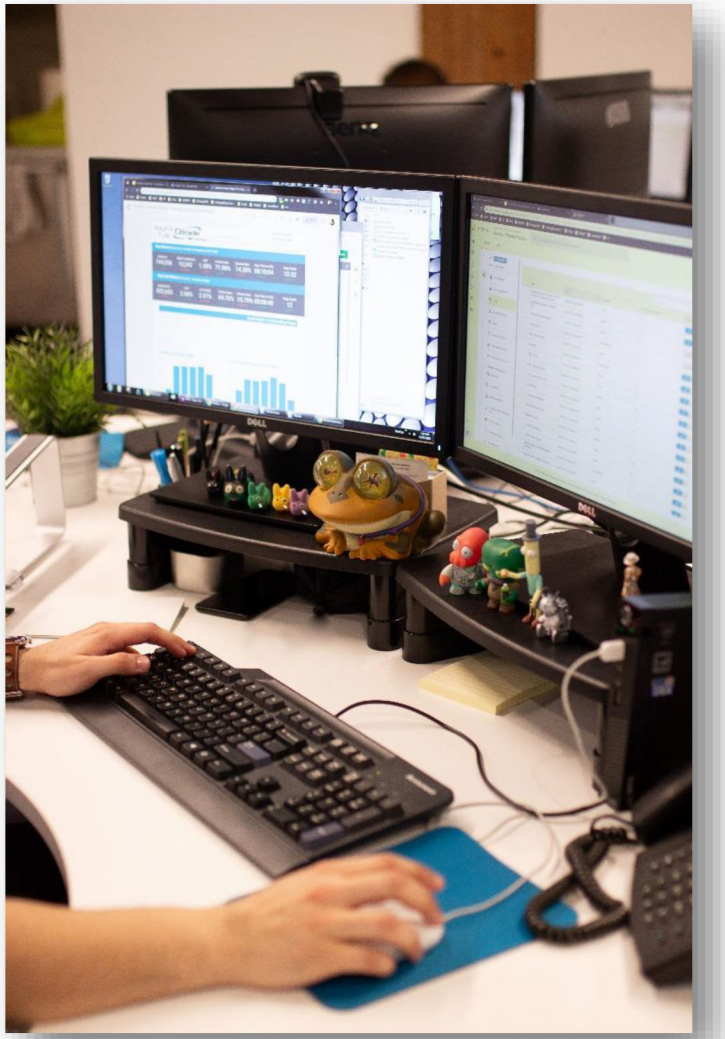
1. What is the role of TDU energy efficiency programs in the current and future Texas energy market structure?
   - Should the role be expanded to support City and Regional climate action plans by including greenhouse gas reduction as a criteria in program design or determining cost-effectiveness?
   - Should energy efficiency programs support / manage electrification and distributed energy resources?

2. Should fuel switching from natural gas / propane to electricity be allowed in TDU energy efficiency programs?

3. Should TDUs be allowed to participate in competitive services related to the energy efficiency market?

What other EE policies should be discussed during a rulemaking ?

Energy Efficiency Goals



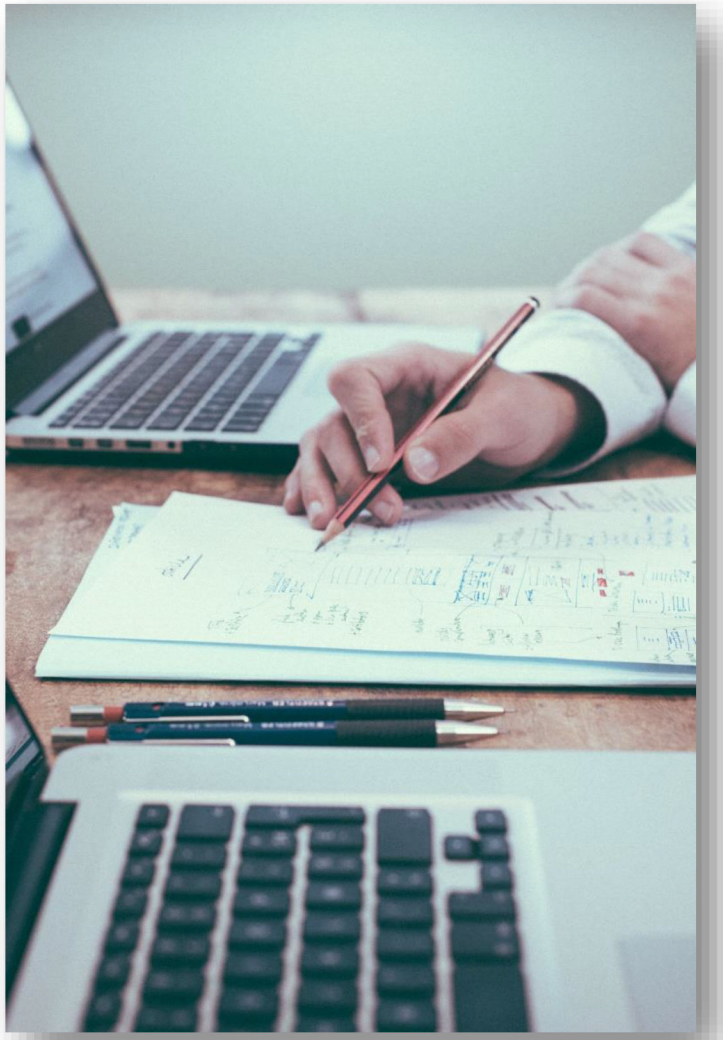
1. Existing energy efficiency program goals are based on peak demand (1) at least 30% of the utility's annual growth in demand of residential and commercial customers and (2) at least 0.4% of the utility's summer weather adjusted peak demand for residential and commercial customers.
   - Should these metrics be adjusted?
   - Should other, simpler metrics be used?
   - How should program savings be calculated if winter and summer peaks are impacted?

2. The current rule creates an energy goal based on the demand goal, and is calculated using a 20% conservation load factor. Is this goal still appropriate? (Demand Goal (kW) * 8760 hours / year * 0.20)

3. Should low income goals be consolidated into a single goal?

What are your thoughts on program goals?

Financials



1. Should portfolio cost caps be adjusted to allow for program expansion?

2. Is the TDU performance incentive calculation methodology appropriate?

3. Do avoided demand and energy cost calculations reflect the actual value of energy efficiency programs?
   - Could the avoided energy cost averaging period be expanded to five years to reduce annual fluctuation?

What other financial aspects of EE programs should be discussed as part of a rulemaking?

Program Design

1. Existing law specifies a number of program options for utility energy efficiency programs, including customer energy management and demand response programs. Are each of these options still appropriate? Identify any options that should be added or deleted and explain why.

2. Existing energy efficiency programs are required to be (1) market-based standard offer programs (2) targeted market-transformation programs.
   - Describe any other criteria that should be used to determine energy efficiency program designs.

3. Are current cost-effectiveness methodologies (utility cost test) still appropriate for program evaluation?

Are you aware of other innovative program design / delivery strategies that should be considered during a rulemaking?

Customers

1. Would it be more cost-effective for TDUs offer direct-to-customer energy efficiency programs? Provide examples.

2. Certain industrial customers are allowed to opt-out of EECRF
   - Should energy efficiency programs for industrial customers continue, be expanded, or be eliminated?
   - Should industrial opt-out customers be required to submit an energy efficiency plan for their business. If so, why?

3. Given that the NEAT audit is outdated and under review, should the EE Rule continue to require the NEAT audit for low income customer qualification?

What rule changes would help TDU EE programs better serve their customers?

Texas Energy Market

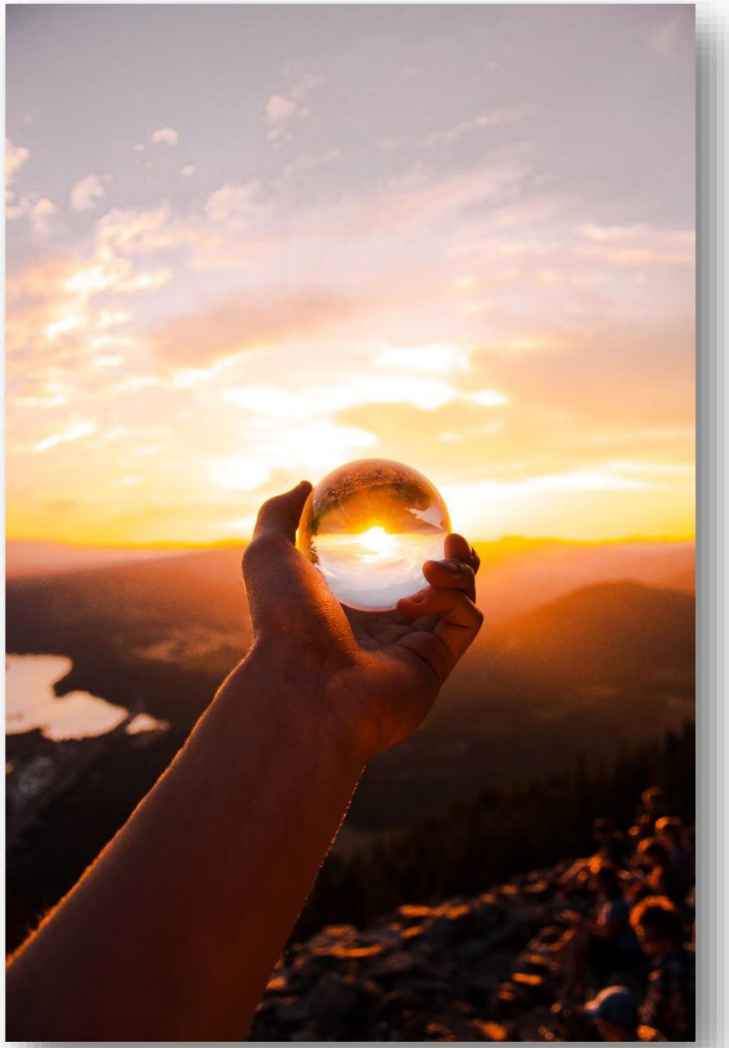
1. Existing energy efficiency programs may use distributed renewable generation and must be neutral to thermal, chemical, mechanical and electrical storage technologies. Given changing market dynamics, should these technologies continue to be part of EE portfolios?

2. Should TDU load management programs be limited to emergency conditions or should they be available to provide local grid support during periods of high congestion?

3. What types of programs would encourage REP participation in TDU energy efficiency programs?

How do TDU EE programs fit into the evolving Texas electric market and what rule changes are necessary?

Open Discussion



What other topics relating to the energy efficiency rule have we not discussed this afternoon?

Thank you for your feedback and participation!

Please remember to leave any written comments in the tray outside the room