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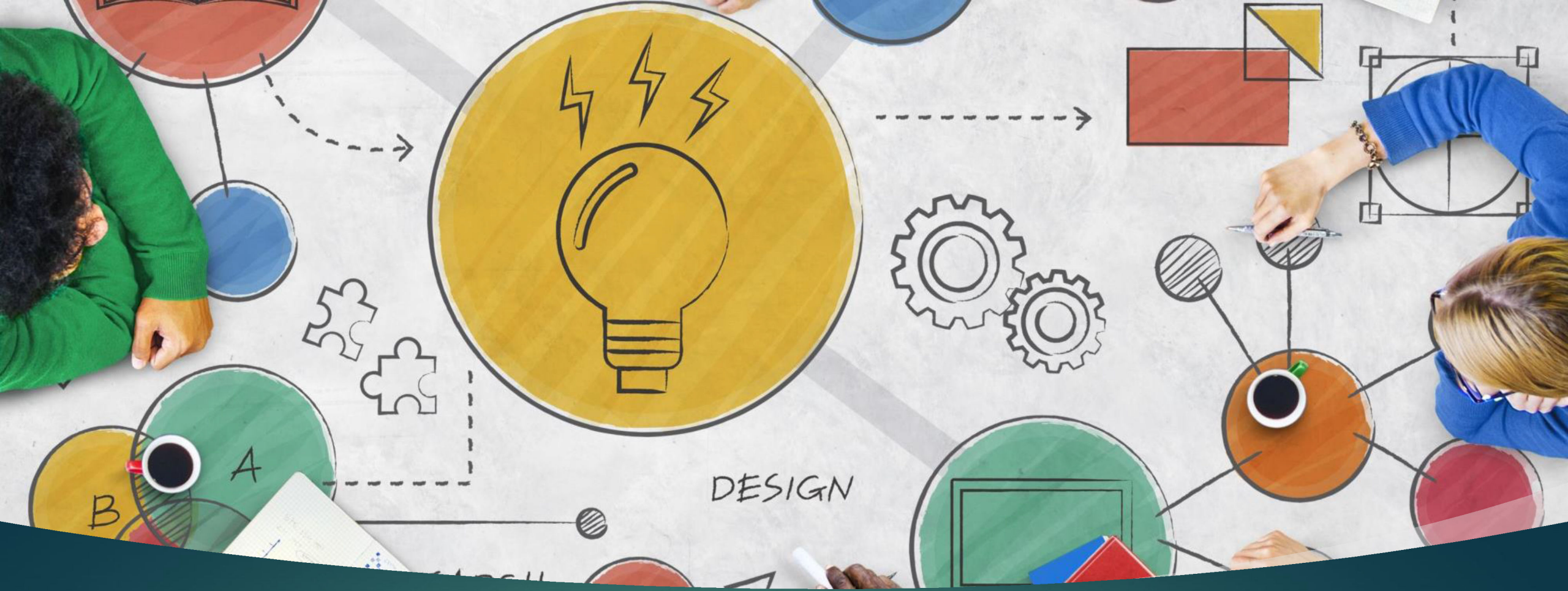


Stakeholder Working Groups Progress Update to the Energy Efficiency Implementation Project (EEIP)

MARCH 28, 2023

Stakeholder Input Overview

Fall 2022 EEIP meeting collected stakeholder input for future potential rulemaking to amend PUC Subst. 25.181 (Energy Efficiency Goal) and 25.182 (Energy Efficiency Cost Recovery Factor).

The PUCT tasked its EM&V contractor to develop and implement a stakeholder survey building on the EEIP discussions with the goal of organizing and facilitating Stakeholder Working Groups for priority topics.

Biweekly Working Groups the week of January 30 through the week of March 6 for four priority topic areas:

Program Goals: kW goals, kWh savings goals, considerations that affect goals (marketing, industrial opt-outs, cost caps).	**Demand Response:** role in energy efficiency portfolio including peak kW contributions, peak periods & best practices.	**Low-income/Underserved:** low-income/hard-to-reach programs, other underserved sectors & coordination with other programs and funding.	**Program Planning:** program cycle, avoided costs, cost-effectiveness, performance incentives and REP participation.

Working Group Objective

Objective:

Identify salient issues for IOU energy efficiency programs to organize stakeholder feedback for Commission

How do we get there?

Active dialogue and listening to understand different viewpoints of energy efficiency in Texas

Outcomes

At March Energy Efficiency Implementation Project (EEIP) meeting, deliver progress update that overviews identified issues for full group input

Priority Issues

Areas of agreement
Areas debated

Changes , if any, needed

Legislative, Rule and/or other process change

Best Practices and Overarching Themes

Best Practices

Focus on the customer by providing tangible value (energy savings, demand reductions, increased affordability and resiliency) with multiple options to participate for a "Big tent" approach to meet the customer where they are

Integrates energy efficiency and demand response when feasible

Complements other offerings (i.e., ERCOT programs) and coordinates with other market actors (i.e., Retail Electric Providers (REPs), service providers) and data sources (i.e., Texas Department of Housing and Community Affairs)

Improves grid resiliency and reliability (i.e., geotargeting, Distributed Energy Resources (DER) integration, seasonal needs); reducing risks

Taps into potential across all eligible customer segments

Employs consistency with flexibility to adapt to different markets and local system needs

Accurately reflects the value of demand response and energy efficiency to the grid

Overarching Themes

Changes to the statute and regulatory framework coupled with increased transparency and coordination could be instrumental in improving energy efficiency services to customers.

To implement identified energy efficiency best practices. changes to the energy efficiency rules (16 TAC §25.181and § 25.182) and legislative changes to statute are likely needed. However, process improvements can also be accomplished through more transparent and/or better organized reporting, performance metrics and increased coordination with retail electric providers (REPs).

A myriad of issues affect the feasibility of future goals, some of which could be addressed in the regulatory framework.

Discussed issues include customer cost recovery caps, administrative and research & development(R&D) caps, marketing needs, how rigidly goals are set, how avoided costs and program cost-effectiveness are calculated, rate class designations, the role of demand response, and utility performance bonuses. External issues include rising baselines, other programs/funding sources and markets.

Benefits from the energy efficiency portfolios can be better captured and conveyed.

If reasonable methodologies are identified, avoided cost calculations could include grid and transmission & distribution (T&D) benefits and/or cost-effectiveness testing could be modified to include grid, T&D benefits, and/or non-energy benefits. In addition, more comprehensive reporting across the entire state (i.e., IOUs, cooperative and municipal utilities, industrial opt-outs) could better measure where the state is in energy efficiency and where it should go.

Complexity adds barriers and costs; streamlining and flexibility fosters success.

The programs have multiple objectives, some of which are reflected in separate goals: peak demand reductions, energy savings, and serving low-income and hard-to-reach customers. Objectives and goals do not work in isolation. They need to be considered comprehensively and allow flexibility across different service territories to meet different needs.

Program Goals

Key Issues

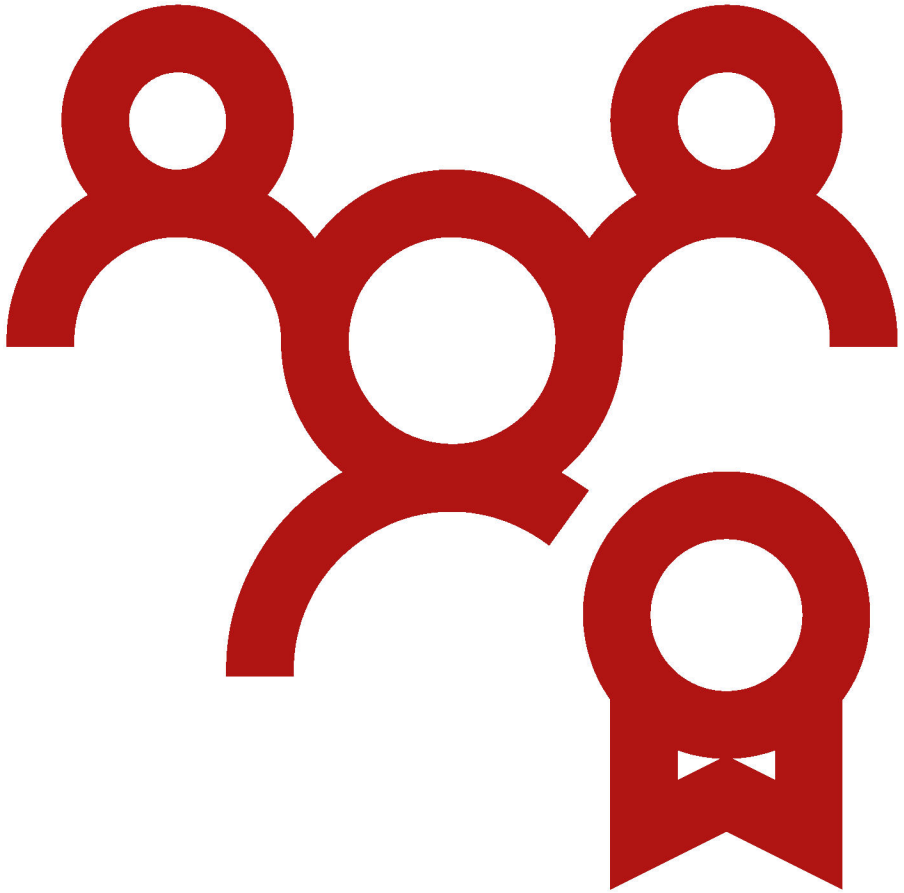
HIGH

MEDIUM

LOW

Identified issues in priority to be addressed in a rulemaking:

- Levels of Peak kW and kWh Goals
- Claiming Winter and Summer Peak
- How peak kW and kWh savings are defined
- Cost Caps
- Specific Program Types Contributions to Goals
- Calculation of Goals
- Geotargeting
- Performance Bonus
- Cost-effectiveness
- Marketing
- Priority placed on Peak kW and kWh
- Industrial opt-outs
- Innovation/diversifying measure mix
- Program barriers
- Transparent reporting



Areas of Agreement

Peak kW

- Peak kW is the most important metric to benefit Texas
- Both Summer and Winter peak kW should be tracked and claimed
- Peak periods should be more flexible to respond to future needs

kWh savings

- Customers experience the benefit from energy savings most directly
- A specific energy savings goal may not be needed if other goals/mechanism make sure energy savings are delivered

Both

- Geotargeting is valuable to grid and customers

Considerations that affect goals

- Customer cost caps can be a barrier to increased goals, especially for smaller utilities and as baselines rise increasing the incremental cost of energy efficiency gains
- Performance bonuses are necessary for utilities to achieve the desired outcomes
- Other goals and role of demand response affect feasible peak kW and kWh goals; Hard-to-reach specifically should be expanded to a variety of underserved segments
- Effective marketing as a barrier could be addressed through a combination of increased coordination with REPs and excluding marketing administrative cost caps

Areas in need of further discussion

Peak kW

How to value both Summer and Winter peak kW. How about shoulder seasons?

kWh savings

Should energy savings be increased, and if so, should it be through the energy conservation load factor or increasing energy savings through other mechanisms (low-income and hard-to-reach goals, cap on demand response)

Both

Level of goals: stay the same or increase? If increase, by how much?

Calculation of goals: Is five-year averaging the best approach or is three-year averaging or trending a better metric?

Considerations that affect goals

What is a reasonable customer cost cap for energy efficiency? Austin Energy and CPS Energy customer contributions are higher.

Is a maximum performance bonus metric such as a percent of total budget beneficial?

Can cost-effectiveness testing be expanded to portfolio-level or should each program stand on its own?

Demand Response/Load Management

Key Issues

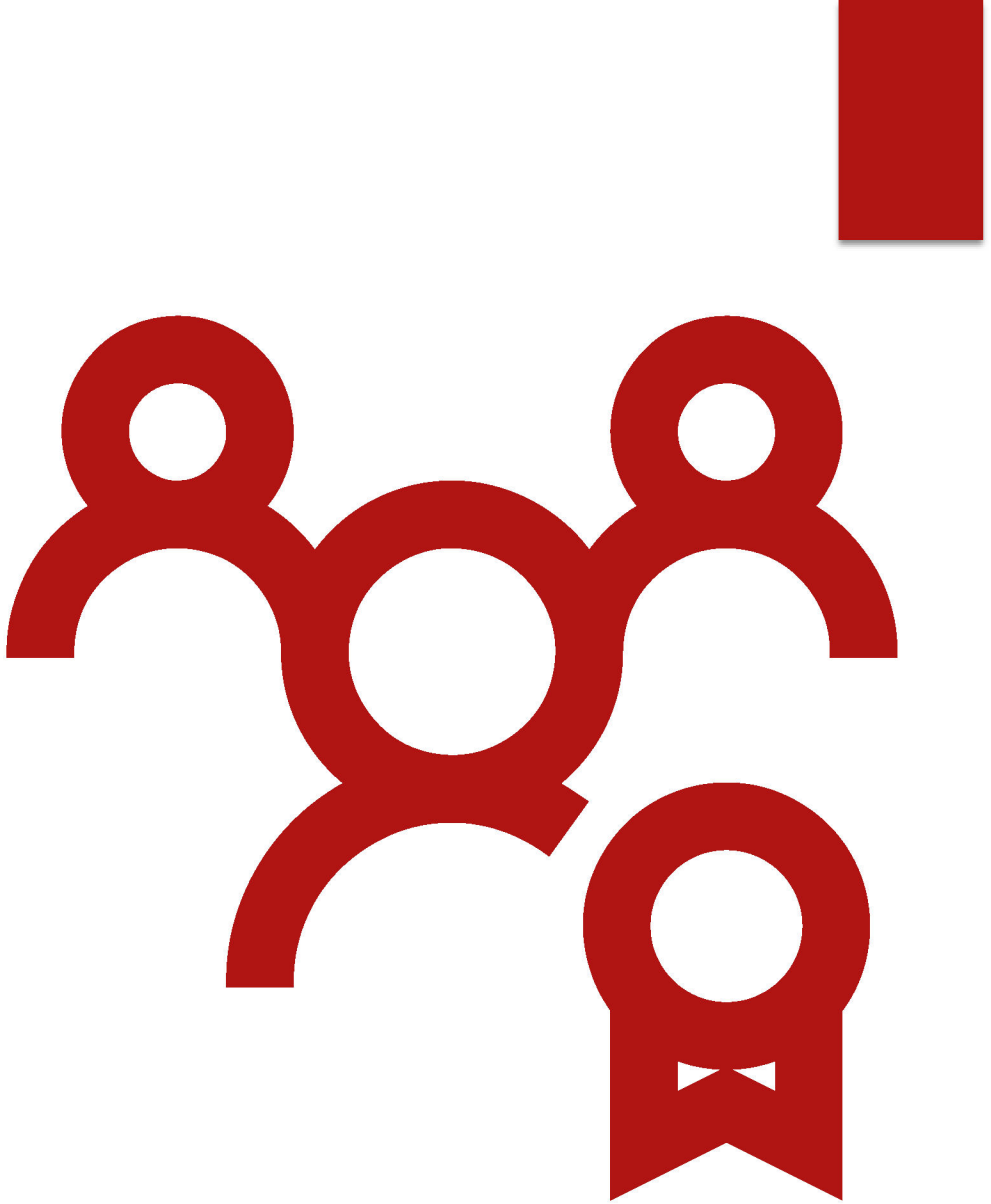
HIGH

MEDIUM

LOW

Identified issues in priority to be addressed in a rulemaking:

- Load Management/Demand Response Contribution to kW Goals
- Peak definition flexibility to dynamically address problem(s) the programs are trying to solve
- Assess adequacy of budgets given customer cost recovery limits (i.e., "cost cap")
- Better value benefits of DR either through cost-effectiveness test or avoided costs
- Purpose/use of DR in EE Portfolio
- Geotargeting
- Assess administrative and R&D budgets
- Clearly define and report on processes to support increased coordination and communication (i.e., performance metric in annual utility reporting)



Areas of Agreement

Role of Demand Response

- Respond to local T&D needs as well as capacity needs (i.e., geotargeting)
- Complement other offerings (i.e., ERCOT programs)
- Integrates energy efficiency improvements with DR to extent feasible

Value of Demand Response

- Benefits to T&D and grid should be recognized in avoided costs or cost-effectiveness
- Peak periods should be more flexible to respond to future needs

Program Design

- Consistency to allow increased coordination with other market actors (i.e., REPs, service providers), recognizing need for flexibility to tailor to different service territories/customer needs
- Processes to support improvements need to be discussed and agreed upon

Other considerations that affect better demand response

- Uncertainty around the role of demand response in the EE portfolio needs to be addressed
- Customer cost caps can be a barrier to improved demand response options, especially for smaller utilities
- Effective marketing as a barrier could be addressed through a combination of increased coordination with REPs and excluding marketing administrative cost caps

Areas in need of further discussion

Peak kW periods

DR is needed in both Summer and Winter peak seasons, but how about shoulder seasons? How do peak periods need to be re-defined to allow programs to dynamically respond to future needs?

Value of Load Management/Demand Response

How can the programs be used to benefit local T&D and increase in DERs? How can those benefits best be captured?

Increased Coordination

What process improvements are needed to facilitate increased coordination?

Considerations that affect goals

What is a reasonable customer cost cap for energy efficiency? Austin Energy and CPS Energy customer contributions are higher.

Can cost-effectiveness testing be expanded to portfolio-level or should each program stand on its own?

Low-income and Underserved segments

Key Issues

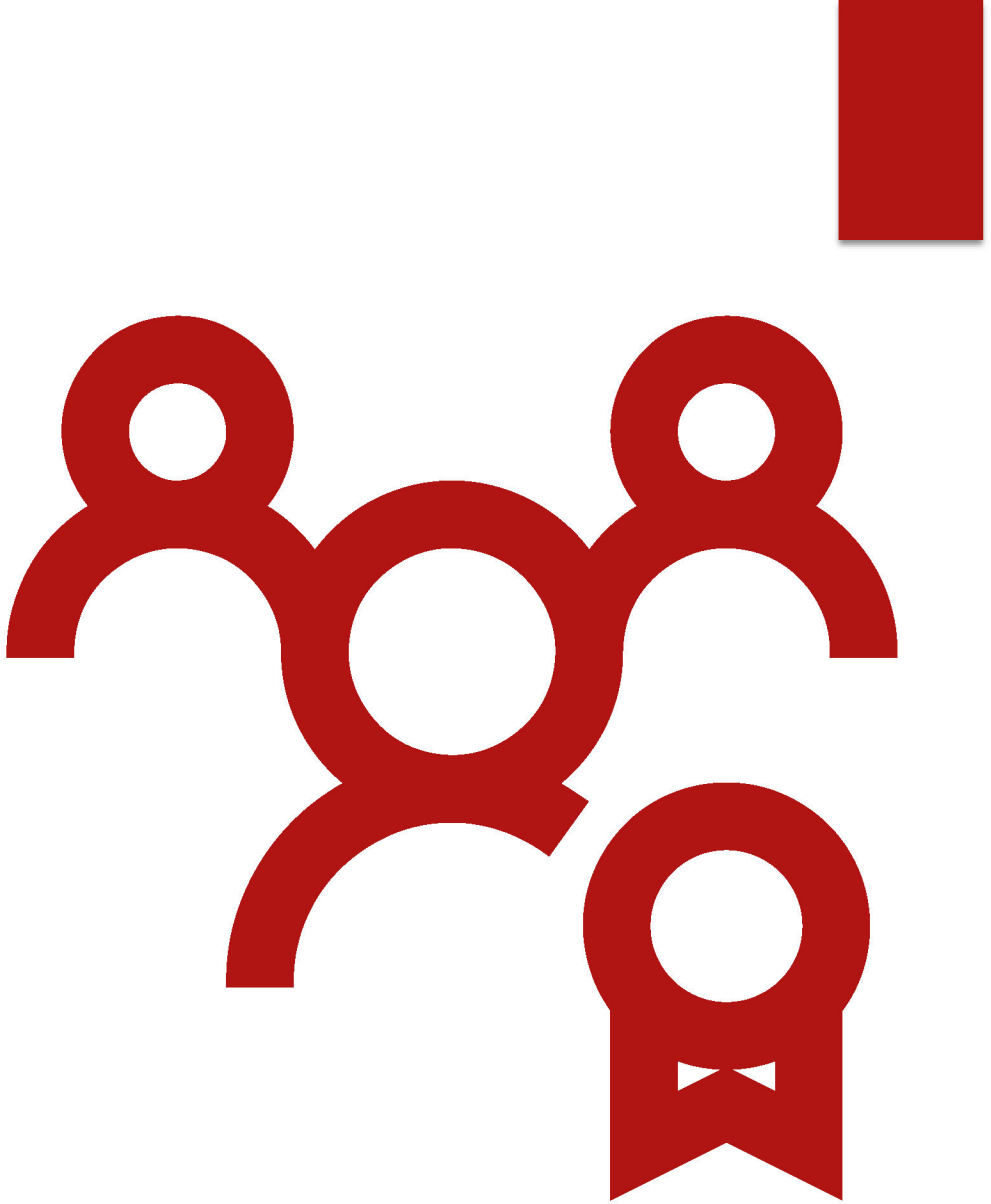
HIGH

MEDIUM

LOW

Identified issues in priority to be addressed in a rulemaking:

- Low-Income Definition
- Hard-to-Reach Definition
- Cost-effectiveness Standards
- Methodology for calculating Avoided Retail Energy Cost
- Level of Goals
- Program design
- Identification of Underserved segments
- Leveraging "other funding" to Complement EE Programs
- Program design and development in collaboration with other third-party



Areas of Agreement

Hard-to-reach (HTR) definition

- Expanding or broadening the definition of HTR will have positive impact on Texans and allow for greater number of program opportunities – moderate income, rural, small business, multifamily
- Any change in definition of HTR or LI will impact goals
- Flexibility in the HTR definition is necessary to allow utilities to address their varying service territory

Cost-effectiveness testing

- Portfolio level cost-effectiveness instead of program level will have positive impact to HTR and LI programs – expanded mix of measures
- At the beginning of the year, Avoided Retail Energy cost used in Saving-to-Investment calculation should be calculated and used by all parties to avoid confusion and time issues with fluctuating market
- Non-ERCOT utilities should continue to have the option to use their own Transmission and Distribution avoided costs

Serving underserved communities

- Streamlining the income validation process will improve program delivery

Areas of Agreement (continued)

Collaboration through partnerships

- Several opportunities today; expansion possible including with other organizations and utilities to share costs and benefits
- Barriers due to program cycle, competing priorities, timing of project completion, and staffing

Utilization of other funding sources

- Opportunities exist today, concerns newer opportunities will not be complementary to utility programs and may introduce new barriers to participation - tax liability requirement tied to Inflation Reduction Act Tax Credits for low- and moderate- income households

Areas in need of further discussion

HTR Definition

If income is included in HTR definition, should multiple metrics of income be used – percent of federal poverty, AMI, census tract?

Even if HTR definition doesn't change, do HTR goals need to be adjusted?

Do low-income goals need to be adjusted?

Underserved Segments

Is a definition of "underserved" segments needed to improve tracking of underserved customers, communities or segments?

Cost-effectiveness Standard

Should the utility cost test (UCT) be modified, or a different test used to allow for other benefits to be included?

Should health and safety measures be included as program costs when calculating program cost-effectiveness?

Goals

Even if HTR definition doesn't change, do HTR goals need to be adjusted?

Do low-income goals need to be adjusted?

Increased Collaboration

What process improvements are needed to facilitate increased coordination?

Program Planning

Key Issues

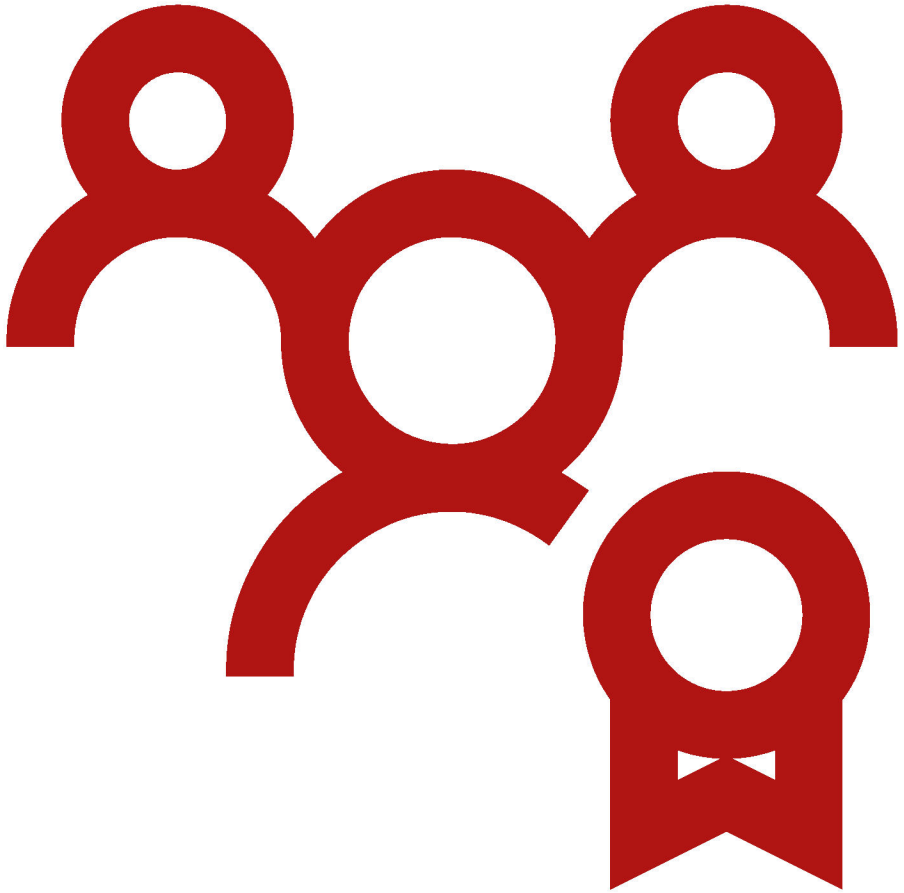
HIGH

MEDIUM

LOW

Identified issues in priority to be addressed in a rulemaking:

- Planning Cycle
- Avoided Cost of Capacity and Energy – methodology and timeline
- Portfolio level Cost-effectiveness testing
- Cost-effectiveness standard
- Performance Bonus calculation
- Performance Bonus best practices
- Stakeholder Engagement
- Program Options
- Evaluation, measurement & verification cycle
- TRM Update Cycle
- Avoided Retail Energy used by SIR and timeline
- Collaboration with other funding sources & market actors



Areas of Agreement

Planning Cycle

- Streamline the planning cycle in a way that optimizes EE program value
- Holistic review of all interdependent aspects of planning cycle – EEPRs, TRM, EM&V, avoided costs, etc.

Stakeholder engagement in Planning cycle and delivery of programs

- Opportunities exist for additional collaboration between utilities, REPs, and others in planning cycle and delivery of programs

Program Options

- Approved program options allow flexibility necessary
- Pilot programs need more than one-year to demonstrate benefits provided

Areas of Agreement (continued)

Avoided Costs

- Avoided costs of energy calculation should be reviewed to minimize the level of fluctuation between years
- Avoided costs of capacity calculation should be reviewed to ensure calculation is capturing the full value of EE programs
- Timing of the avoided costs calculations need to align better with the start of the next plan cycle (prior to April 1 EEPRs filings)
- Establishing a consistent method for calculating Avoided Retail Energy used in Savings-to-Investment (SIR) with help to eliminate evaluated savings differences

Cost-effectiveness Standard

- Programs are undervalued (not capturing all the benefits) using the UCT standard, consider creating and using a Texas-centric cost-effectiveness test could be beneficial
- Portfolio level cost-effectiveness will provide more benefits and flexibility to programs

Performance bonuses

- Performance bonuses are warranted, opportunity to review other cost recovery mechanisms used across the country
- Changes to avoided costs and cost-effectiveness impact performance bonus calculation, so understanding the correlation of these changes will have on the performance bonus calculation is critical

Areas in need of further discussion

Planning Cycle

What is the appropriate planning cycle length that helps to reduce the administrative burden, encourages forward thinking, and aligns avoided costs calculations?

Avoided Costs

Should the avoided cost used at the time of measure installation persist through the estimated useful life of the measure?

Should avoided T&D costs associated with EE programs be incorporated?

Stakeholder Engagement

What would be the best mechanism to use to allow for greater participation in all aspects of planning, design and delivery of energy efficiency programs by REPs and other stakeholders?

Are there opportunities for more common programs across the state?

Performance bonus

What level of reviewed is appropriate for performance bonus to ensure they are just and reasonable?.

Is a maximum performance bonus metric tied to Total Net Benefits still appropriate in Texas?

What is reasonable cost cap for energy efficiency?

Questions?

Stakeholder Input Facilitators:

Lark Lee—Best Practices and Overarching Themes, Program Goals and Demand Response
lark.lee@tetratech.com

Tina Yoder—Low-income/Underserved Segments and Program Planning
tina.yoder@tetratech.com

Commission Staff Lead:
Therese Harris, therese.harris@puc.texas.gov

EUMMOT ELECTRIC UTILITY MARKETING MANAGERS OF TEXAS

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BOUNDLESS ENERGY

TNMP
Texas-New Mexico Power

Xcel Energy

EEIP Program Summary

MARCH 28, 2023

El Paso Electric

PROGRAM PLAN SUMMARY

2023 Projections			
Programs	**Budget**	**kW**	**kWh**
Commercial	**$ 2,411,413**	**10,411**	**17,468,496**
Small Commercial Solutions MTP	$ 461,115	730	3,197,400
Large C&I Solutions MTP	$ 1,005,396	2,011	10,569,816
Texas SCORE MTP	$ 469,902	620	3,530,280
Commercial Load Management SOP	$ 460,000	7,000	21,000
Residential Marketplace Pilot MTP	$ 15,000	50	150,000
Residential	**$ 2,201,346**	**12,757**	**7,457,793**
Residential Solutions MTP	$ 315,000	545	954,840
LivingWise® MTP	$ 346,346	200	727,600
FutureWise® MTP	$ 300,000	106	494,000
Texas Appliance Recycling MTP	$ 255,000	195	1,579,200
Residential Marketplace Pilot MTP	$ 285,000	950	2,850,000
Residential Load Management MTP	$ 700,000	10,761	852,153
Hard-to-Reach	**$ 600,000**	**800**	**1,051,200**
Hard-to-Reach Solutions MTP	$ 600,000	800	1,051,200
Admin	**$ 87,793**		
R&D	**$ 25,000**		
Total	**$ 5,325,552**	**23,968**	**25,977,489**
EM&V	**$ 67,272**		
Total*	**$ 5,392,824**		

2024/25 POTENTIAL PROGRAMS

COMMERCIAL	RESIDENTIAL	LOW INCOME
Small Commercial Solutions MTP	Residential Solutions MTP	Hard-to-Reach Solutions MTP
Commercial Solutions MTP (2024)	Smart Students MTP (2025)	
Commercial LM SOP	Texas Appliance Recycling MTP	
Midstream Distributor Program (2025)		
	Residential LM MTP	
	Residential Marketplace Pilot MTP	

Residential LM and Marketplace

El Paso Electric

2022 Successes

Residential Load Management*

Demand Reduction	• Over 8,000 kW • Greater than 20% over Projected
Energy Savings	• 492,696 kWh • 2,632,759 kWh-PY2021
Thermostats	• 733 units-PY2022 vs 1,868 Units-PY2021 • Limited DRPE 114 Days; (April 7thru July 29)
Budget	• 2022 Projected Budget $453,680 (Unadjusted) • 2022 Expenditures $538,191

Residential Marketplace*

Demand Reduction	• PY2021 – 528 kW • PY2022 – 547 kW
Energy Savings	• PY2021 – 2,204,674 kWh • PY2022 – 3,192,352 kWh
2022 Changes	• Increased Thermostat Sales • Energy Star Air Purifiers
Budget	• 2022 Projected Budget $300,000 • 2022 Expenditures $181,772

** 2022 Program results pending EM&V verification.*

Opportunities

Commercial Load Management

Recruitment	• 2.5-3.25 MW • 2-3 Participants (10-15 Sites/Meters)
Demand Reduction	• 7,676 kW down from peak of 12,344 kW (PY21) • Decreased Participation- Supply Chain & Inflation

Educational Programs

Outreach	• Observed Teacher Attrition 113 to 65 (PY22) • Increase Teacher Participation • One on One In-Person Onsite Promotion
Behavioral	• Water Heater Temperature Setbacks

Commercial and Residential Opportunities

Break the Barriers	• Energy Efficiency Hotline: Post Installation Calls • "Call EPE for Energy Efficiency Incentives" • Solution-REBATES

Entergy Texas

PROGRAM PLAN SUMMARY

2023 Projections				
Programs	**Budget**		**kW**	**kWh**
Commercial	**$**	**3,374,281**	**10,988**	**18,975,413**
Commercial Solutions MTP	$	2,984,531	3,988	18,961,413
Load Management SOP	$	389,750	7,000	14,000
Residential	**$**	**3,205,523**	**3,767**	**6,875,150**
Residential SOP	$	2,002,027	1,319	2,406,302
Residential Solutions MTP	$	1,203,496	2,449	4,468,847
Hard-To-Reach	**$**	**1,182,630**	**942**	**1,650,036**
Hard-To-Reach SOP	$	1,182,630	942	1,650,036
R&D	**$**	**168,396**		
Total	**$**	**7,930,830**	**15,697**	**27,500,598**
EM&V	**$**	**93,438**		
Total	**$**	**8,024,268**		

2024/25 POTENTIAL PROGRAMS

COMMERCIAL	RESIDENTIAL	LOW INCOME
Commercial Solutions MTP	Residential SOP	Hard-to-Reach SOP
Load Management SOP	Residential Solutions MTP	

Areas of Program Growth

COMMERCIAL

Increase focus on commercial HVAC equipment

- Commercial CoolSaver Tune-Ups
- HVAC Midstream sub-program

Increase participants in Commercial Load Management

Incorporate other Product & Services to better serve customer needs

- Green Select & Green Future Option

RESIDENTIAL

Focus on growth of new programs

- Residential Marketplace
- Residential Load Management

Increase customer participation in multiple programs

- Residential SOP → CoolSaver → Residential Marketplace

Xcel Energy

PROGRAM PLAN SUMMARY

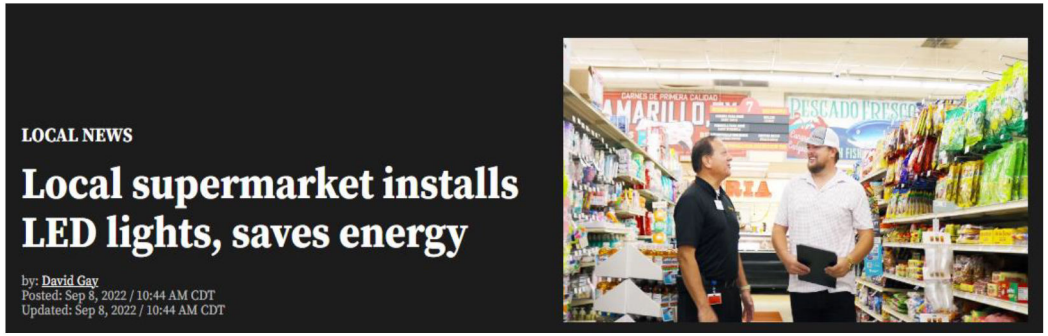
2023 Projections			
Programs	**Budget**	**kW**	**kWh**
Commercial	**$ 1,946,075**	**7,730**	**10,884,000**
Commercial SOP	$ 436,272	1,020	3,826,000
Retro-Commissioning MTP	$ 800,000	900	3,969,000
Load Management SOP	$ 285,778	5,000	20,000
Small Commercial MTP	$ 405,624	220	1,000,000
Home Lighting MTP	$ 18,402	590	2,069,000
Residential	**$ 1,076,398**	**2,880**	**9,220,000**
Residential SOP	$ 298,697	400	900,000
Home Lighting MTP	$ 349,639	2,000	7,000,000
Smart Thermostat MTP	$ 33,785	-	600,000
Refrigerator Recycling MTP	$ 183,976	240	360,000
Residential HVAC MTP	$ 210,300	240	360,000
Hard-to-Reach	**$ 1,077,985**	**1,000**	**2,840,000**
Hard-to-Reach SOP	$ 404,745	500	1,310,000
Hard-to-Reach Food Bank	$ 208,240	250	765,000
Low-Income Weatherization	$ 465,000	250	765,000
R&D	**$ 160,000**		
General Admin	**$ 211,253**		
Total	**$ 4,471,711**	**11,610**	**22,944,000**
EM&V	**$ 52,248**		
Total	**$ 4,523,959**		

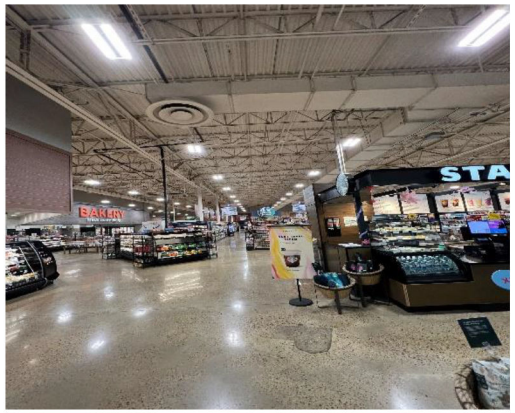
2024/25 POTENTIAL PROGRAMS

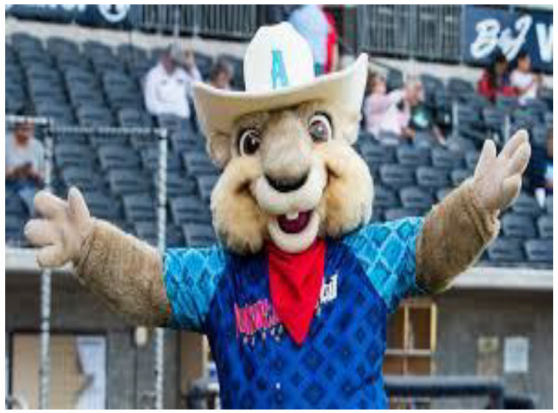
COMMERCIAL	RESIDENTIAL	LOW INCOME
Large Commercial SOP	Residential SOP	Hard-to-Reach SOP
Retro-Commissioning MTP	Home Lighting MTP	Low-Income Weatherization
Load Management SOP	Smart Thermostat MTP	HTR Food Bank Program MTP
Small Commercial MTP	Refrigerator Recycling MTP	
	Residential Codes MTP	
	Residential HVAC MTP	
Home Lighting MTP		

Highlights

- Engaging with program participants CSOP and Small Commercial
- Seeing the benefit of our HTR and Res program from the customer directly
- Xcel Energy, Home lighting, and the Sod Poodles
- Xcel Energy Food Bank Success
- R&D: School Kits for Hard-to-reach areas and Residential Codes







SOUTHWESTERN ELECTRIC POWER COMPANY℠

An AEP Company

BOUNDLESS ENERGY℠

AEP SWEPCO

PROGRAM PLAN SUMMARY

SOUTHWESTERN ELECTRIC POWER COMPANY℠

An AEP Company

BOUNDLESS ENERGY℠

2023 Projections			
Programs	**Budget**	**kW**	**kWh**
Commercial	**$ 2,066,014**	**9,598**	**10,216,716**
Commercial Solutions MTP	$ 364,706	490	2,112,275
Commercial SOP	$ 662,706	836	4,198,842
Load Management SOP	$ 294,118	7,201	107,530
Open MTP	$ 277,778	251	1,029,100
SCORE MTP	$ 466,706	820	2,768,969
Residential	**$ 1,352,941**	**1,168**	**2,278,273**
Residential SOP	$ 1,352,941	1,168	2,278,273
Hard-to-Reach	**$ 823,529**	**962**	**1,544,167**
Hard-to-Reach SOP	$ 823,529	962	1,544,167
R&D	**$ 125,000**		
Total	**$ 4,367,484**	**11,728**	**14,039,157**
EM&V	**$ 36,796**		
Total	**$ 4,404,280**		

2024/25 POTENTIAL PROGRAMS

SOUTHWESTERN ELECTRIC POWER COMPANY℠
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BOUNDLESS ENERGY℠

COMMERCIAL	RESIDENTIAL	LOW INCOME
Commercial SOP	Residential SOP	Hard-to-Reach SOP
COMPASS for Large Commercial MTP		
COMPASS for Schools MTP		
COMPASS for Small Business MTP		
Load Management SOP		

Residential Program Comprehensiveness

SOUTHWESTERN ELECTRIC POWER COMPANY
An AEP Company

GOAL:

- Offer more measures that have the potential to increase consumer energy savings
- Emphasis on high impact measures such as smart thermostats
- Educating contractors on all available energy efficiency measures so they can ensure customer needs are met

Measures installed in 2017

- Insulation
- Duct Sealing
- LED
- Air Infiltration

Measures installed in 2021 & 2022

- Insulation
- Duct Sealing
- LED
- Air Infiltration
- Spray Foam Insulation
- Central AC
- Central & Mini-split HP
- Smart Thermostats
- Pool Pumps
- Heat Pump Water Heaters
- Air Purifiers
- Advanced Power Strip
- Windows
- EVSE
- Refrigerators
- Ceiling Fans
- Dishwashers
- LF Showerheads
- Faucet Aerators

CENTERPOINT ENERGY

PROGRAM PLAN SUMMARY

2023 Projections			
Programs	**Budget**	**kW**	**kWh**
Large Commercial	**$ 18,937,044**	**133,775**	**134,550,000**
Commercial SOP	$ 6,754,797	13,200	70,000,000
Commercial MTP (SCORE, Healthcare, Data Center)	$ 6,386,590	7,500	48,500,000
Commercial Load Management SOP	$ 3,508,636	110,000	660,000
Retro-Commissioning MTP	$ 980,335	1,350	7,090,000
REP MTP (Commercial CoolSaver)	$ 352,004	975	2,500,000
Commercial High Efficiency Foodservice MTP	$ 899,429	500	4,300,000
Advanced Lighting Commercial MTP	$ 55,253	250	1,500,000
Residential and Small Commercial	**$ 11,914,504**	**45,507**	**82,586,000**
Advanced Lighting Residential MTP	$ 1,023,310	4,750	28,500,000
CenterPoint Energy High Efficiency Home MTP	$ 4,310,155	9,422	25,000,000
Residential & Small Commercial SOP	$ 387,872	535	1,400,000
Smart Thermostat Program	$ 430,909	-	4,765,000
Mid-stream MTP (HVAC and Pool Pump Distributor)	$ 2,678,898	3,500	9,855,000
REP MTP (Residential CoolSaver and Efficiency Connection)	$ 1,219,959	2,800	7,400,000
Residential Load Management SOP	$ 973,409	22,000	66,000
Multi-Family MTP Market Rate	$ 889,991	2,500	5,600,000
Hard-to-Reach	**$ 5,500,272**	**6,150**	**10,500,000**
Hard-to-Reach SOP	$ 629,989	875	1,000,000
Multi-Family MTP HTR	$ 570,892	275	1,500,000
Targeted Low Income MTP (Agencies in Action)	$ 4,299,391	5,000	8,000,000
R&D	**$ 250,000**		
TOTAL	**$ 36,601,819**	**185,432**	**227,636,000**
EM&V	**$ 522,701**		
Total	**$ 37,124,520**		

2024/25 POTENTIAL PROGRAMS

COMMERCIAL	RESIDENTIAL	LOW INCOME
Large Commercial SOP	CenterPoint Energy High Efficiency Homes MTP	Hard-to-Reach SOP
Commercial MTP - *SCORE* - *Healthcare* - *Data Center*	Retail Products & Services - *REP Residential* - *Smart Thermostat* - *Advanced Retail Products*	Multi-Family MTP
Commercial Load Management	Residential & SC SOP	Targeted LI MTP (Agencies in Action)
Retail Products & Services - *REP Commercial*	CenterPoint Energy High Efficiency Homes MTP	
Retro-Commissioning MTP	Multi-Family MTP	
Commercial High Efficiency Foodservice (CHEF) MTP	Mid-Stream MTP (A/C and Pool Pump Distributor)	
Winter Load Management Pilot	Residential Load Management	

2022 Research Project: Residential Energy Usage Intensity

Questions

Where are the least efficient homes in CenterPoint Energy's territory?

Are CenterPoint Energy's energy efficiency programs servicing these poor performing areas?

What can be done to drive energy efficiency participation?

Research Process

Calculate Energy Usage Intensity (EUI)*

- Home consumption yearly data
- Home size

Over 1,400,000 single family meters used

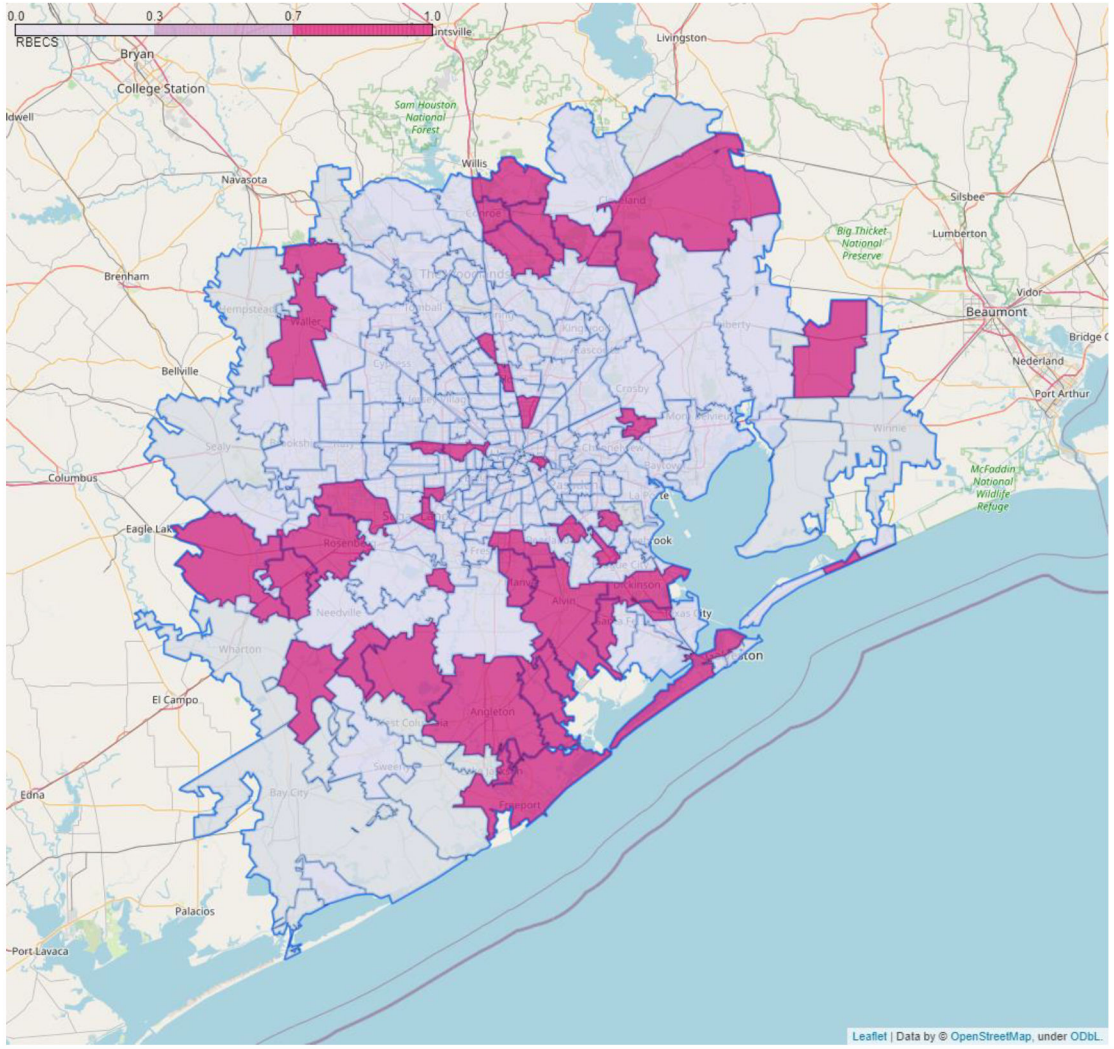
- Single family homes only
- Address matched against appraisal district records
- 12 months of consumption data

General pattern to these homes

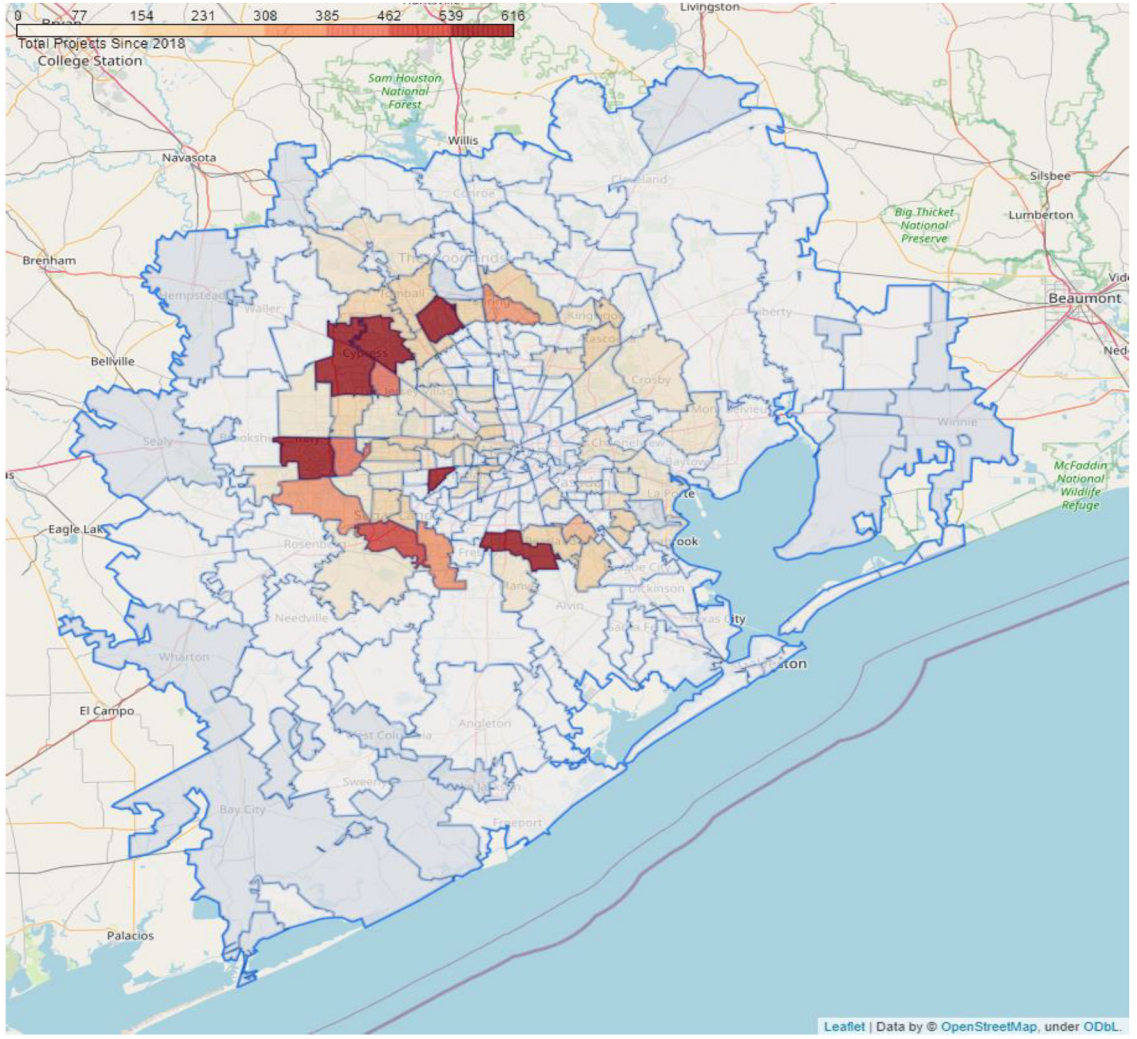
- Home specific (year built, system types, space heating, etc.)
- Economic
- Geographic
- Activity in our energy efficiency programs

RESULTS

RECS Comparison



Projects Since 2018



Conclusions & Opportunities

Research Conclusions

Participation driven by Midstream program

- Highly territorial

Residential SOP tends towards higher median income areas

Hard-to-Reach SOP tends towards the same highly concentrated areas

Opportunities

Incentive Levels

- Adjust Residential SOP incentives in non-efficient areas to match Hard-to-Reach

Outreach

- Sponsor recruitment in underserved areas
- Targeted program education & awareness

Evaluate Potential New Programs

Expand Research…"*Digging Further Down*"

- 15-minute interval data to profile 'types' of homes
- Using public records to compare vs interval data

ONCOR

PROGRAM PLAN SUMMARY

2023 Projections			
Programs	**Budget**	**kW**	**kWh**
Commercial	**$19,924,260**	**121,656**	**122,379,519**
Commercial SOP	$9,488,944	14,523	72,827,590
Commercial Load Management SOP	$2,338,678	60,000	180,000
Solar PV SOP	$2,233,293	1,459	7,133,934
Small Business Direct Install MTP	$1,162,359	1,534	4,979,022
Retail Products MTP	$238,931	6,505	26,489,290
Strategic Energy Management MTP	$1,341,450	1,588	2,964,683
Commercial Midstream MP	$1,462,744	1,047	6,700,000
Winter Commercial Load Management (Pilot)	$1,507,861	35,000	105,000
Master-Metered Smart Thermostat Program (Pilot)	$150,000	0	1,000,000
Residential	**$18,962,987**	**75,228**	**139,693,427**
Home Energy Efficiency SOP	$8,485,094	18,266	35,683,104
Solar PV SOP	$1,506,581	1,015	3,409,927
Residential Load Management SOP	$1,130,896	35,000	105,000
Retail Products MTP	$5,327,406	19,353	95,675,244
Residential New Home Construction MTP	$2,203,010	1,594	3,745,152
Multi-Family Smart Thermostat Program (Pilot)	$310,000	0	1,075,000
Hard-to-Reach	**$10,929,600**	**19,062**	**32,197,490**
Hard-to-Reach SOP	$5,650,940	14,406	20,489,041
Targeted Weatherization Low-Income SOP	$4,678,620	3,779	7,018,449
Low Income HVAC Tune-Up MTP (Pilot)	$500,040	877	3,690,000
Low Income MF Smart Thermostat Program (Pilot)	$100,000	0	1,000,000
R&D	$214,000		
Total	**$49,680,513**		
EM&V	**$740,492**		
Total	**$52,206,129***	**215,946**	**294,270,436**

*2023 Total Budget reflects the approved amount in Oncor's 2023 EECRF, Project No. 53671 ordering paragraph no. 2.

2023/24 POTENTIAL PROGRAMS

COMMERCIAL	RESIDENTIAL	LOW INCOME
Commercial SOP	Home Energy Efficiency SOP	Hard-to-Reach SOP
Commercial Load Management SOP	Solar PV SOP	Targeted Weatherization Low-Income SOP
Small Business Direct Install MTP	Residential Load Management SOP	LIW A/C Tune –Up (2023)
Solar PV SOP	Retail Products Program MTP	LI Multi-Family Smart Thermostat Program (Pilot) (2023)
Retail Products Program MTP	Residential New Home Construction MTP	
Commercial Midstream Program MTP	Multi-Family Smart Thermostat Program (Pilot) (2023)	
Strategic Energy Management MTP		
Winter Commercial Emergency Load		
Master Metered Smart Thermostat Program (Pilot) (2023)		

Program Highlights

New Programs or Program Expansion

- **New Homes Program:** Incentives for units of MF New Construction Properties
- **24/7 Load Management** (Commercial / Summer)
- **Smart Thermostat Program for Multifamily, LI Multifamily and Master Metered**
- **Commercial Midstream:** Commercial Kitchen Equipment (2024)

New Measures

- Radiant Barrier (HEE, LIW and TLIW)
- Small Commercial Smart Thermostat (CSOP and SBDI)
- **SBDI:** Refrigeration, HVAC and AC Tune-Up
- **RPP:** Clothes Washer, Clothes Dryer, Heat Pump Water Heater, Pipe Insulation.

Emerging Technology Studies

- CEE Emerging Technology Study
- Cold Climate Heat Pumps
- Managed EV Charging Study
- Storm Windows
- Solar and Battery Storage Study

AEP TEXAS

PROGRAM PLAN SUMMARY

2023 Projections			
Programs	**Budget**	**kW**	**kWh**
Commercial	**$ 8,453,831**	**51,311**	**46,424,751**
Commercial Foodservice Pilot MTP	$ 275,000	25	166,479
Commercial Solutions MTP	$ 1,014,503	1,664	7,458,262
Commercial SOP	$ 2,094,229	3,133	16,316,893
CoolSaver A/C Tune-Up MTP	$ 876,093	3,466	8,047,475
Load Management SOP	$ 821,563	26,308	26,308
Open MTP	$ 1,360,294	1,215	5,234,159
SCORE/CitySmart MTP	$ 1,317,465	2,463	8,259,385
SMART Source Solar PV MTP	$ 319,685	269	903,022
Winter Load Management	$ 375,000	12,768	12,768
Residential	**$ 6,214,331**	**7,372**	**23,663,516**
CoolSaver A/C Tune-Up MTP	$ 905,578	1,594	6,250,000
High-Performance New Homes MTP	$ 1,072,222	2,215	3,703,316
Residential SOP	$ 3,495,156	2,804	11,225,539
SMART Source Solar PV MTP	$ 741,375	759	2,484,661
Hard-to-Reach	**$ 3,542,650**	**2,248**	**6,598,076**
Hard-to-Reach SOP	$ 1,556,347	1,408	5,065,642
TLI EE Program	$ 1,986,303	840	1,532,434
R&D	**$ 353,646**		
Total	**$ 18,564,458**	**60,932**	**76,686,342**
EM&V	**$ 232,708**		
Total	**$ 18,797,166**		

2024/25 POTENTIAL PROGRAMS

COMMERCIAL	RESIDENTIAL	LOW INCOME
Commercial Solutions MTP	CoolSaver A/C Tune-up MTP	Hard-to-Reach SOP
Commercial SOP	High Performance New Homes MTP	Targeted LI Energy Efficiency
CoolSaver A/C Tune-up MTP	Residential SOP	
Load Management SOP	SMART Source Solar PV MTP	
Open MTP		
SCORE/CitySmart MTP		
SMART Source Solar PV MTP		
Commercial Foodservice Pilot MTP		
Winter Load Management SOP		

Highlights

Winter Load Management Program (WLMP)

- Targets commercial customers with a peak electric demand of 500 kW or more
- Operating period December 1, 2022 through February 28, 2023; 24 hours a day, seven days a week.
- Participants are provided a 30-minute advance notification and will have a four-hour load shed event.
- Participants include commercial customers, energy efficiency service providers, commercial aggregation groups and retail electric providers (REPS).

Foodservice Pilot Market Transformation Program (Foodservice MTP)

- Targets commercial food service participants
- Feature a point-of-sale rebate for foodservice equipment
- Stimulate the adoption of energy efficient foodservice equipment

TNMP

PROGRAM PLAN SUMMARY

2023 Projections				
Programs	**Budget**		**kW**	**kWh**
Commercial	**$**	**2,263,513**	**8,508**	**7,937,602**
Open Small Business MTP	$	611,039	677	1,583,189
SCORE/CitySmart MTP	$	675,712	920	2,946,955
Commercial Solutions MTP	$	699,010	814	3,401,361
Load Management SOP	$	277,752	6,098	6,098
Residential	**$**	**2,080,969**	**2,176**	**4,424,979**
High-Performance Homes MTP	$	566,447	566	1,187,366
Residential SOP	$	1,514,522	1,611	3,237,613
Hard-to-Reach	**$**	**1,115,340**	**921**	**1,392,891**
Hard-to-Reach SOP	$	463,454	476	797,363
Low Income Weatherization	$	651,887	445	595,527
Total	**$**	**5,459,822**	**11,606**	**13,755,472**
EM&V	**$**	**52,421**		
Total	**$**	**5,512,243**		

2024/25 POTENTIAL PROGRAMS

Texas-New Mexico Power

COMMERCIAL	RESIDENTIAL	LOW INCOME
Open for Small Business MTP	High-Performance Homes MTP	Hard-to-Reach SOP
SCORE/CitySmart MTP	Residential SOP	Low-Income Weatherization
Commercial Solutions MTP		
Winter Load Management		
Summer Load Management		

Winter Load Management Pilot Program (WLMPP)

Texas-New Mexico Power

- In response to Senate Bill 3 out of the 87th Legislative Session, TNMP setup an interim load management pilot program outside of energy efficiency to run during winter. For 2023, TNMP has moved the program into the EE portfolio with the same budget and savings goals.
- For both the Winter Pilot and Summer LM programs there is a Memorandum of Understanding in place with ERCOT to coordinate communication of enrollment, program capacity, and deployment.
- The WLMPP operates similarly to the Summer Load Management Program as far as 30 minute notification, a total of 5 curtailments for 1-4 hours, EEA Level 2 trigger, and $40/kW incentive with some notable differences:

	Winter	Summer
Operating Period	24 hours a day / 7 days a week December 1 – February 28	1:00 pm - 7:00 pm June 1 – September 30, excluding weekends and holidays
Baseline	High 8 (pre or post curtailment days) of 10	High 5 (pre-curtailment days) of 10

EUMMOT ELECTRIC UTILITY MARKETING MANAGERS OF TEXAS

TEXAS PACE AUTHORITY
IMPROVING PROPERTIES. INCREASING CAPITAL.

PACE IN TEXAS

PROGRAM OVERVIEW

EEIP MEETING

MARCH 28, 2023

PROPERTY ASSESSED CLEAN ENERGY

Innovative financing tool that provides long term, low cost, 100% funding for energy efficiency, water conservation and distributed generation projects

- Private financing secured by a special local property assessment in place over the financing term/useful life of the improvements – like a single parcel PID
  - State Authorized – Local Gov't Code 399
  - Local Government Enabled
  - Voluntary & Open Market

Eligible Property

- Commercial (including non-profit)
- Multi-family (5+ units)
- Industrial (manufacturing/agricultural)

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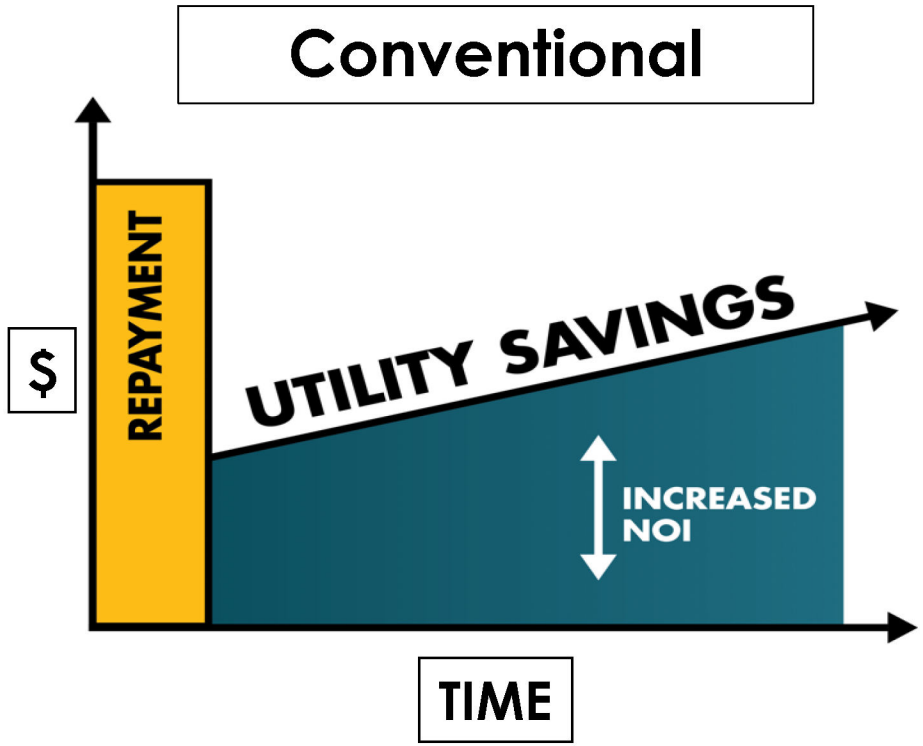
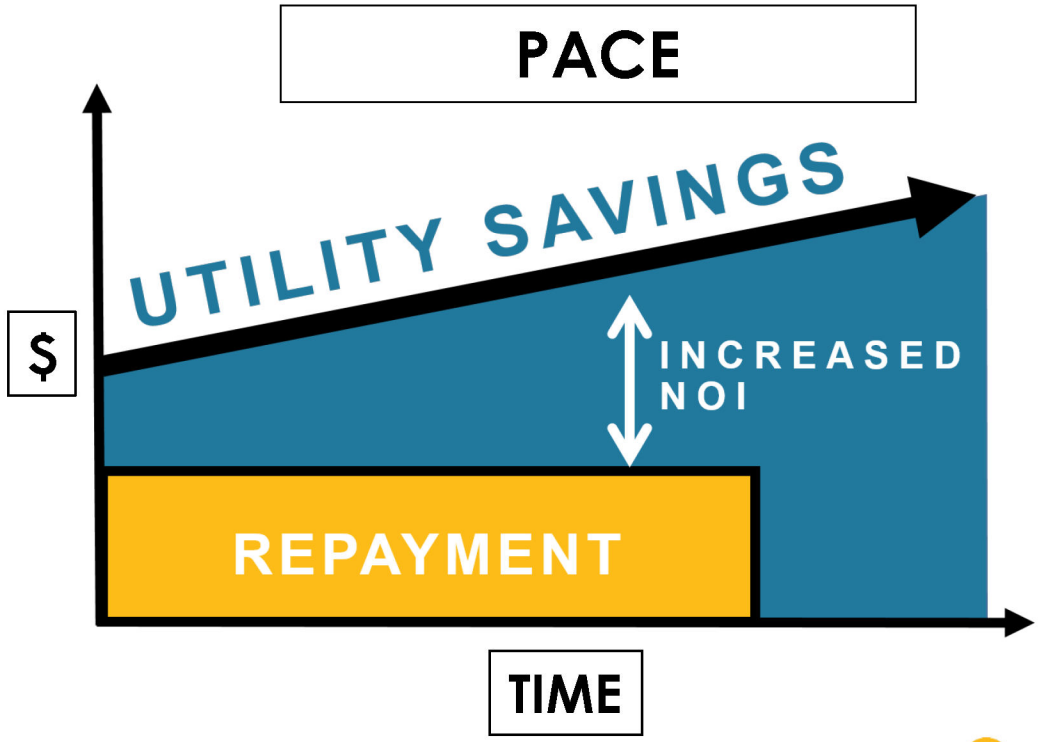
WHY PACE?

- Improves assets – budget neutral/cashflow positive
  - Lowers utility usage/costs
  - Increases net operating income





PACE-ELIGIBLE IMPROVEMENTS

Projects that reduce energy or water usage or generate energy onsite

Energy

- High efficiency HVAC (AC/chillers, boilers, furnaces, air handlers)
- High efficiency lighting upgrades
- Energy management systems and controls
- Building envelope improvements
- Renewable/DG energy systems
- Mechanical system modernization
- Air cooled systems to water or geothermal cooled systems
- Fuel switching
- Combustion and burner upgrades
- Heat recovery and steam traps

Water

- High efficiency water heating systems
- Water conservation systems
- Wastewater recovery and reuse systems
- Alternate, on-site sources of water (A/C condensate, rainwater, RO reject water, foundation drain water, etc.)
- On-site improvements to accommodate reclaimed water use
- Water management systems and controls (indoor and outdoor)
- High efficiency irrigation equipment

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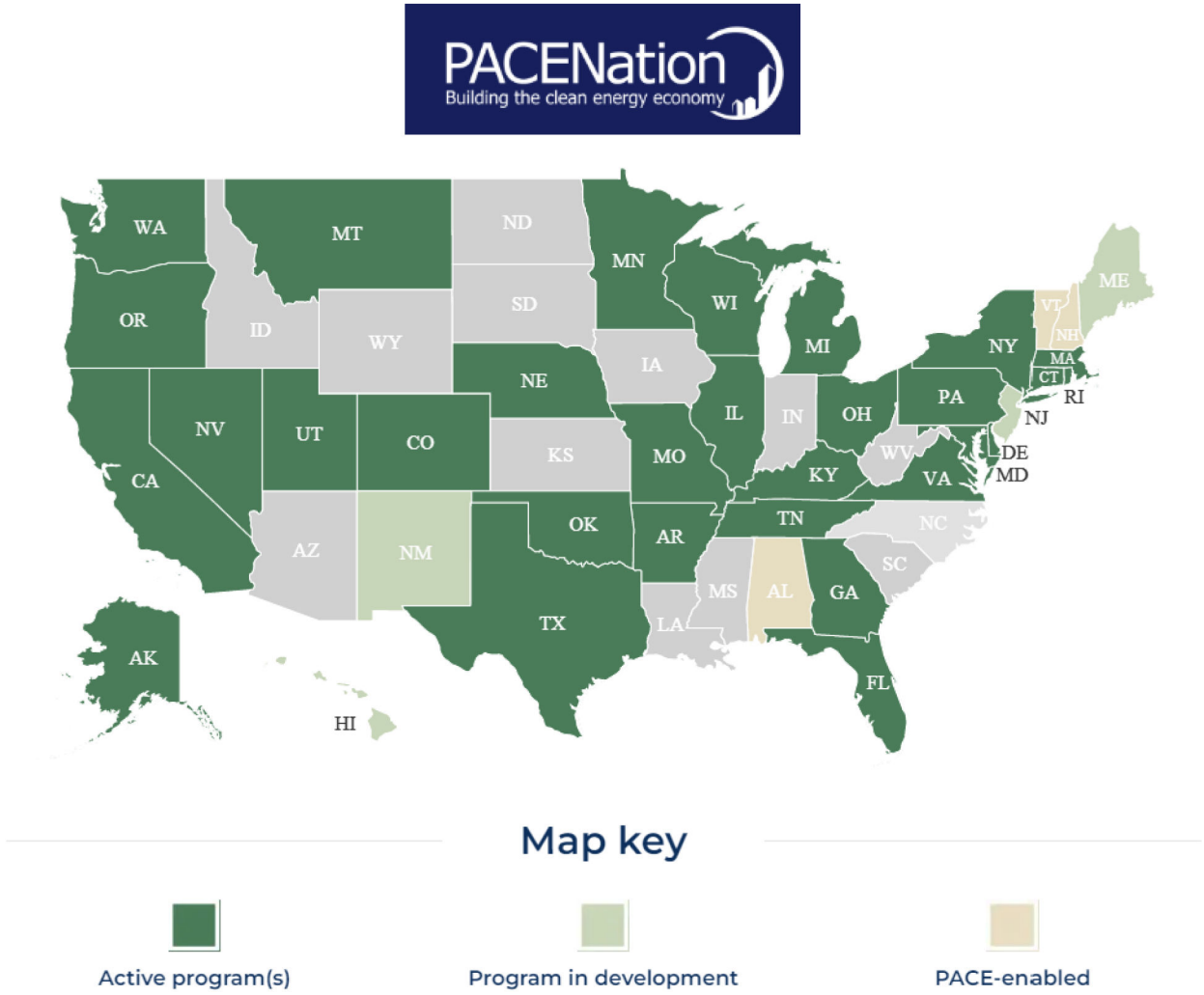
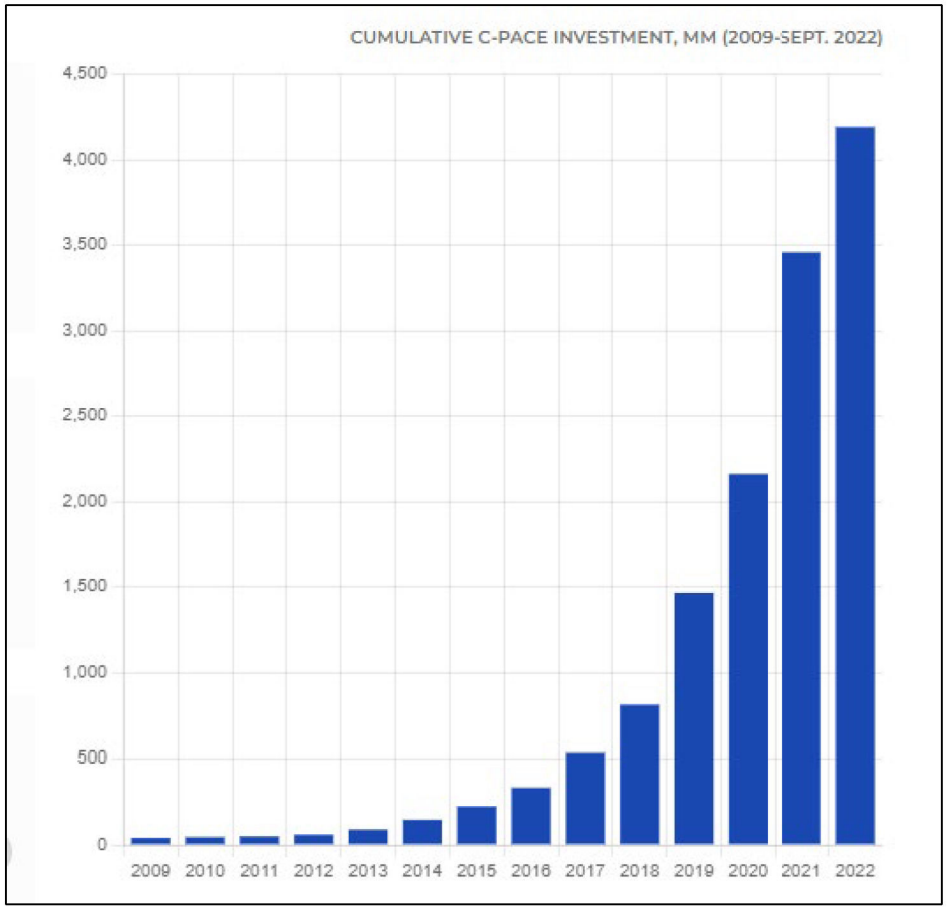
THE GROWING US PACE MARKET





TEXAS PACE AUTHORITY

THE GROWING TEXAS PACE MARKET

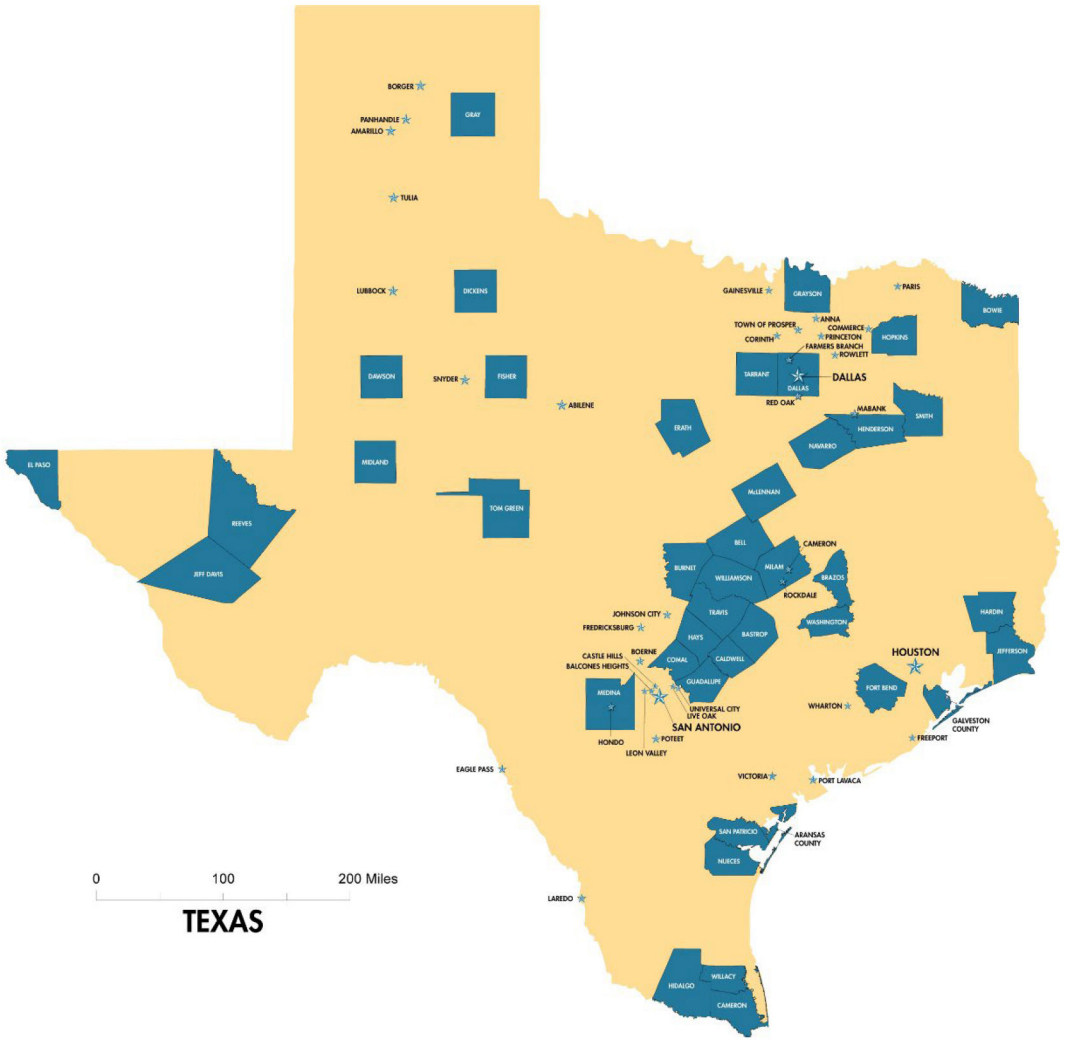
2023
10th Anniversary of the Texas PACE Act

83 local PACE programs

73% of Texas' population covered

Texas PACE Authority
501(c)(3), public service: quality control & education

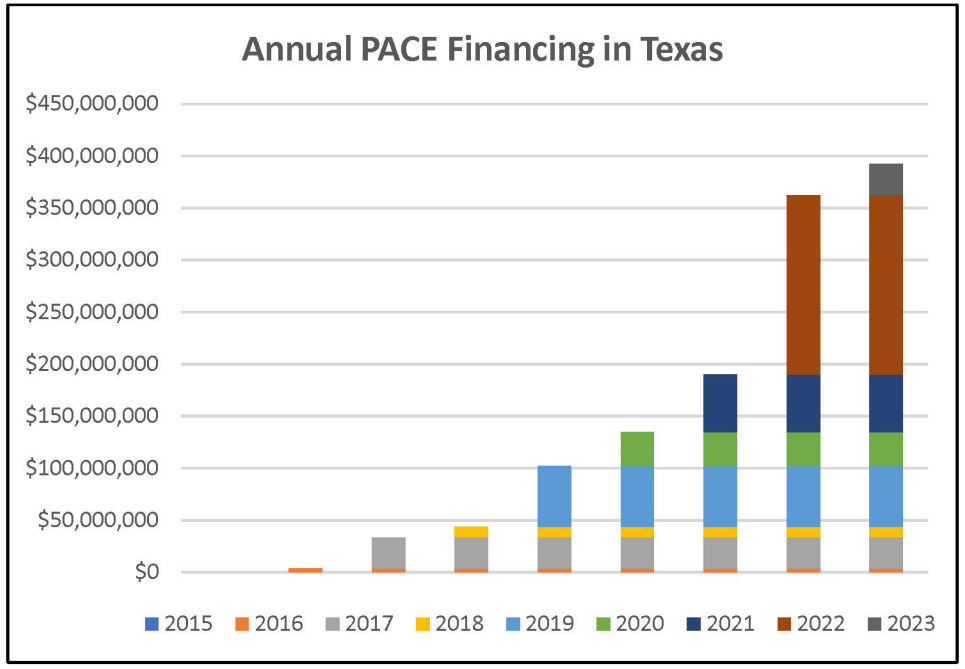
68 collective years of government service

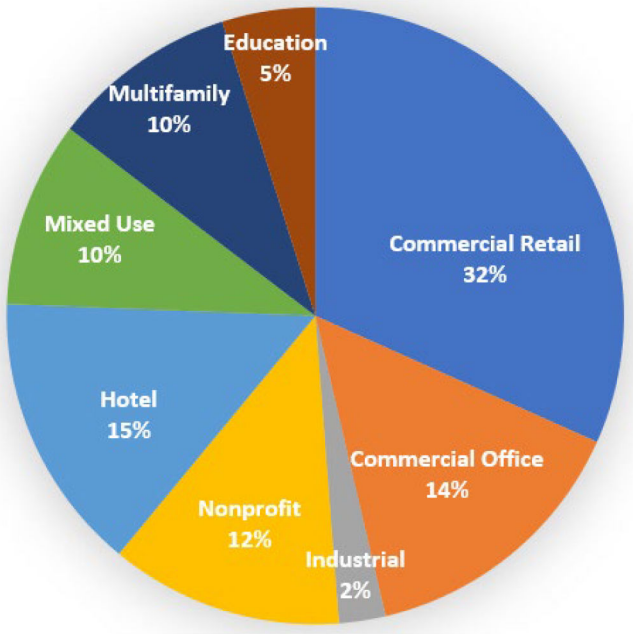


TEXAS PACE AUTHORITY

TEXAS PACE BY THE NUMBERS

75	$393,850,172	4,994	43,657	75,743,034	79,929	108,940,070
Projects Completed	Dollars Invested	Jobs Created	CO2 Reduced (tonnes/yr)	Energy Saved (kWh/yr)	Natural Gas Saved (mmBTU/yr)	Water Saved (Gal/yr)





TEXAS PACE AUTHORITY

Municipalities
Counties

TEXAS PACE AUTHORITY
501(c)(3)

Governmental

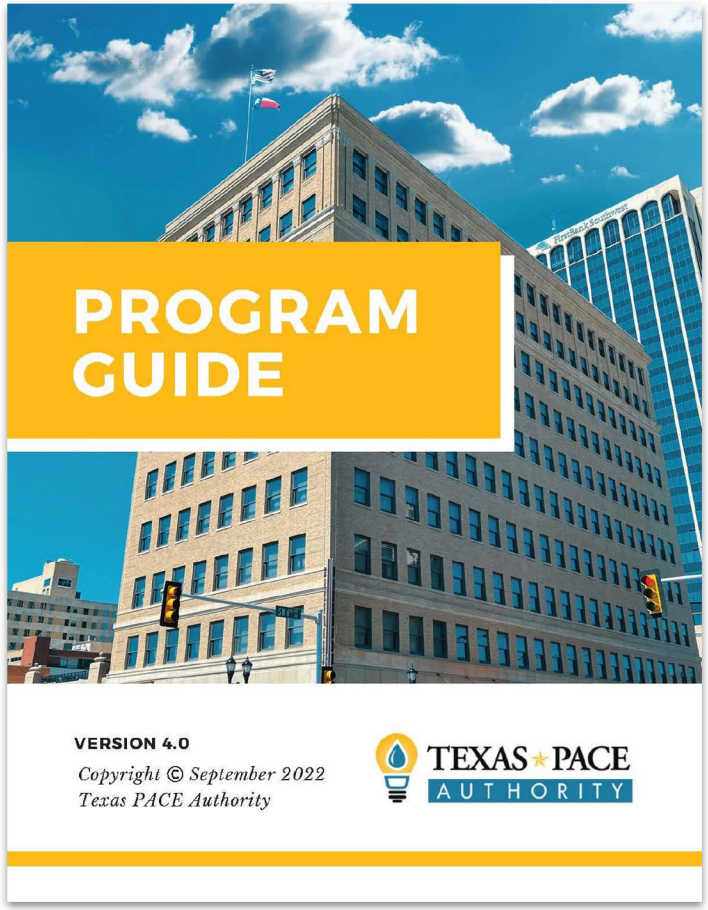
Private

Capital Providers

Property Owners

Service Providers

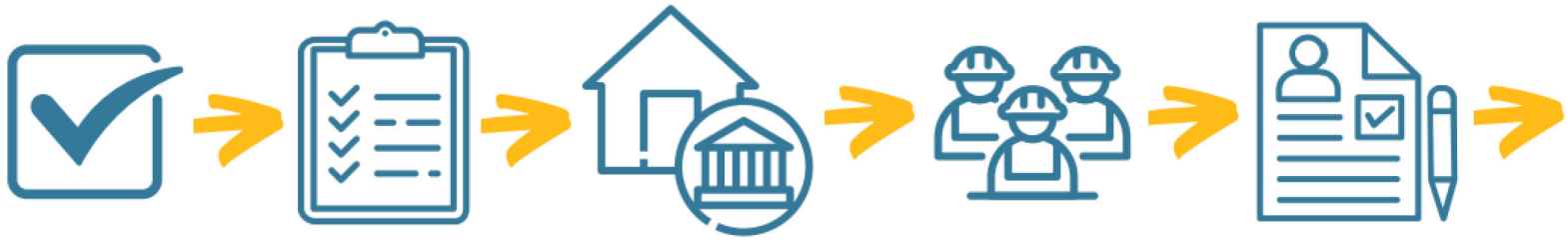
TPA PROGRAM GUIDE V4.0



www.texaspaceauthority.org/resources/documents/

TEXAS PACE AUTHORITY

TPA's PROJECT DEVELOPMENT PROCESS



Step 1
Determine Eligibility

Step 2
Determine Scope

Step 3
Select a Lender

Step 4
Select Service Providers

Step 5
Prepare Application

Step 6
Obtain Mortgagee Consent

Step 7
ITPR Project Verification

Step 8
Close on PACE Financing

Step 9
Install Upgrades

Step 10
Verify Installation

TEXAS PACE AUTHORITY

KEY UNDERWRITING CRITERIA

Savings to Investment Ratio (SIR)

- SIR ≥ 1 required
  - Utility/Operating Savings >50%
  - Financial Savings < 50%
  - Owner buydown not to exceed 50% of total investment
    - May include utility incentives

Loan to Value (LTV)

- PACE financing can be up to 25% of CAD-assessed property value
  - Variance for market value/as stabilized basis

Mortgage Holder Consent

- Senior lender must consent to PACE assessment (if applicable)

TEXAS PACE AUTHORITY

PACE-ELIGIBLE PROJECTS

Savings to Investment Ratio (SIR) ≥ 1 required

Savings: total energy/water $ savings over the weighted useful life of the project

Investment: total amount of assessment (financing amount)

Example: HVAC, Lighting improvements & Controls

Project Cost = $1,000,000 (including financing costs)

(Utility Incentives = $50,000)

Projected Savings = $950,000 over 20-year period

Savings $950,000

Investment(net) $950,000 = SIR 1

$50,000 in utility incentives leveraged $950,000 in savings

TEXAS PACE AUTHORITY

PROJECT SCOPE - ENERGY/WATER ANALYSIS

All projects require an **energy/water analysis** conforming to TPA's Technical Standards

- Performed by owner, contractor or engineer **(EE facility assessment)**
  - 2 Components
    - Baseline Analysis
    - Projected Savings Analysis
  - Energy/Water Assessment Report
- Approved by Independent Third-Party Reviewer (ITPR)
  - Texas Licensed PE

TEXAS PACE AUTHORITY

PACE ITPR WORKBOOK

INSTRUCTIONS | Project Worksheet | Calculator | Standard Eligible Measures | Useful Life Reference

PACE ITPR Workbook

This tool is designed to help parties determine the C-PACE financing amount eligible for individual projects in regions that have adopted the Texas PACE program. All Texas PACE funded projects must achieve a savings to investment (SIR) ratio ≥ 1, and must not exceed a loan to value (LTV) ratio of 25%.

Please see the Texas PACE Statute and PACE in a Box guidelines for additional information. https://www.keepingpaceintexas.org/

This tool is provided for information purposes only and is not a substitute for an energy audit, technical reviewer report or any other requirement under the PACE in a Box and local program administrator guidelines. This tool does not represent a guarranty of approval of the proposed project by the program administrator.

INSTRUCTIONS:

Start with the "Project Worksheet" Tab and enter all relevant project information

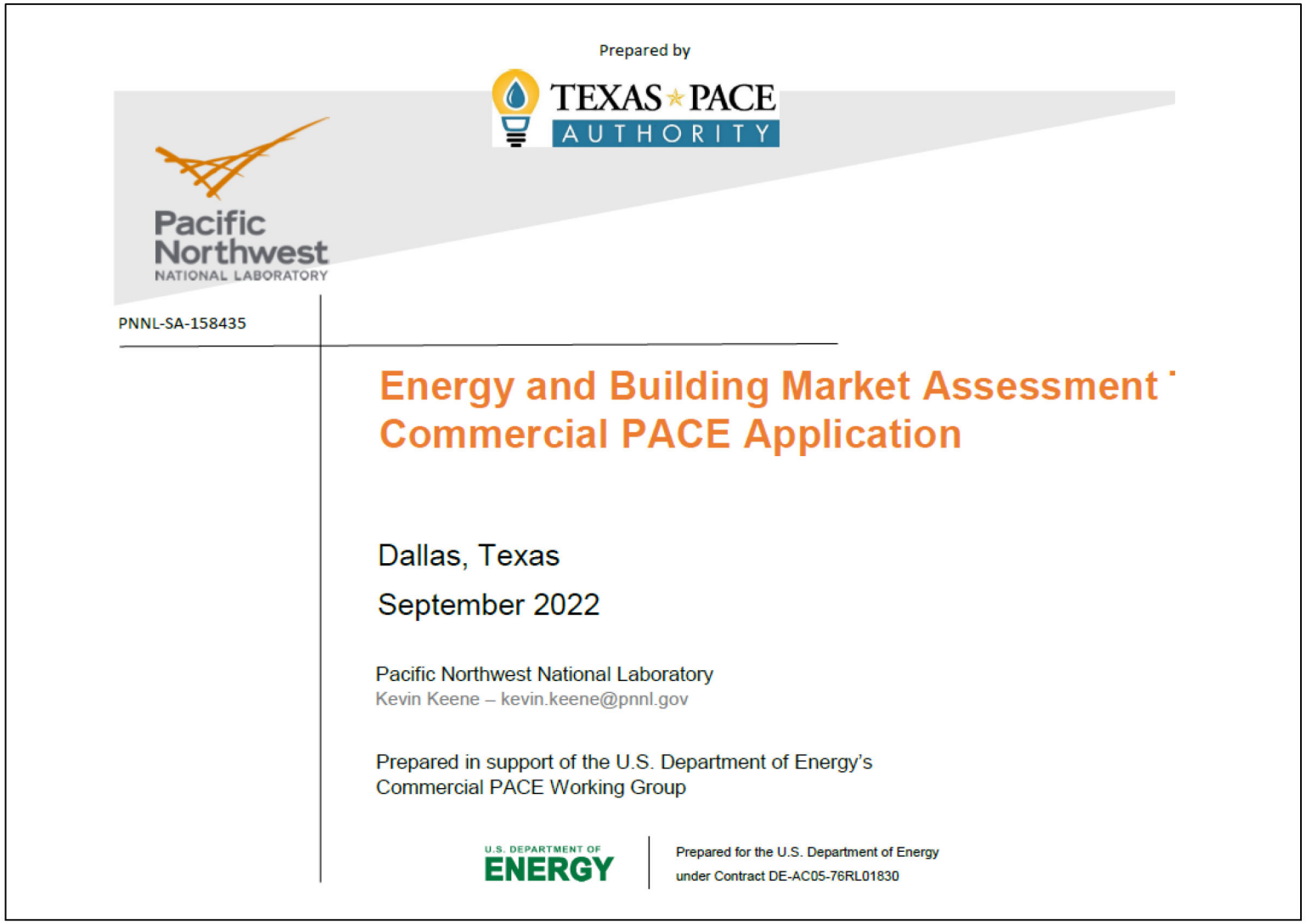
Cells with Yellow are required input field cells

Cells with Grey are calculated cells

Cells with Blue are information cells

TEXAS PACE AUTHORITY

https://www.texaspaceauthority.org/tools/



Prepared by

TEXAS PACE AUTHORITY

Pacific Northwest NATIONAL LABORATORY

PNNL-SA-158435

Energy and Building Market Assessment · Commercial PACE Application

Dallas, Texas

September 2022

Pacific Northwest National Laboratory
Kevin Keene – kevin.keene@pnnl.gov

Prepared in support of the U.S. Department of Energy's Commercial PACE Working Group

U.S. DEPARTMENT OF ENERGY

Prepared for the U.S. Department of Energy
under Contract DE-AC05-76RL01830

TEXAS PACE AUTHORITY

PACE PROJECT OPPORTUNITY
City of Dallas

$1.4 billion with SIR >1 / **$2 billion** in lifecycle savings

*without malls, inpatient healthcare, lab, multifamily, industrial

city_state_name	Usetype	Size	N_Bldgs	wall.cost.sir1	roof.cost.sir1	window.cost.sir1	hp.cost.sir1	chill.cost.sir1	boiler.cost.sir1	rtu.cost.sir1	shwhp.cost.sir1	led.cost.sir1	all.cost.sir1
Dallas, TX	Education	4,732,400	111	$0	$0	$592,925	$22,082	$23,128	$2,121	$0	$988,403	$7,238,396	**$2,861,140**
Dallas, TX	Enclosed Mall	868,500	8	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Dallas, TX	Food Sales	2,636,700	253	$0	$83,656	$0	$485,538	$515,925	$0	$262,157	$349,721	$4,930,629	**$13,174,758**
Dallas, TX	Food Service	4,242,400	903	$0	$362,096	$97,835	$166,094	$5,135,732	$0	$0	$3,003,968	$7,933,288	**$28,871,845**
Dallas, TX	Inpatient Healthcare	11,226,800	42	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Dallas, TX	Laboratory	1,452,300	34	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Dallas, TX	Lodging	30,103,300	241	$0	$348,301	$2,625,627	$0	$14,132,796	$0	$0	$10,121,080	$50,812,575	**$115,971,382**
Dallas, TX	Multifamily	297,305,400	2,327	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Dallas, TX	Nonrefrigerated Warehouse	158,440,700	3,565	$0	$5,338,029	$2,870,859	$0	$0	$1,741,953	$0	$14,866,943	$169,575,153	**$314,847,761**
Dallas, TX	Nursing	8,139,100	63	$2,990,390	$0	$2,470,837	$9,280,262	$4,174,114	$125,861	$8,615,714	$1,865,768	$15,220,117	**$26,366,147**
Dallas, TX	Office	133,364,500	2,211	$6,966,053	$1,357,286	$24,211,696	$11,057,732	$43,000,028	$6,781,830	$7,889,394	$3,340,075	$249,391,615	**$519,942,030**
Dallas, TX	Other	77,688,800	2,393	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Dallas, TX	Outpatient Healthcare	11,008,100	358	$0	$20,907	$676,518	$0	$0	$795,923	$0	$1,710,800	$20,585,147	**$45,026,296**
Dallas, TX	Public Assembly	6,183,200	88	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Dallas, TX	Public Order and Safety	968,700	14	$0	$0	$0	$0	$0	$0	$0	$0	$0	**$0**
Dallas, TX	Refrigerated Warehouse	1,459,900	18	$0	$0	$231,046	$438,137	$180,057	$0	$479,926	$171,049	$2,598,739	**$3,846,429**
Dallas, TX	Religious Worship	3,909,100	196	$0	$34,217	$68,926	$0	$284	$0	$0	$456,218	$2,244	**$381,449**
Dallas, TX	Retail	69,665,700	4,217	$1,105,702	$3,207,815	$2,682,036	$2,857,817	$17,450,797	$15,284	$1,865,094	$12,765,944	$130,274,859	**$312,837,346**
Dallas, TX	Service	5,979,900	924	$0	$208,601	$69,718	$4,124,410	$376,873	$4,205	$1,033,574	$1,035,718	$11,182,413	**$26,792,119**
Dallas, TX	**All Buildings**	**433,681,800**	**13,060**	**$11,062,145**	**$10,960,908**	**$36,598,023**	**$28,432,071**	**$84,989,733**	**$9,467,177**	**$20,145,858**	**$50,675,688**	**$669,745,175**	**$1,410,918,701**

TEXAS PACE AUTHORITY

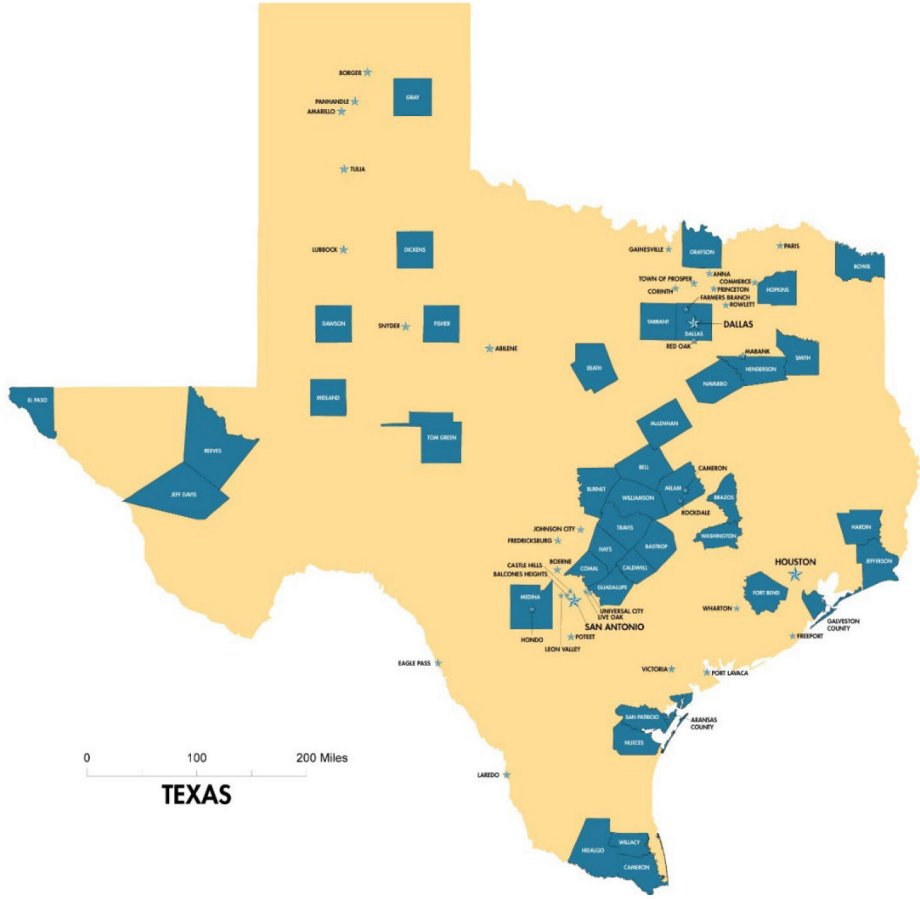
PACE PROJECT OPPORTUNITY
Local Texas PACE Programs

SIR ≥ 1

186,971 Buildings
4,393,408,500 Floor Area

Projects = $15,403,559,013

Savings = $23,560,507,355



Pacific Northwest NATIONAL LABORATORY

TEXAS PACE AUTHORITY

TX-PACE PROJECT DIVERSITY

- Urban and rural
- Office, mixed-use, non-profit, hospitality, multi-family, parking garage, retail, manufacturing
- Energy efficiency, water conservation, distributed generation & demand reduction/resiliency projects
- Project sizes: $68,000 - $40,000,000
- All received 100% financing

CONGREGATION BETH ISRAEL

Austin / Travis County

Measures:

- HVAC
- BAS controls
- Window film

Utility Incentives:
$11,000

Assessment Total:
$452,105

Utility Savings:
20%Annually

1225 NORTH LOOP WEST

Houston

Measures:

- HVAC
- BAS
- LED lighting

Utility Incentives:
$30,000

Assessment Total:
$1,304,352

Utility Savings:
38% Annually

ELGIN GENERAL STORE

Elgin / Bastrop County

Measures:

- Solar PV

Incentives:

USDA: $31,000
Utility: $38,000 (Oncor)

Assessment Total:

$120,000

Utility Savings:

26% Annually

TEXAS PACE AUTHORITY

PACE is a WIN-WIN-WIN (WIN-WIN)

- ✓ **Property Owners** – lower utility bills, energy independence, energy efficiency, property value increase
- ✓ **Contractors** – source of increase in business, more local hiring, best practices, keeping up with technology advancements
- ✓ **Lenders** – new loans, steady & stable process, fully collateralized, Tax Assessment lien position, improved asset value
- ✓ **State of Texas** – reduced peak demand, enhanced grid reliability, distributed generation as resilient power source, improved air quality, water resource conservation
- ✓ **Communities** – increased economic development and jobs, improved building infrastructure, more appealing building stock and plants

TEXAS PACE AUTHORITY

QUESTIONS?

Dub Taylor, COO

dub@texaspaceauthority.org

TEXAS PACE AUTHORITY

www.texaspaceauthority.org