



TEXAS  PACE
AUTHORITY

2017 Annual Report

TEXAS PACE AUTHORITY

TABLE OF CONTENTS

I. Executive Summary	4
II. Program and Project Growth in 2017	8
Local Governments with PACE in a Box Model Programs	8
Completed Projects in 2017	10
PACE in a Box Updates	11
III. Community Outreach.....	13
Community Engagement	13
Program Website and Database	17
Marketing Plan.....	18
Stakeholder Inquiries.....	21
Technical Standards Manual	21
Helping Property Owners Identify PACE Capital Providers.....	21
Service Provider Training	21
Helping Property Owners Identify PACE Service Providers	22
Quality Assurance and Antifraud Measures	23
IV. Application & Approval Process	24
Technical Standards	24
Financial Standards	24
Legal Standards	25
Fees	25
Application Process.....	26
V. Management and Reporting	28
Annual Notices of Assessment Lien	28
Economic and Environmental Results.....	28
VI. Outcomes	29
Project Closings.....	29
Servant Leadership.....	29
Capital Provider Expansion	30
Mortgagee Consent Success	30
Lessons Learned.....	30
Recognition	30
Remaining Objectives.....	31
Next Steps	31
VII. Texas PACE Authority Leadership.....	32
Board of Directors	32
Texas PACE Authority Team	32
Advisory Committee.....	32
VIII. Conclusion	33

Appendix A34
 Outreach Presentations and Conferences – Statewide34
 Local Engagement - Presentations35
 Local Engagement - Outreach Meetings37
Appendix B41
 Flyers41
 Case Studies41

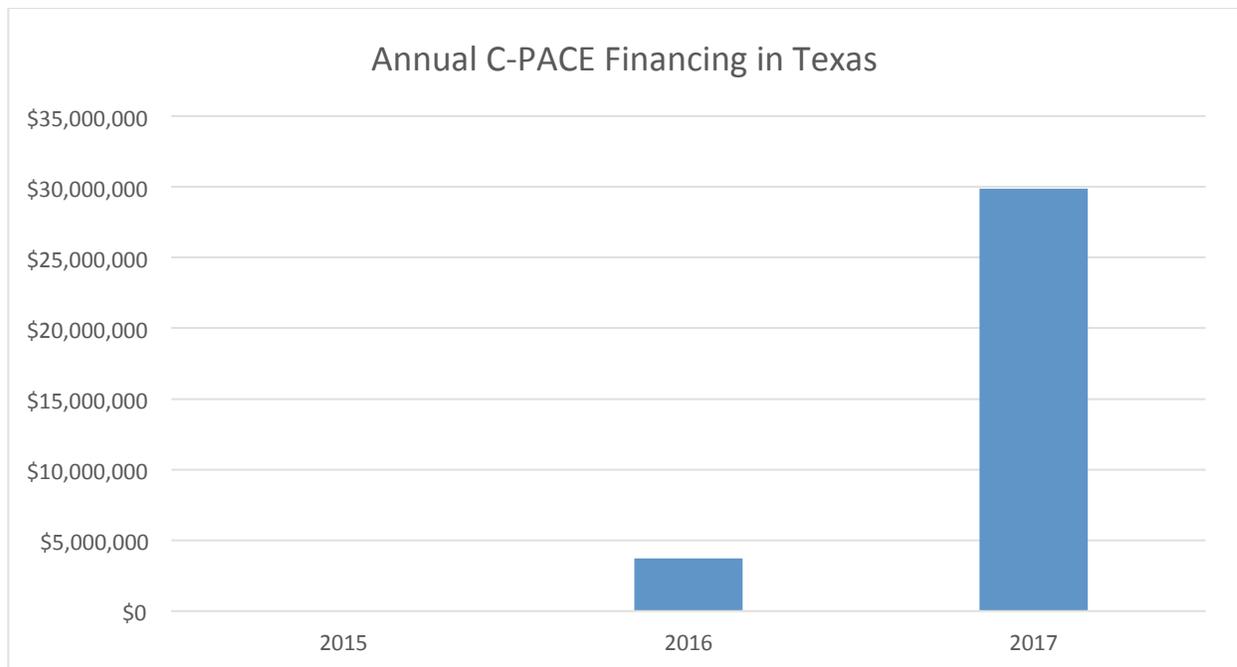


I. EXECUTIVE SUMMARY

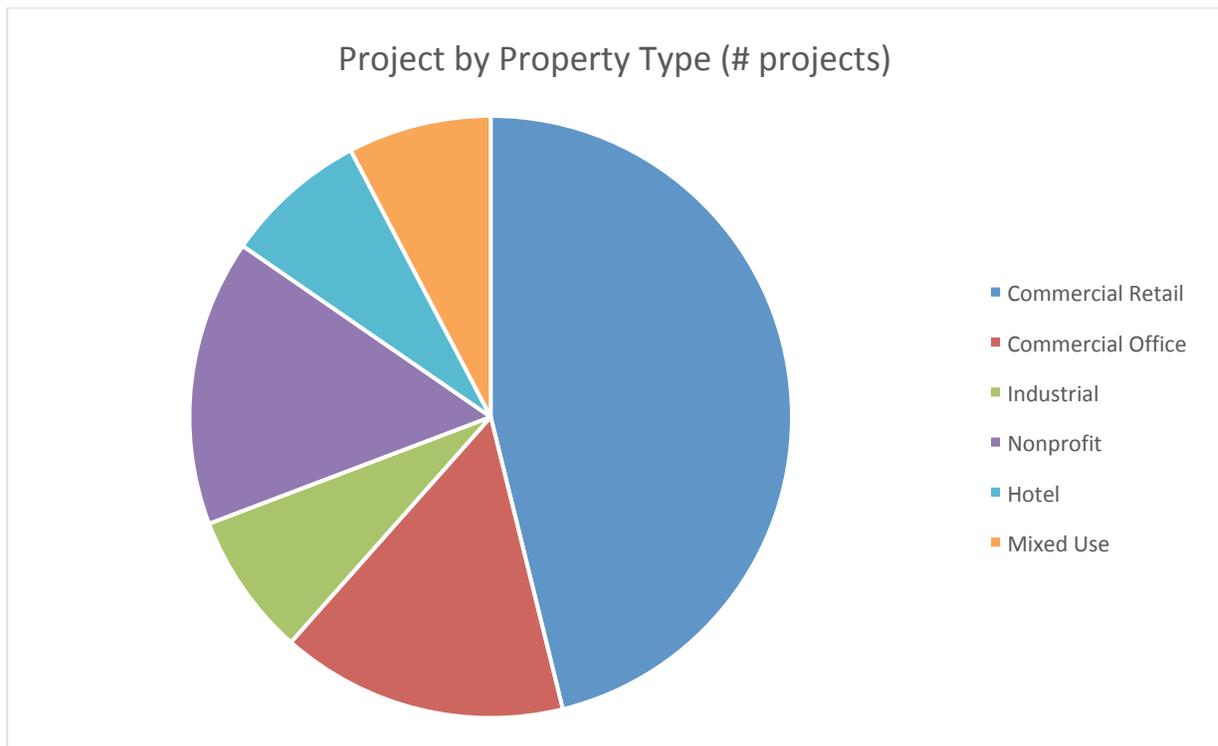
This annual report describes the program administration activities for the 2017 commercial and industrial Property Assessed Clean Energy (TX-PACE) programs in Texas. Texas PACE Authority (TPA) submits this report to describe the current state of the commercial and industrial (C&I) PACE market in Texas and to document its performance of the requirements described in its professional services agreements.

Texas PACE Authority continues to build a growing PACE network among capital providers, engineers, architects, contractors, property owners and managers, local lenders, and other stakeholders. As anticipated, the start-up of TX-PACE programs using the uniform, user-friendly, sustainable, and scalable PACE in a Box model requires herculean outreach, education, and patience. The investment in this model created for Texans by Texans is beginning to show economic and environmental benefits for the communities establishing the program.

In 2017, a total of 7 PACE projects were completed for a total investment in Texas of just under \$30 million – a 700% increase over the previous year.



Projects completed in 2017 included Texas' first industrial project (Corsicana, Navarro County), the first mixed-use project (City of Dallas), the first office building project (City of Houston), and the first hotel project (City of Houston). Project sizes ranged from \$135,000 to \$24 million.



The first TX-PACE program established by Travis County in March 2015 is now joined by 12 other counties and four municipalities. Combined, these uniform programs reach 42% of the Texas population. Each selected Texas PACE Authority, a nonprofit, to administer the TX-PACE programs as a public service. The local governments that chose to establish the public service-oriented TX-PACE program with best practices to achieve the maximum amount of economic and environmental benefit for their communities are:

Brazos, Cameron, El Paso, Fort Bend, Hays, Hidalgo, Jefferson, Navarro, Nueces, Tarrant, Travis, Willacy and Williamson counties; and
The cities of Amarillo, Dallas, Farmers Branch, and Houston.

The commitment of these local governments to the fundamental principles of the PACE in a Box model are enabling the program to thrive. These Texas jurisdictions' patience and appreciation for the multi-year effort necessary to build a comprehensive, transparent public service model program provide the time necessary to achieve the goals of the program. This foundation enables TPA to serve large and small property owners with best practices, and to allow for the development of the high-volume, low cost

business model that will bring about economic and environmental results for these communities. There is no short cut to these desired outcomes.

Thus, it is with great appreciation for the trust and commitment of these local governments that enabled the significant success in the laying of the foundation for the TX-PACE programs in 2017.

Education and training was a main focus for 2017. Education and training took a multifaceted effort. Contractors learned a new way to serve customers, providing a financial solution in an industry that is often accustomed to quick-turn, cash projects. Capital providers had to learn new processes, requirements, and paperwork; and ultimately, property owners had to learn the opportunity was available. This education and training focus built a framework that is evident in the completed projects of 2017 with varying sizes and markets. The project pipelines in existing programs indicate an increase in PACE projects and evidence that the foundation has been established.

2017 was a year marked by hard work in continued foundation building and program growth. This



investment will pay significant dividends in the PACE regions throughout the state in 2018 as property owners continue to learn about and take advantage of the program and as the program continues to spread in a uniform manner. The value and success of the PACE in a Box program goals were evidenced in 2017:

- **Uniform:** All local governments establishing TX-PACE programs used the PACE in a Box model and selected Texas PACE Authority to administer these programs. The result has benefited property owners in these areas. For example, Simon Property Group completed 5 PACE projects on malls in Austin, Cedar Park, Houston, Round Rock, and San Marcos using uniform documents with one lender. They plan to close an additional two mall projects in 2018.

In contrast, California and Florida have multiple administrators operating in the same jurisdictions with differing programs, processes, and documents. PACE in a Box was intentionally designed to avoid this Byzantine system with limited competition. Uniformity will in turn promote investor confidence in project performance and returns, ultimately enabling local banks to become PACE capital providers and unlocking true scalability with PACE financing. Since the creation of the PACE in a Box model, every state across the country establishing a commercial PACE program has fostered the single-administrator model in order to realize the benefits of program uniformity. This would not be possible without the long-term commitment of Texas local governments to the building of the PACE in a Box infrastructure.

- **User-friendly:** The ability to work with uniform documents and one process reduces project transaction costs and administrative overhead. A singular user-friendly program is a significant advantage to local governments and all participants. The program is designed to foster economic and environmental benefits with best practices, consumer protection, minimal impact to local government, and complete transparency. Texas PACE Authority provides uncompromised oversight and does not compete with or in the marketplace it is designed to oversee. Instead, TPA serves the local government, provides education, outreach, and training and is committed to ensuring that TX-

PACE is available to all local businesses and organizations regardless of size. This model enables TPA to focus on underserved communities, affordable housing, border communities and other important sectors. The PACE in a Box model was designed to avoid the conflict of interest evidenced in early adaptor programs where the government-selected, vertically integrated administrator-lenders cherry-pick the most exclusive projects, charge many hidden fees, have different documents and processes, and play favorites among lenders and other competitors in the marketplace.

Texas PACE Authority has among the lowest administrative rates in the nation and does not charge additional undisclosed, non-administration fees. TPA's fiscal sustainability plan is based on high uniform project volume at low cost and has committed to lower its rates once the program is self-sufficient based on volume. Other states allow administrator-lenders to charge many additional types of fees besides administrative fees for services regardless of whether the property owners require those services or prefer to obtain those services in the marketplace. Some administrator-lenders require the property owners to use their capital provider(s) or pay even more fees to use their own capital providers in order to participate in that program.

- **Sustainable:** TPA provides only those services required of the local government so that the property owner has the ability to control the project and participating parties, and to negotiate the best possible PACE project. This enables the PACE in a Box program administration to reflect a small government role with best practices while affording the highest amount of free market flexibility for the property owners.
- **Scalable:** The ability of the Texas PACE Authority to use one overhead to serve 17 local governments significantly reduces costs by avoiding unnecessary duplication of services. This scalability enables TPA to control costs and to eventually lower fees. The use of uniform process and documents furthers TPA's efficiency and effectiveness throughout the state. TPA offers training programs throughout the state on a regular basis. Once contractors, capital providers, architects, property managers and other stakeholders understand their local program, their knowledge base can be applied to all other TX-PACE programs. Texas state-wide uniformity has significant value for businesses and other organizations with property and service providers with customers throughout the state of Texas and for all other Texas PACE stakeholders.

The collaborative effort to develop the PACE in a Box model throughout Texas enjoys generous additional support. Administrative support to TPA during this time of program development was provided by the Meadows Foundation in the form of a \$95,000 grant. The Rockefeller Brothers Fund granted TPA \$50,000 and the Environmental Defense Fund issued a grant of \$50,000 to TPA to develop the PACE in a Box model program in service to Texas and as an example to other states. The State Energy Conservation Office (SECO) and the Meadows Foundation provided additional funding to other nonprofit organizations to provide TX-PACE education and outreach to local governments. The Mitchell Foundation provided a \$50,000 grant to the Houston Advanced Research Center (HARC) to establish a tool for recording the environmental benefits of TX-PACE projects. This financial support enabled the significant TX-PACE work in 2017 without requiring expenditures from the local governments establishing TX-PACE programs and demonstrates significant support for and investment in the TX-PACE model program.



II. PROGRAM AND PROJECT GROWTH IN 2017

Local Governments with PACE in a Box Model Programs

Thirteen Counties and four municipalities have established PACE in a Box model programs. Combined, these uniform programs reach 42% of the Texas population.

The following jurisdictions have adopted the PACE in a Box model program:



Amarillo, City of, September 5, 2017
Brazos County, October 18, 2016
Cameron County, January 12, 2016*
Dallas, City of, May 11, 2016
El Paso County, August 29, 2016
Farmers Branch, City of, December 12, 2017
Fort Bend County, September 6, 2016
Hays County, January 17, 2017
Hidalgo County, November 22, 2016*
Houston, City of, November 4, 2015
Jefferson County, March 20, 2017
Navarro County, August 14, 2017
Nueces County, December 14, 2016
Tarrant County, November 21, 2017
Travis County, March 24, 2015
Willacy County, January 14, 2016*
Williamson County, April 5, 2016

*The Lower Rio Grande Valley Development Council (LRGVDC) has an interlocal agreement with the three counties in the regional council of government to participate in a single PACE program administered for the LRGVDC by Texas PACE Authority.



Service Areas



To help additional local governments establish PACE programs, the Houston Advanced Research Center (HARC) was funded by SECO to develop a guidance document providing local governments with in-depth information on creating a TX-PACE program. This document, *How to Create a TX-PACE Region: A Guide for Local Government*, identifies barriers and recommendations to overcoming obstacles, as well as outlining regional program creation best practices; <https://comptroller.texas.gov/programs/seco/funding/pace.php>. Two companion webinars, *TX-PACE: An overview for local government officials*; <https://vimeo.com/250351065/868cdc5e25> and *How to establish a TX-PACE Program*; <https://vimeo.com/250351396/25d7ccd6e2> are available for on-demand viewing.

Completed Projects in 2017



In 2017, a total of 7 PACE projects were completed for a total investment in Texas of just under \$30 million – a 700% increase over projects completed in 2016. Completed projects included Texas’ first industrial project (Corsicana), the first mixed-use project (Dallas), the first hotel project (Houston) and the first office building project (Houston). Project sizes ranged from \$135,000 to \$24 million, demonstrating that the PACE in a Box model can support projects of all sizes.

PACE financing was provided for the following projects in 2017:

January 2017 – Brazos County

First small business PACE project, \$130,000 (HVAC, LED Lighting, Cool Roof, Controls, Solar PV)

June 2017 – Houston, City of

Outlet Mall, \$2.185 million (LED Lighting with Controls, Smart Glass, Awnings, HVAC, Water Feature Renovation, Water Faucets, Water Conserving Irrigation Technologies)

June 2017 – Hays County

Outlet Mall, \$1.88 million (Exterior LED Lighting, HVAC, Water faucet, Water Conserving Irrigation technologies)

July 2017 – Dallas, City Of

First Historic building, mixed-use, \$24 million (HVAC, Lighting, Insulation, Roofing, Glazing, Envelope, Wall Insulation, Plumbing Fixtures, Irrigation Systems)

August 2017 – Navarro County

First Industrial facility, \$324,000 (HVAC, LED Lighting)

November 2017 – Houston, City of

First Office Building, \$1.3 million (HVAC, LED Lighting, Controls)

December 2017 – Houston, City of

First hotel, \$135,000 (Solar PV)

Hurricane Harvey unexpectedly impacted several pending PACE projects in the Houston and Corpus Christi areas. TPA was set to close a solar project in Houston the week after the Hurricane hit. However, in the aftermath of the storm, the owner decided to delay.

A broad spectrum of project measures is reflected in these projects:

Energy Efficiency:

Interior and Exterior LED lighting, HVAC, Cool Roof, Controls, Smart Glass, Awnings, Insulation, and glazing;

Water Efficiency:

Water feature renovation, faucets, water conserving irrigation technologies, plumbing fixtures

Distributed Generation:

Solar PV

On average, the PACE projects completed have reduced energy use and operating costs for targeted Energy Conservation Measures (ECMs) by 20% - 30%.

PACE in a Box Updates

One of the benefits of a large collaborative process of stakeholders is the ability to receive feedback and guidance on best practices. The ability to access the working groups that established PACE in a Box provides access to expertise and guidance throughout the process of establishing and improving the application of the PACE in a Box model taking into account experience and information gained in the development and completion of PACE projects using the PACE in a Box model. Beginning June 2017, the chairs of the PACE in a Box working groups held conference calls to receive feedback on the PACE in a Box programs in Texas. We wanted to hear from stakeholders about what's working, what needs improvement, and what additional information would be valuable. There was outstanding participation in the conference calls.

Information shared in those calls was used by the chairs, the working groups, and the team of outstanding volunteer lawyers to research and develop additional guidance that was first approved by the working groups and then sent to the call participants for their feedback.

The guidance can be found in the [Keeping PACE in Texas Document Library](#).

December 31, 2017: Further Guidance regarding PACE in a Box from the Underwriting, Technical, and Financial Platform Working Groups and the Education, Training, and Marketing Working Group:

- Guidance Regarding PACE in a Box Section 6, Guide to PACE Project Underwriting and Technical Standards:
 - Further Underwriting Working Group guidance regarding the Scope of the Statutory Prohibition of the use of PACE Assessments for Undeveloped Lots and Lots Undergoing Development
 - Further Technical Standards Working Group Guidance for Measuring Savings for New Construction on Developed Lots
 - Further Underwriting Working Group Guidance Regarding the Savings To Investment Ratio Calculation
 - Further Underwriting Working Group Guidance regarding the PACE in a Box "Look Back" Policy

- Guidance from the Financial Platform Working Group and the Education, Training, and Marketing Group regarding Lender Education and Outreach

March 23, 2017 Additional Guidance from the Underwriting Working Group regarding PACE in a Box section 6, Guide to Underwriting and Technical Standards regarding the interpretation of the loan to assessed value ratio.

This guidance would not be possible without the large stakeholder group and the continued commitment of so many volunteers to the PACE in a Box model program.



III.COMMUNITY OUTREACH

Community Engagement

Texas PACE Authority continues to be committed to community outreach. In 2017 the following engagement was completed for the communities we serve:

- 30 statewide outreach presentations and conferences
- 49 local engagement presentations
- 98 local engagement outreach meetings
- 4 webinars
- Numerous individual company and project specific meetings that are not included for respect of privacy
-

Outlined in Appendix A is a more detailed list of the outreach events completed by geography.

Training Workshops

- Dallas: Oak Cliff Chamber PACE Service Provider Training Workshop – 1/11/17
- Weslaco: PACE Service Provider Training Workshop – 2/24/17
- San Marcos: PACE Service Provider Training Workshop – 3/7/17
- Katy: PACE Service Provider Training Workshop – 3/15/17
- Corpus Christi: PACE Service Provider Training Workshop – 4/18/17
- Dallas: Service Provider Training Workshop, 5/19/17
- Austin: SEIA Solar Power in Texas Conference, Training Workshop – 6/12/17
- Dallas: Service Provider Training Workshop, 9/7/17
- El Paso: PACE Service Provider Training Workshop – 10/17/17
- Plano: Texas A&M Energy Systems Lab, Clean Air Through Energy Efficiency Conference (CATEE), PACE Training Workshop – 11/13/17

PACE Webinars

TPA leadership presented in the following webinars in 2017:

- DOE Webinar for Lower Rio Grande Valley Development Council, 1/12/17
- TPA PACE Technical Standards Webinar – 5/24/17
- Water conservation Webinar – 6/7/17
- National Association of State Energy Officials – 12/21/17



Servant Leadership

Affordable Housing

Given the growth of population in Texas, maintaining the existing stock of multifamily affordable housing is critical. Aging structures and increasing utility costs threaten both the quality and affordability of these properties. PACE can improve both challenges, and TPA is committed to making PACE a genuinely useful tool in multifamily housing and to navigating the unique challenges in the affordable multifamily sector.

TPA engaged in a study of using PACE for affordable housing that resulted in a white paper, <http://www.texaspaceauthority.org/Documents/PACE-for-Affordable-Housing.pdf?dl=0> and a webinar, <https://www.youtube.com/watch?v=j4i7DIYul4I&t=30s>.

On January 17, 2017, the US Department of Housing and Urban Development (HUD) issued guidelines for obtaining HUD and Federal Housing Authority (FHA) consent for multifamily properties wishing to utilize PACE financing. TPA is preparing documentation to qualify the Texas “PACE in a Box” program to apply for a ruling that the program requirements for consent from HUD and the FHA have been satisfied.

Post-Hurricane Harvey Recovery and Resiliency Efforts

Four local governments with established PACE programs were negatively affected by Hurricane Harvey: Fort Bend County, the City of Houston, Jefferson County, and Nueces County. As many owners searched for financial solutions to fix properties damaged by Hurricane Harvey, TPA worked with local governments to help communicate Texas PACE as an effective recovery and resiliency tool. TPA posted information on each of the affected region webpages; reached out to public and private sector members of each community to learn how we might best engage and share information about the program including providing information to be posted to various websites, presenting to local government officials, chambers, and economic development groups.

TPA’s collaborative approach to TX-PACE also resulted in extended outreach through new joint efforts after Hurricane Harvey. TPA participated in the Corpus Christi Regional Economic Recovery Forum in October and has connected with the Texas A&M AgriLife Extension Service, which is leading to additional opportunities to serve the agriculture sector in areas damaged by the hurricane.

PACE can be used for storm damage replacement and to upgrade lighting, roofing, insulation, windows, heating and cooling systems. It can be used for solar panels and other technologies to produce your own energy on-site. It can also be used to install water saving measures such as irrigation, rainwater collection systems and greywater collection technology. Many of these upgrades not only save energy or water, but can also make not only the property, but also the community, more resilient and disaster-proof. A [flyer](#) providing information on the use of the PACE program as a recovery and resiliency tool was prepared and posted on local government websites.

Industrial Sector Outreach

[Targeted outreach to educate the industrial community](#) about the PACE program is an emphasis for Texas PACE Authority. Through the [Industrial Ambassador Network](#), subject matter experts have collaborated with TPA to develop tools and resources targeted to the specific needs of this vertical market. TPA will work with HARC to develop additional tools in 2018.

TPA also received a grant from the University of Texas, Texas Industries of the Future, to develop two case studies ([South Texas Cold Storage](#) and [R.J. Liebe Athletic Lettering Company](#)) showing how the program works in the industrial market. These materials are posted on the homepage of [Texas Industries of the Future](#).

TPA is working with other SECO grantees to collaborate on outreach and education regarding energy and water efficiency to the industrial sector. TPA made a presentation to these grantees regarding PACE funding at a meeting hosted by Texas Industries of the Future in September 2017 and to the Texas A&M University Industrial Assessment Center participants in College Station in November 2017.

Meeting the needs of underserved communities

Meeting the needs of underserved communities is part of TPA's core objective. TX-PACE can help owners within these communities access private, affordable financing to make updating property and lowering operating expenses a reality. As indicated above, TX-PACE can also be used to upgrade multifamily housing. Projects providing energy and water savings for landlords and tenants help address the shortage of affordable housing across many parts of the state. TX-PACE enables property owners to make much needed building upgrades while keeping lease rates and utility costs reasonable. These updated structures can become catalysts for thoughtful investment within the community.

Outreach, training, and education are essential to creating and sustaining community partnerships. Through collaboration with community development partners, Texas PACE Authority is providing leadership, data, support, tools, and resources along with program orientation and service provider trainings to property owners, managers, industry organizations and the industry professionals who update the buildings (contractors, architects, engineers, etc.) in the regions it serves. Service provider training workshops will continue to build capacity and foster economic growth as the TX-PACE program retrofits create additional demand for local jobs that will not need to be outsourced.

PACE Along the Border

TPA administers PACE programs on each end of the Texas-Mexican border: El Paso County to the west and Cameron, Hidalgo, and Willacy Counties on the eastern end of the border. Outreach efforts in 2017 included presentations in Del Rio and Laredo. TPA also met with the Border Environmental Cooperation Commission in April 2017 and presented at a PACE on the Border panel at the TCEQ Environmental Trade Fair and Conference in May 2017. Several PACE lenders are working with the North American Development Bank to access funding for PACE projects within 62 miles of the Texas-Mexico border.

Agricultural Sector

The gulf coast agricultural sector was severely damaged by Hurricane Harvey and subsequent flooding. TPA reached out to these sectors and will continue to build ties and connections leading to presentations and collaborative efforts in the coming years to farmers, ranchers, and food processors throughout the state. TPA will focus on tools that will reduce costs and result in water and energy efficiency for this critical economic sector in Texas in collaboration with the Texas A&M AgriLife Extension and the USDA.

National Impact

The PACE in a Box model is being copied in other states, and TPA is increasingly asked to participate in efforts to improve and standardize commercial and industrial PACE best practices. TPA leadership participated in PACENation Summit panels in February 2017 regarding the PACE in a Box model programs in Texas: “Local Legislation and Ordinances” and “PACE Administration Models.”

TPA provided information on the TX-PACE program to the US Secretary of Energy’s office and to the policy staff of the American Legislative Exchange Council. TPA provided interviews and comments to two studies in development:

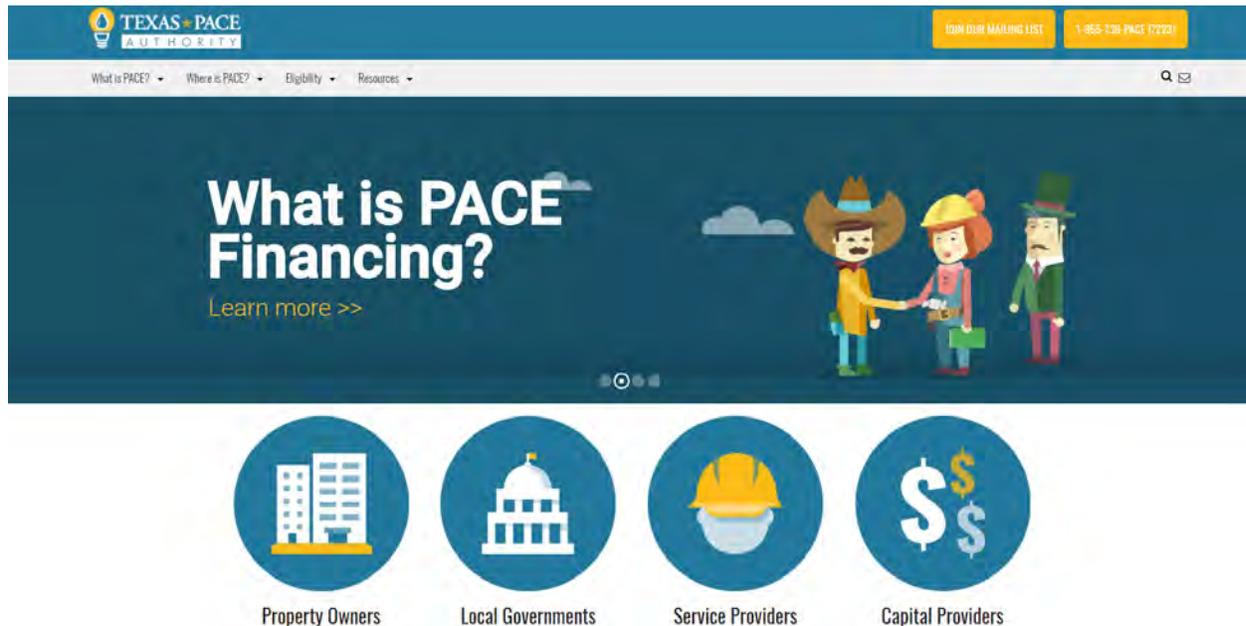
- A report being written for local governments called *Lessons in Commercial Leadership: The Path from Legislation to Launch*, by the Energy Analysis and Environmental Impact Division Laurence Berkley National Laboratory under a grant from the Department of Energy; and
- A report for local governments establishing commercial PACE programs in Maryland, Virginia, and the District of Columbia being prepared by the Mid-Atlantic PACE Alliance under a grant from the Department of Energy.

In addition, TPA was asked to present the TX-PACE program at the Young Conservatives for Energy Reform and Christian Coalition’s Energy Summit, Washington, DC in October 2017 and as the keynote presentation at the Mid-Atlantic PACE Alliance First Annual Summit, in Washington, DC in October. TPA also presented the TX-PACE program in a webinar for National Association of State Energy Officials in December 2017.

International Impact

TPA presented the TX-PACE program at a Data Center Impact conference in Costa Rica in August 2017.

Program Website and Database



TPA continues to develop a more user-friendly and organized website by improving the appearance, effectiveness, and streamlining the availability of stakeholder resources and the application process. Texas Pace Authority's website hosts hundreds of unique visitors each month. (<http://www.texaspaceauthority.org/>).

The website includes a local program page for each county and municipality highlighting the benefits of PACE projects to that community: <https://www.texaspaceauthority.org/service-areas>. In programs with completed projects, the website displays the cumulative number of projects completed, total local PACE investment, jobs created (using DoE formula), tonnes of Co2 reduced annually, kilowatts of energy saved annually, and gallons of water saved annually. This example is from the Travis County PACE page on the TPA website:



TPA is establishing content and will be reaching out to each local government to make these pages and corresponding pages on the local government's website more informative and helpful.

Eligibility Assessment Tool

An eligibility assessment tool on the TPA website allows prospective stakeholders to quickly vet project eligibility. Using this tool, the contractor or owner answers a series of basic questions about the property, project, and owner, and receives instant feedback on whether the project is likely to be eligible for PACE financing.

<http://www.texaspaceauthority.org/eligibility/eligibility-check/>

Calculator

Texas Pace Authority has developed a PACE project pro formula model to quickly demonstrate the benefits of a PACE loan to property owners by comparing the impact of benefits of PACE financing with self-funding and traditional loan financing. This model allows a user to take project inputs (namely, cost and savings assumptions) and prepare a consolidated financial report for presentation to the property owner. One must be able to accurately produce such a report in order to properly evaluate a project. In addition, this tool helps contractors and project developers present projects using metrics that property owners want to see. It is also used to demonstrate the benefits of PACE financing to a mortgage holder.

<http://calculator.texaspaceauthority.org/>

Project Inputs	
Project Cost	\$1100000
Annual Savings	\$125000
Cap Rate (Discount Rate)	5%
PACE Loans Inputs	
Term (years)	20
PACE Interest Rate	6.5%
Conventional Loan Inputs	
Loan Term (years)	5
Loan Interest Rate	4%
Down Payment	20%
Self-Funded Inputs	
Include Opportunity Cost?	no <input type="button" value="v"/>
Opportunity Cost	3%

Summary of Results			
	Self-Funded	Conventional Loan	PACE
Out-of-Pocket Investment	(\$1100000)	(\$220000)	\$0
Average Annual Savings	\$125000	\$125000	\$125000
Annual Payment	\$0	(\$247090)	(\$99832)
Cash Flow Impact Year 1	(\$975000)	(\$342090)	\$25168
Net Project Cash Flow Year 2	(\$850000)	(\$464180)	\$50336
Years to Positive Project Cashflow	8.8	11.64	IMMEDIATE
Debt Service Over Finance Term	\$0	(\$1235449)	(\$1996641)
10-Year Project NPV	(\$134783)	(\$324553)	\$194340
20-Year NPV	\$457776	\$268007	\$313648

Marketing Plan

TPA informs and engages the market about the PACE program based on the marketing strategies outlined in Section 5 of [PACE in a Box](#). Texas PACE Authority has a promotional video:

<https://www.youtube.com/watch?v=1zybcEAwYoQ&t=5s>.



<https://www.youtube.com/watch?v=5gnN72buvw4>

Logo:



Building Infrastructure

TPA continues to build community awareness of the TX-PACE program and establish a complete local TX-PACE community – one that includes all the necessary participants to provide property owners with competitive choices for each of the services necessary to successfully establish a successful PACE project. This ongoing effort to build infrastructure is a necessary first and ongoing step in the education, outreach, and marketing effort to establish a vibrant PACE community and a positive, efficient, user-friendly experience for property owners interested in the PACE program.

TPA continues the ongoing outreach and education to the stakeholders necessary to serve property owners interested in utilizing the Texas PACE program. Capital providers, mortgagees, project originators and others working to provide the necessary capital for TX-PACE improvements need to be familiar with and understand the program in order to serve the property owners and prospective property owners interested in utilizing TX-PACE. Contractors, architects, engineers, manufacturers of energy and water saving equipment and their service organizations need to know about the program and understand the underwriting and technical requirements, so they can advise property owners on how to put together a successful PACE project in an efficient manner.

Flyers

Texas PACE Authority produced six general flyers:

- Commercial: <https://www.texaspaceauthority.org/wp-content/uploads/Commercial-Flyer.pdf>;
- Industrial: <https://www.texaspaceauthority.org/wp-content/uploads/Industrial-Flyer.pdf>;
- Nonprofit: <http://www.texaspaceauthority.org/wp-content/uploads/NonProfit-Flyer-17-03-24.pdf>;
- TX-PACE For Local Governments: <https://www.texaspaceauthority.org/wp-content/uploads/Public-Sector-Flyer-092617.pdf>
- TX-PACE For the Business Community: <https://www.texaspaceauthority.org/wp-content/uploads/Private-Sector-092617.pdf>
- TX-PACE for Recovery/Resiliency: https://www.texaspaceauthority.org/wp-content/uploads/Texas-PACE-Program-Provides-Businesses-another-Tool-for-Disaster-Recovery_final.pdf

Case Studies

Successful projects are superb advertisements for the PACE program. To help distribute information about these successful projects, TPA has created the following case studies that are available on the website's resources page: <https://www.texaspaceauthority.org/resources/case-studies-marketing>:

[R.J. Liebe Athletic Lettering Company, Navarro County](#) (First industrial project)

[Butler Brothers Building, City of Dallas](#) (First mixed-use project, first use of PACE in a capital stack at purchase)

[Congregation Beth Israel, Travis County](#) (First PACE project in Texas, nonprofit), and [video case study](#)

[Family Eldercare, Travis County](#) (First solar project, nonprofit)

[1225 N Loop, Houston](#) (First office building)

Social Media

TPA uses WordPress to effectively connect with target market and online community. Information and content is shared via Twitter, Facebook, and a TPA website blog. TPA is expanding to LinkedIn to engage business professionals who primarily use one form of social media. Measures are in place to increase traffic to website and social media sites.

Constant Contact Email Distribution List and Blasts

More than 4,000 people signed up to receive emails from Texas PACE Authority. In 2017, subscribers received 32 email blasts that included updates about new programs, project closings, TPA's trainings and workshops, as well as industry news and events.

Stakeholder Inquiries

The complexities of PACE for the various stakeholders created a need for an accessible repository of Frequently Asked Questions. The 65 questions listed on the TPA website are broken into categories to apply to property owners, service providers, capital providers, and local governments. <https://www.texaspaceauthority.org/resources/faqs/>.

A toll-free number was established to encourage inquiries: 1-855-738-PACE (7223). In addition, stakeholders are able to submit email inquiries by using the 'Contact Us' webpage link to the TPA Administrator account: admin@texaspaceauthority.org.

Technical Standards Manual

TPA uses a Technical Standards Manual which was designed by one of the PACE in a Box stakeholder working groups, chaired by Dub Taylor, Director of the State of Texas Energy Conservation Office. It relies primarily on the Investor Confidence Project (ICP) Energy Performance Protocols (EPP) for standard and large commercial facilities contributing to the ICP nationwide effort to standardize the technical review of energy efficiency. The manual is a key component of the TPA Program Guide and service provider training. [The Program Guide and Technical Standards Manual](#) have been updated to include additional guidance from the PACE in a Box working groups as it becomes available (March 23 and December 31, 2017).

Helping Property Owners Identify PACE Capital Providers

The following link provides a list of interested and qualified capital providers which can enable property owners to easily identify potential sources of private third-party financing. Texas PACE Authority neither recommends nor endorses any particular PACE capital provider. Under the TPA's open market model, property owners are free to use financing of their choice. Thus, this directory is by no means an exclusive list of available capital providers. It is provided solely for convenience in consolidating a list of PACE capital providers.

<http://www.texaspaceauthority.org/home/capital-provider-list>



Service Provider Training

The Texas PACE Authority's Service Provider Training sessions are designed to inform contractors, capital providers, and other stakeholders about the financial intricacies of PACE and introduce them to a suite of tools, resources, and reports designed to generate owner enthusiasm for a specific project. The traditional contractor focus is on quick payback projects. This is a result of property owner requirements that projects meet a two to three-year simple payback. Energy and water efficiency projects rarely meet this requirement without PACE.

Few, if any contractors have the existing knowledge, experience, and tools to fully integrate the compelling reasons to use PACE financing in a business proposal. To address this problem, TPA regularly conducts service provider training sessions throughout the state. Continued outreach, education, training, tools, and

ongoing support services to both the energy efficiency (EE) and distributed generation (DG), e.g. solar photovoltaic contractor and water efficiency contractor, communities are critical.

Training workshops were conducted in the following Texas PACE Regions in 2017:

- Oak Cliff Chamber PACE Service Provider Training Workshop, Dallas – 1/11/17
- PACE Service Provider Training Workshop, Weslaco – 2/24/17
- PACE Service Provider Training Workshop, San Marcos – 3/7/17
- PACE Service Provider Training Workshop, Katy – 3/15/17
- PACE Service Provider Training Workshop, Corpus Christi – 4/18/17
- PACE Service Provider Training Workshop, Dallas – 5/19/17
- SEIA Solar Power in Texas Conference Service Provider Training, Austin – 6/12/17
- PACE Service Provider Training Workshop, Dallas – 9/7/17
- PACE Service Provider Training Workshop, El Paso – 10/17/17
- Texas A&M Energy Systems Lab, Clean Air Through Energy Efficiency Conference (CATEE), PACE Training Workshop, Plano – 11/13/17

The service provider training sessions run about 4-5 hours and include lunch and a spiral bound PACE Program Guide and Technical Standards Manual. A rotating panel of PACE capital providers participates in the service provider training sessions.

The sessions typically cover in-depth PACE topics, such as:

- Introduction to PACE (“How to Market PACE”)
- Overview of steps in a PACE Project
- Available Energy and Solar Rebates and Commercial Incentives
- Available Water Commercial Rebates
- Technical Standards as part of a PACE Project
- The Role of the Independent Reviewer
- Financial Modeling: PACE Project Report
- PACE Network and Project Development
- Current ICP Protocol and its use in PACE

Helping Property Owners Identify PACE Service Providers

Texas PACE Authority partnered with the US Green Building Council’s (USGBC) Texas Green Building Marketplace (TGBM) to develop a directory of PACE service providers, including contractors, attorneys, engineers, capital providers, and other PACE stakeholders. Participants of TPA’s service provider training workshops are eligible to be listed on the PACE page:

<http://texasgreenbuildingmarketplace.org/listing/guide/pace-related>. The USGBC waives the registration cost for one year, below is a screenshot of the TGBM PACE section. At the time of this report, 98 participants are listed.

The screenshot shows the Texas Green Building Marketplace website. At the top, there is a search bar with fields for 'KEYWORD' and 'WHERE', and a 'SEARCH' button. Below the search bar, there are options for 'MATCH' (Exact Match, Any Word, All Words) and 'SEARCH FOR' (Contractor, Service Provider, Supplier). The navigation menu includes HOME, DIRECTORY, EVENTS & EDUCATION, ALLIED ORGS, MATERIAL EXCHANGE, GREEN JOBS, ABOUT US, and CONTACT US. The main content area displays search results for 'PACE Related' with a grid of categories and their counts: Building Energy Engineers (11), Industrial Ambassador Network (6), PACE Contractors (30), PACE Education (5), PACE Lenders (5), PACE Project Developers (18), PACE Services (16), PACE Third-party Reviewers (ITPR) (7). A 'What is PACE?' section provides a detailed description of the program. On the right, there are buttons for 'USING THE MARKETPLACE' and 'APPLY FOR A LISTING', and a map of the United States with numbered markers (1-6) indicating locations. At the bottom, there is a pagination bar showing 'Found 59 records | Page 1 of 6 Results per page: 10' and a list of letters for navigation.

Quality Assurance and Antifraud Measures

TPA reviews each PACE application for completeness and supporting documents through independent review and verification procedures. TPA uses checklists and a legal review of required documents supplied by the capital provider to ensure that all statutory and PACE in a Box best practices are satisfied. The application and required documents identify and supply the information necessary to ensure that the property owner, the property itself, and the proposed project all satisfy PACE program underwriting and technical standard requirements.

TPA also reviews the report submitted by an independent third-party reviewer (ITPR), who must be a registered professional engineer, before the project can proceed. The report confirms that the energy and water savings baseline and projected savings are in compliance with the Technical Standards Manual. The ITPR performs an initial site visit, and then issues a report and a letter certifying that he or she has no financial interest in the project and is an independent reviewer. After the construction of the project is complete, an ITPR conducts a final site inspection and determines whether the project was properly installed and operating as intended. The reviewer's certification for this 2nd review also includes a statement that the reviewer is qualified and has no financial interest in the project.



IV. APPLICATION & APPROVAL PROCESS

The Texas Pace Authority application form is based on the PACE in a Box model application form. Upon invitation from Texas PACE Authority, property owners can use the website to submit applications. This platform provides a confidential forum for the submission and review of required materials. Texas PACE Authority reviews the forms for completeness and notifies applicants of any missing information. When applications are complete, Texas PACE Authority makes a preliminary determination of eligibility explained in the process below and informs owners whether, subject to verification of all requirements at closing, the information submitted indicates that the proposed project meets all program requirements. TPA then performs closing verification reviews and schedules assessment transaction closings when all requirements are met.

Technical Standards

Texas PACE Authority:

- Requires independent third-party reviewer verification (ITPR), according to the PACE in a Box Technical Standards Manual and the PACE statute;
 - Requires ITPR verification of the property's baseline and expected energy or water savings resulting from a project, according to the PACE in a Box Technical Standards Manual; and
 - Requires ITPR verification that each project was properly completed and is operating as intended;
- Assumes an oversight role over the ITPR on each project. Texas PACE Authority is available to discuss the technical standards that apply and provide insight into how a project should be reviewed. TPA reviews the findings of each ITPR to verify that a project meets technical standards and that the ITPR has no financial or personal connection to the project under review; and
- Performs closing verification reviews and schedules assessment transaction closings when all requirements are met.

Financial Standards

Texas PACE Authority certifies:

- A preliminary determination of eligibility when applications are complete and issues preliminary letters to owners and capital providers indicating whether, subject to verification of all requirements at closing, the information submitted indicates that the proposed project meets program requirements;
- The capital provider has determined, based on appropriate underwriting factors, that the owner has demonstrated the financial ability to repay financial obligations through PACE assessments; and
- The qualification of each approved project for PACE financing to the property owner and capital provider.



Legal Standards

Texas PACE Authority:

- Reviews and finalizes the terms of every owner contract and lender contract prior to execution;
- Ensures the recording of a Notice of Contractual Assessment Lien for each approved project in the Official Public Records of the County;
- Requires the owner to notify the holder of any mortgage lien on the property of the owner's intention to participate in the program and obtain the mortgage lienholder's written consent prior to the imposition of the PACE assessment; and
- Coordinates and participates in assessment transaction closings.

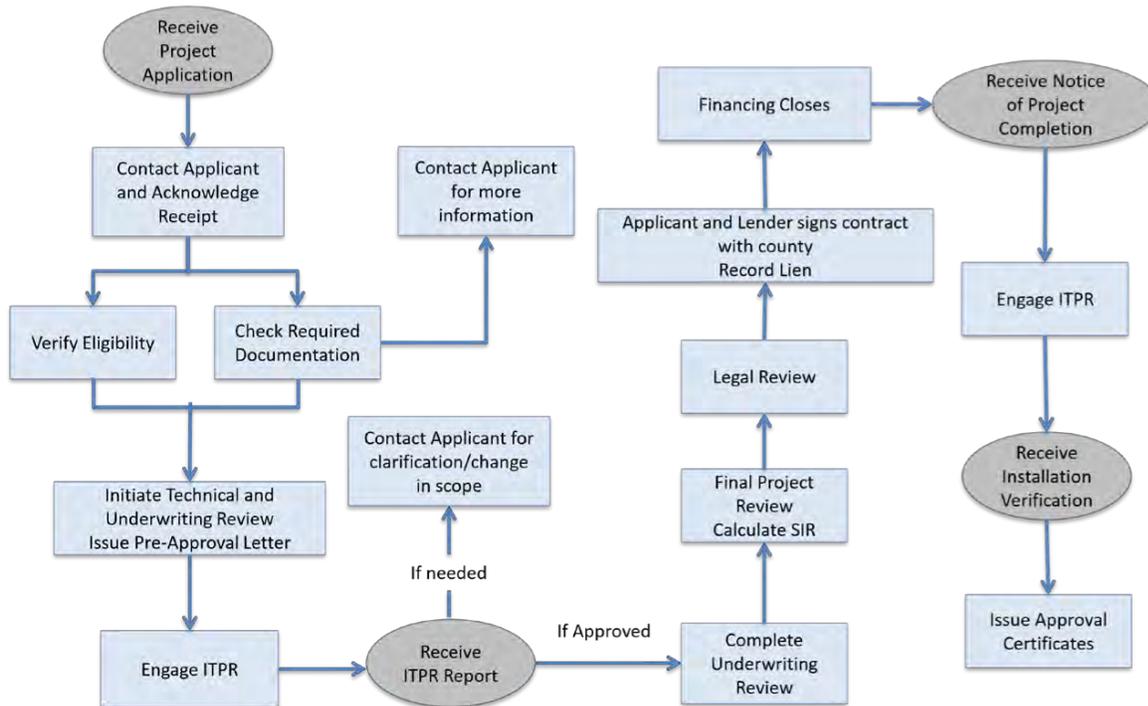
Fees

The goal of TPA is to have a well-funded, quality, and financially healthy organization, while keeping administrative costs to a minimum by operating in an efficient and cost-effective fashion. To that end, initially TPA charges two types of fees as part of administration: an application fee and an ongoing interest rate residual. These fees cover the basic administrative service to complete a PACE project as well as the ongoing reporting program to municipalities that enact a PACE district.

- Application Fee amounting to 1% of total project cost:
 - Initial \$500 to be paid at application
 - Balance to be paid at closing
- Ongoing Residual Fee amounting to 10 basis point interest rate adder paid as part of annual assessment. Note: This fee can be capitalized and paid in full at closing.
- On March 14, 2017, the TPA board of directors voted to limit the 1% application fee in the following manner:

Project Size:	Admin. Fee:
Up to \$5,000,000	1% of loan amount
Above \$5,000,000	1% of first \$5,000,000, then 0.5% of marginal amount above \$5 million
- TPA publicly commits to lower fees when it is self-sufficient without dependence on foundations and with the proper reserves.

Application Process



The above diagram shows the typical flow of a project application. TPA’s review is designed to ensure that all requirements from the PACE statute and the County PACE Report are being met. Broadly, the application review consists of a technical review and a financial/legal review. The following main issues are vetted for compliance with the PACE statute and the TX-PACE program requirements.

TECHNICAL REVIEW

- Project Scope – TPA first reviews the scope of the project to verify the eligibility of all Utility Cost Reduction Measures (UCRMs), and internally evaluates the project’s cost/benefit analysis.
- Savings Analysis – TPA reviews the Savings to Investment Ratio (SIR) and corroborates the Cost/Benefit analysis as submitted by the contractor.
- SIR and Cost vs. Benefit Validation by ITPR – TPA ensures that the cost/benefit analysis has been appropriately vetted by a qualified Independent Third-Party Reviewer (ITPR). The ITPR must submit a signed and sealed “Project Verification Certificate” and a summary table of savings.

LEGAL/FINANCIAL REVIEW

- Required Documents Checklist - TPA confirms that all documents in the TPA required documents list have been submitted. That list can be found in the TPA Program User Guide – [https://www.texaspaceauthority.org/Documents/Program Guide.pdf?dl=0](https://www.texaspaceauthority.org/Documents/Program%20Guide.pdf?dl=0)

- Verify Property Ownership and Assessed Value – TPA verifies the property ownership, improvements, and value listed in the publicly available County Appraisal District database.
- TPA requires proof that the owner is a legal entity able to do business in Texas. Primarily this verification comes from certificates issued by the Texas Secretary of State and the Texas Comptroller.
- Signatory Authority – TPA confirms that the persons signing on behalf of the owner and capital provider have legal authority to do so. This is commonly known as a Certificate of Incumbency.
- Property Title Report – All properties must submit an updated title report, detailing all liens on the property and confirming the ownership structure of the property.
- Lender Consent Form – Any existing mortgage holder is required to submit a written form of consent to the PACE lien.
- No undeveloped lots – As PACE is not statutorily eligible for undeveloped lots or lots undergoing development at the time of the assessment, TPA requires at its discretion a Certificate of Occupancy.
- Confirm Underwriting – TPA confirms that proper financial underwriting has been performed by the capital provider.
- Prepare PACE Contracts – TPA prepares the form PACE contracts to be executed at closing. TPA acts as the closing agent and completes the PACE process by filing a Notice of Contractual Assessment Lien at the County Clerk's Office to be recorded in the County land records.



V. MANAGEMENT AND REPORTING

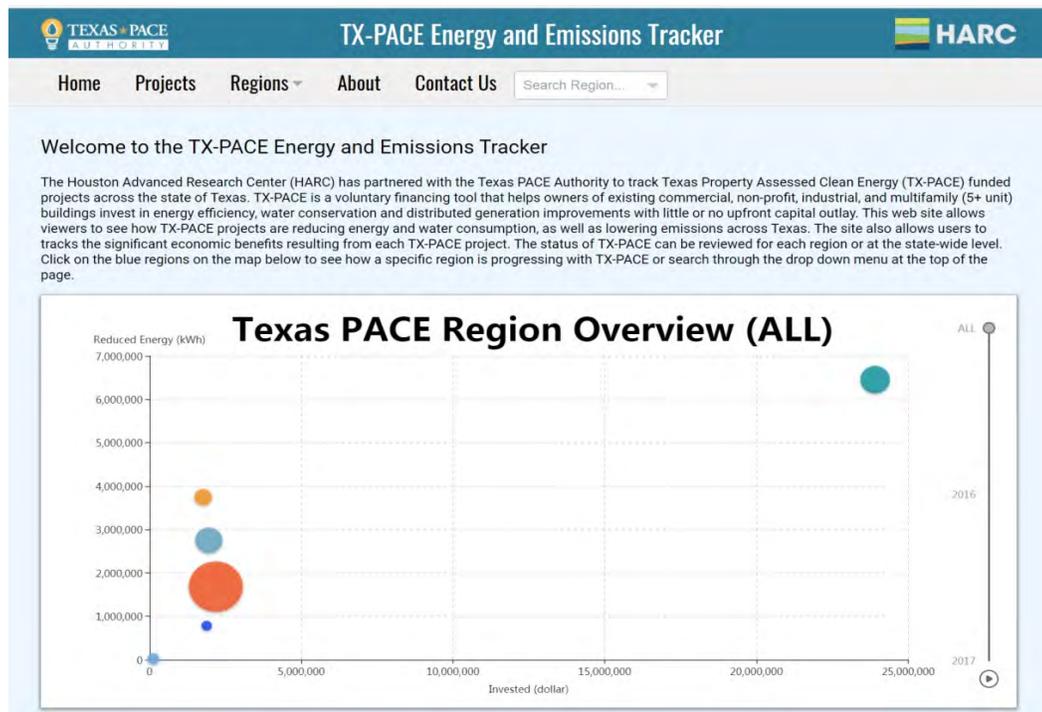
Annual Notices of Assessment Lien

Each participating local government program has established a procedure for the sending of a notice of annual assessment for the coming year to be sent by the appropriate local government authority. TPA prepares and provides these notices to the local government, which sends the notices for properties with PACE assessments according to the Owner Contract and financing documents. This process is being adopted in other PACE regions.

Economic and Environmental Results

Texas PACE Authority has agreed to certain management and reporting standards with local governments and will perform these tasks once PACE projects close in the PACE jurisdiction. Owners will be required to submit annual reports during the life of the assessment. Reports will be filed using EPAs ENERGY STAR® Portfolio Manager Account to make reporting a user-friendly experience for property owners.

The Houston Advanced Research Center (HARC), with a grant from the Mitchell Foundation, is designing the process for collecting the project data from property owners in a user-friendly, uniform manner for input into a statewide database that will enable the data to be available on a county-wide and statewide basis in aggregated manner (not project specific). The tracking website, which will be further expanded in 2018, can be viewed at: <http://pace.harcresearch.org>.





VI. OUTCOMES

Project Closings

Seven TX-PACE projects closed in 2017 for a total investment of just under \$30 million.

1. Brazos County - Small Business Building - \$130,000 - LED, HVAC, Roof, Solar
2. City of Houston - Outlet Mall - \$1.185 million - LED, HVAC, Water Efficiency
3. Hays County - Outlet Mall - \$1.88 million - LED, HVAC, Water Efficiency
4. City of Dallas - Historic Office Building - LED, HVAC, Water Efficiency, Building Envelope, Roof - \$23.9 million
5. Navarro County – Industrial Manufacturing facility – \$324,000 – HVAC, LED, Roof
6. City of Houston – Office Building – \$1.3 million – HVAC, lighting
7. City of Houston – Hotel – \$135,000 – Solar

PACE projects typically take 12+ months for design, savings calculations, third-party review, applications, and financing. Texas PACE Authority is currently in the late stages of several additional PACE projects which are expected to close in the first quarter of 2018.

Hurricane Harvey unexpectedly impacted several of our projects in the Houston and Corpus Christi areas. TPA was even set to close a solar project in Houston the week after the Hurricane hit. However, in the aftermath of the storm, the owner decided to delay.

Servant Leadership

Texas PACE Authority is committed to serve all of Texas businesses and communities while setting a nationwide example for administrative transparency and public service. Reaching out to underserved communities is a fundamental element of Texas PACE Authority's outreach, education, and training effort.

Building the foundation of the Texas PACE in a Box program - providing only the services required of the local government and leaving the competition to those in the marketplace requires commitment and patience. Fortunately, 2017 began proving the model with significant program expansion and record project completion. Although an increased number of projects would please everyone, a race to close projects for its own sake would be short sighted and short-lived resulting in short-shifting consumer protections and retarding the development of a larger competitive field. Texas PACE Authority will continue its education, outreach, and training efforts for projects of all sizes in all communities. Giving the private sector time to design the highest and best use of the TX-PACE program will ultimately result in the greatest use of TX PACE with lower risk than models from early adopter states.



Capital Provider Expansion



Texas PACE Authority neither recommends nor endorses any particular PACE capital provider. Under the TPA's open market model, property owners are free to use financing of their choice. Over the last year, Texas PACE Authority successfully added 6 private capital providers to its network and is working with several additional capital providers who have not yet decided to be listed on the capital provider page, but are actively working with property owners to develop TX-PACE projects. These capital providers represent a wide range of institutions from traditional banks to private equity funds to PACE-specific investment vehicles. All capital providers have certified that they are ready to loan on PACE projects and conduct business in Texas. Together, they represent upwards of \$3B of capital ready to invest. Two capital providers will consider loans for projects as small as \$50,000.

Mortgage Consent Success

The development of a business case is required to gain written mortgagee consent for PACE financing from an existing mortgagee. Mortgage consent has been granted in a significant percentage of closed projects. Mortgagee consent is a common bottleneck to PACE projects because of the nature of a PACE senior lien and the unfamiliarity with the new commercial PACE program in Texas. However, despite initial objections, consent can often be obtained once the advantages have been explained. Education and outreach to mortgage lenders continues to be a priority.

Lessons Learned

A successful commercial PACE marketplace requires an intricate network of educated capital providers, property owners, and contractors. Creating this educated network through outreach and providing successful examples are keys to alleviating property owners' and mortgage lenders' initial apprehensions.

Texas PACE Authority has learned several other valuable lessons.

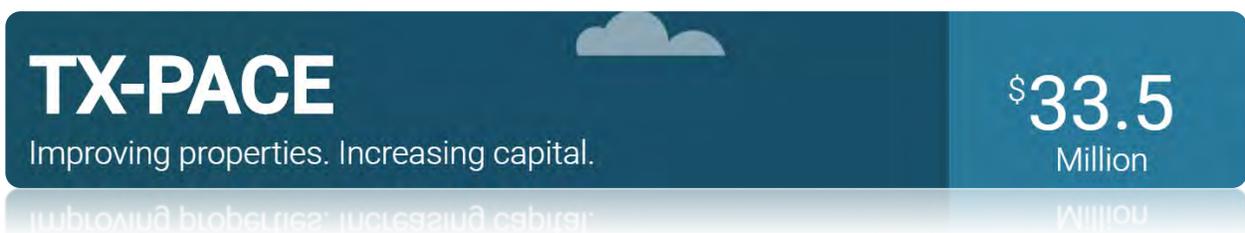
- "If you build it, they will come" is not a viable aphorism for Texas PACE. In other words, a system and infrastructure must be built;
- PACE projects have long sales cycles, so persistence is key;
- Operating an open market program in which the administrator performs as a public servant leaving the property owners, capital providers, and contractors to operate in the free market provides the basis for programmatic trust from stakeholders, including local lenders; and
- Transparency about fees, structure and cost is critical to building trust in PACE as a new financing tool.

Recognition

Texas PACE Authority was named the Outstanding Nonprofit Organization of 2016 at the Texas A&M Energy Systems Laboratory at the 2016 CATEE (Clean Air Through Energy Efficiency) conference.

Remaining Objectives

- To continue education and outreach with property owners, service providers, and local lenders to increase awareness of the TX-PACE program;
- To promote the TX-PACE program throughout the commercial, industrial, and multifamily sectors in rural and urban areas;
- To promote the TX-PACE program to commercial, industrial, and multifamily property owners of all sizes;
- To develop a vibrant TX-PACE network of local banks and capital providers, property owners, and contractors; and
- To continue to support the development and completion of TX-PACE projects.



Next Steps

After working to build a network of trained service provider professionals, the Texas PACE Authority's 2018 outreach efforts will expand to include workshops and networking opportunities for owners, developers, and local lenders. This focus is based on successful events in El Paso County in October and the City of Amarillo in December.

Texas PACE Authority will be hosting a webinar for the local lending community and publishing an article in an upcoming issue of the *Texas Independent Banker*. In addition, TPA staff will be reengaging organizations across the state that received presentations in the last two years before projects began to close. The 2018 meetings provide an opportunity to highlight program successes, drawing examples from the industrial, office building, nonprofit, multi-use historical projects ranging in size from \$24 million to \$125 thousand. With these examples, TPA can fully demonstrate the advantages of PACE financing in the capital stack at purchase of property and the calculated savings of using TX-PACE to renovate existing facilities. As projects close and continue to prove the PACE in a Box model, TPA will redouble its efforts to capture the attention of key stakeholders that have resisted engaging in PACE until program success was demonstrated.

Texas PACE Authority staff will be reaching out to elected officials, economic development staff, and other public servants for recommendations for outreach throughout the PACE regions.



VII. TEXAS PACE AUTHORITY LEADERSHIP

Board of Directors

Charlene Heydinger, President
Steve Block, Secretary
Michael Gromacki
John Hall
Hon. Penny Redington

Texas PACE Authority Team

Charlene Heydinger, President
Jonathon Blackburn, Managing Director
Amy Vanderbilt, Operations and Compliance Manager
Bridget Branch, Regional Program Manager (North Texas)
Marina Badoian-Kriticos, Regional Program Advisor (Southeast Texas)
Calley Pace, Marketing and Communications Manager
Craig Smith, Counsel
Deborah Camp, Creative Manager

Advisory Committee

Hon. Kip Averitt
Tony Bennett
Hon. Warren Chisum
Kathey Ferland
Debbie Kimberly
Luke Legate
Steve Minick
Terrie Salinas
Carlton Schwab



VIII. CONCLUSION

The work completed in 2017 laid the foundation for the creation of a holistic TX-PACE program. In 2018, education of contractors, local lenders, and capital providers remains key to achieving the goals of this unprecedented collaboration, and outreach to property owners, developers, and real estate experts will be elevated. The successful project closures in Texas in 2017 are already paving the way to a new level of PACE project activity in 2018.

The expertise refined over the past year will serve as the cornerstone of the program's use in the coming years.

Texas PACE Authority's focus on uniformity, property owner autonomy, and open market financing has been uniquely adapted from other states' PACE programs to suit Texas' needs. As TX-PACE programs are established by more local governments, the network of providers and increase in project completions will eventually result in measurable economic benefits for individual property owners and their communities.

Thank you for your continued support for the PACE in a Box model program and the Texas PACE Authority's efforts to administer it consistently throughout Texas as a nonprofit public service.

Respectfully submitted,

Charlene Heydinger
President

charlene.heydinger@keeppace.org

APPENDIX A

Outreach Presentations and Conferences – Statewide

Arlington:

- High Performance Buildings and Workspaces, presentation and booth – 5/16/17

Austin:

- Water Conference, presentation – 2/22/17
- Rural Rental Housing Conference, PACE presentation – 7/20/17
- TCEQ Environmental Trade Fair and Conference, PACE on the Border panel – 5/17/17
- SEIA Solar Power in Texas Conference, PACE presentation – 6/13/17
- SEIA Solar Power in Texas Conference, Training Workshop – 6/13/17
- Rural Rental Housing Conference, PACE presentation, Austin – 7/20/17
- Texas Renewable Energy Summit, presentation, Austin – 9/20/17
- Solar Business Festival, Booth 11/29/17

College Station:

- Texas A&M University Industrial Assessment Center, presentation to students – 11/10/17
- Texas A&M AgriLife Extension Service, presentation – 12/8/17

Corpus Christi:

- PACE Service Provider Training Workshop – 4/18/17

Dallas:

- Oak Cliff Chamber PACE Service Provider Training Workshop – 1/11/17
- Service Provider Training Workshop, 5/19/17
- Metrocon Conference, PACE panel presentation – 8/9/17
- Service Provider Training Workshop, 9/7/17
- North Texas Facilities Expo, booth – 10/11/17
- Dallas County Community College District, Sustainability Summit, presentation 11/3/17

El Paso:

- PACE Service Provider Training Workshop – 10/17/17

Georgetown:

- Texas Renewable Energy Industry Alliance GridNext Conference, presentation – 10/23/17

Haltom

- NE Tarrant County Chamber of Commerce's Economic Summit, presentation – 1/5/17

Houston

- Service Provider Training Workshop, 3/15/17
- Modern Absorption Chillers Seminar – 5/24/17
- Texas Tax Assessor-Collector Association Annual Meeting, PACE presentation – 6/7/17
- USGBC Energy Summit, Booth – 10/12/17
- SPEER City Efficiency Leadership Council, presentation – 12/13/17

Katy:

- PACE Service Provider Training Workshop – 3/15/17

Plano:

- Texas A&M Energy Systems Lab, Clean Air Through Energy Efficiency Conference (CATEE), PACE Training Workshop – 11/13/17
- CATEE Conference, PACE Panels (3), 11/14-15/17
 - PACE 101
 - PACE in Practice
 - PACE for Local Governments
- CATEE Conference, booth – 11/14 – 15/17
- CATEE Conference Plenary Session, Post Hurricane Harvey Resilience, panelist – 11/15/17

Weslaco:

- PACE Service Provider Training Workshop – 2/24/17

Local Engagement - Presentations

Addison:

- International Facilities Managers Association (IFMA), presentation – 2/23/17

Amarillo:

- Economic Development PACE outreach and networking reception, presentation – 12/6/17

Arlington:

- Oncor Rebates Event, presentation – 1/12/17

Austin:

- UT Energy Week Start-up Competition, 2/6/17
- SEIA Solar Power in Texas Conference, Training Workshop – 6/13/17
- Texas Industries of the Future, SECO industrial grantee presentations 9/28/17
- Capital Area Council of Governments, Water Committee, presentation – 11/16/17

Beaumont:

- Jefferson County Commissioners Court PACE Workshop, 1/30/17
- Jefferson County Commissioners Court, Hearing, PACE presentation, 3/20/17
- Jefferson County Commissioners Court presentation, PACE after Hurricane Harvey – 10/7/17



Bryan:

- Brazos County Chamber of Commerce, presentation – 2/8/17

Corpus Christi:

- PACE Service Provider Training Workshop – 4/18/17
- Nueces County Commissioners Court presentation, PACE after Hurricane Harvey – 9/20/17

Dallas:

- Oak Cliff Chamber PACE Service Provider Training Workshop – 1/11/17
- Greater Dallas Planning Council, presentation, 2/9/17
- IFMA presentation, 2/23/17
- South Dallas Faith Coalition, presentation – 3/21/17
- Earth Day – Booth, 4/20-22/17
- Dallas 2030 PACE Greenworks Presentation, 4/26/17
- Service Provider Training Workshop, 5/9/17
- Dallas 2030 Meeting & ONCOR Incentives presentation – 8/16/17
- Service Provider Training Workshop, 9/7/17
- ULI tour of Butler Brothers Building, 9/12/17

Del Rio:

- Val Verde County Commissioners Court Meeting, PACE presentation – 11/1/17

El Paso:

- PACE stakeholder Networking Event – 4/2/17
- PACE Service Provider Training Workshop – 10/17/17
- Reception and presentation for Property Owners – 10/17/17

Farmers Branch:

- Mayor and City staff, PACE presentation – 10/16/17
- City Council, PACE presentation – 11/14/17

Fort Worth:

- Tarrant County Commissioners Court, PACE Workshop presentation, 10/17/17

Haltom

- NE Tarrant Economic Summit, presentation – 1/5/17
- USGBC Energy Summit, Booth – 10/12/17

Houston

- Greater Houston Black Chamber of Commerce – 7/29/17
- Rice Energy Venture Forum – 9/13/17
- SPEER City Efficiency Leadership Council, presentation – 12/13-14/17

Katy:

- PACE Service Provider Training Workshop – 3/15/17

Laredo

- Laredo City Council PACE Presentation – 5/1/17

Lubbock

- Lubbock County Commissioners Court PACE hearing, presentation – 12/11/17

McAllen:

- South Texas Manufacturers Association, presentation – 3/28/17
- Valley Environmental Summit, presentation – 10/29/17

Orange:

- County Commissioners Court, Workshop presentation – 3/8/17

Portland:

- Corpus Christi EDC Economic Development Forum, PACE Post Hurricane Harvey – 10/11/17

San Antonio:

- Bexar Counties Facilities Dept., presentation – 10/13/17
- Gulf Coast Authority, Board of Directors retreat, presentation – 10/20/17

San Marcos:

- PACE Service Provider Training Workshop – 3/7/17

Weslaco:

- PACE Service Provider Training Workshop – 2/24/17

Local Engagement - Outreach Meetings

The extensive list of individual company introductory and project specific meetings are not included in this list for privacy reasons:

Amarillo:

- Multiple individual outreach meetings with specific companies, 12/6-7/17

Arlington

- North Central Texas Council of Governments, 5/12/17
- North Central Texas Council of Government, 10/5/17

Austin:

- Environment Texas meeting, Austin – 1/4/17

- Texas Association of Oil and Gas Association meeting – 1/4/17
- Travis County Commissioner Brigid Shea and Real Estate Council of Austin, 1/20/17
- Mitchell Foundation stakeholder meeting re: Energy Efficiency for Underserved Communities, 1/26/17
- USGBC Advocacy Day Networking Event, 2/28/17
- Independent Bankers Association of Texas, 3/24/17
- Environmental Defense Fund, 3/30/17
- Public Citizen Networking Event, 4/12/17
- Border Environmental Cooperation Commission 4/13/17
- Texas Industries of the Future, 4/17/17
- Texas Facilities Commission meeting, 4/20/17
- CATTEE planning meeting, 4/28/17
- USGBC board meeting, 5/1/17
- Texas State Energy Conservation Office, 6/1/17
- USGBC Networking Event, 6/5/17
- St. David's Foundation, 6/22/17
- Environmental Superconference, Thompson & Knight networking Event, 8/3/17
- Cleantech Open South Central Business Clinic, 8/5/17
- Independent Bankers of Texas, 8/8/17
- R Street Institute, 8/8/17
- Texas Economic Development Council, 8/16/17
- SPEER Member Workshop, 9/11/17
- Austin Energy Women's Networking Event, 9/12/17
- Texas Public Policy Foundation, 9/26/27
- EDF State Clean Energy meeting - PACE update presentation, 10/11/17
- Ozone SIP Coalition, 11/20/17
- EDF – Industrial PACE, 11/27/17
- Sierra Club - Texas Chapter, 12/15/17

Brownsville:

- Brownsville Housing Authority, 3/29/17
- Main Street Brownsville, 3/29/27

Corpus Christi:

- Corpus Christi EDC Economic Development Forum, 10/11/17

Dallas:

- South Dallas Faith Coalition, 3/21/17
- Dallas 2030 District, Sustainable Energy Management, 3/21,17
- Dallas Metropolitan Small Business Development Corporation, 6/7/17
- Oak Cliff Chamber of Commerce, 6/8/17
- Urban Land Institute Monthly Breakfast w/City Eco Devo staff, 6/8/17
- Dallas 2030 meeting 6/14/17



- Dallas 2030 Lunch & Learn, 6/22/17
- Dallas 2030 Meeting & Bank of America Tour, 7/19/17
- Good Faith Impact, 8/9/17
- Dallas 2030 Meeting & ONCOR Incentives presentation, 8/16/17
- Dallas Earth Day Kickoff event, 9/6/17
- Service Provider Training Workshop, 9/7/17
- Dallas 2030 Leadership meeting, 9/20/17
- ONCOR Energy Efficiency Breakfast, 9/28/17
- BOMA Dallas, 9/28/17
- Dallas 2030 Leadership Meeting, 10/19/17
- USGBC Networking Event, 10/19/17
- 2017 Green Source DFW Sustainable Awards, 11/19/17
- 2030 District Leadership meeting – 11/29/17
- USGBC Networking Event – 12/14/17
- North Texas Energy Engineers Networking Event – 12/19/17
- Dallas Real Estate Ministries networking luncheon – 12/20/17

Denton:

- Tax Assessor Collector Association – process meeting, 9/27/17

Dripping Springs

- Dripping Springs Chamber of Commerce introductory meeting, 2/6/17

El Paso

- County Economic Development Office and City Tax Assessor/Collector, 4/3/17

Fort Worth:

- Fort Worth Chamber of Commerce, 1/5/17
- USGBC, 6/15/17
- Meeting with Fort Worth Better Buildings Challenge leadership, 12/12/17

Houston:

- City of Houston, Tax Increment Reinvestment Zone (TIRZ) meeting, 1/12/17
- City of Houston hearing re: PACE ordinance updates, 2/9/17
- Houston Advanced Research Center, 4/6/17
- Greater Northside Houston Management District, 5/2/17
- ASHRAE, 5/9/17
- Greater Houston Black Chamber of Commerce, 5/5 & 31/17
- Global Renewable Energy Association, 5/17/17
- Urban Land Institute, 6/12/17
- Citizen Environmental Coalition, 6/20/17
- Greater Houston Black Chamber of Commerce, 8/2/17
- Houston Housing Working Group, 8/7/17

- Port of Houston, introductory meeting – 10/20/17
- World Business Council for Sustainable Development, 11/7/17
- USGBC meeting, 12/6/17

Laredo:

- Webb County Economic Development Office, 5/1/17

McAllen:

- Hidalgo County Attorney's Office, 3/28/17
- Mayor, South Padre Island, 10/29/17

New Braunfels

- New Braunfels Chamber of Commerce, 2/20/27

Pasadena:

- Chamber of Commerce, 8/8/17

Plano:

- Plano Sustainability Office, 5/12/17
- Plano Sustainability Office, 8/14/17

Port Aransas:

- Chamber of Commerce, 9/20/17

Port Arthur:

- Texas Gulf Coast Small Business Development Center Network, 10/2/17

Taylor Texas:

- Presentation to ERCOT, 11/10/17

Weslaco:

- Lower Rio Grande Valley District, SBA Office, 3/29/27
- Rio Grande Valley Chapter, Associated General Contractors of America, 3/29/27

APPENDIX B

Flyers

Private Sector TX-PACE
Public Sector TX-PACE
Commercial TX-PACE
Industrial TX-PACE
Nonprofit TX-PACE
Tool for Disaster Recovery

Case Studies

Industrial: Liebe, Navarro County
Mixed Use: Butler Brothers Building, City of Dallas
Office Building: 1225 N. Loop, City of Houston
Nonprofit: Congregation Beth Israel, Travis County
Solar: Family Eldercare, Travis County

All flyers and case studies can be found at www.texaspaceauthority.org.

TX-PACE FOR THE PRIVATE SECTOR



WHAT IS THE TEXAS PACE PROGRAM?

Texas Property Assessed Clean Energy (TX-PACE) is a proven financial tool that incentivizes Texas' property owners to upgrade facility infrastructure with little or no capital outlay. Approved by state legislation and established by your local governments, TX-PACE programs enable owners to lower their operating costs and use the savings to pay for eligible water conservation, energy efficiency, resiliency, and distributed generation projects. Owners gain access to affordable, long-term, private financing that is not available through traditional funding avenues.

Owners of eligible commercial, industrial, agricultural, nonprofit, and multifamily facilities can use TX-PACE to pay for property improvements including new heating and cooling systems, lighting, solar panels, water pumps, insulation, roofs, windows, and more. This program accelerates upgrade investments in existing facilities, preserving capital and credit lines and empowering owners to retain their available capital for revenue-generating items including employees, technology, products, and growth.

TX-PACE was identified by Scientific American as one of the top 20 "world changing" ideas, because it provides a new source of property-secured financing for property retrofits that does not affect conventional lending sources and does not compete for capital with other investment opportunities.

TX-PACE answers the question, "How are we going to pay for it?" and is transforming how developers, owners, and contractors look at projects, proving that there is a clear path forward for energy efficiency, distributed generation, and water use reduction measures.

HOW DOES TX-PACE WORK?

TX-PACE is a simple and effective program that allows owners to see an immediate increase to net operating income and find investing in efficiency a business-savvy proposition. Owners choose a private sector capital provider and voluntarily request that the local government place a senior lien on the property for the total cost of the project. The owner commits to the local government that he/she will pay the TX-PACE assessment installments. TX-PACE is not a personal or business loan. It is a voluntary land-secured assessment that is paid off over time. The energy and/or water savings are structured to exceed the cost of the assessment, resulting in projects that are cash flow positive. As the assessment is tied to the property, the repayment obligation transfers to the next owner if the property is sold.

Texas PACE Authority administers the uniform "PACE in a Box" model program on behalf of local governments. This successful model is market-based and flexible, providing the lowest possible administrative cost and highest level of consumer protection, allowing owners to do business with the parties of their choosing.

How It Works

A Building Owner:



If the owner, building, and project all meet PACE requirements:



WHAT ARE THE BENEFITS OF TX-PACE?

Property Owner Benefits:

Cash flow positive projects • 100% financing • Automatic transfer upon sale • Long-term financing (up to 20 years or more) • Lower energy and water costs • No personal guarantees • Competitive rates and terms • Owner retains all tax incentives • Increase property value • Preserve capital for core business • Healthier and more comfortable facilities • Reduce environmental impacts

Service Provider Benefits:

Increase local hiring • Accelerate project timelines • New market penetration • Best practices • Technology advancement improvements

Capital Provider Benefits:

Steady and stable process • Fully collateralized • Tax assessment lien position • Improve asset value • Mortgage-holder consent • Enhance customer finance position

Local Government Benefits:

Workforce and economic development • No local government obligation • Minimal staff support • Improve building stock • Business retention and expansion • Better air quality • Water and energy conservation

WHERE IN TEXAS IS TX-PACE?

Counties:

Brazos	Hidalgo	Travis
Cameron	Jefferson	Willacy
El Paso	Navarro	Williamson
Fort Bend	Nueces	
Hays	Tarrant	

Cities:

Amarillo Dallas Farmers Branch
Houston ...and more on the way!

WHAT PROPERTY TYPES AND IMPROVEMENTS ARE ELIGIBLE?

Eligible Property Types:

- Commercial
- Industrial/Manufacturing
- Multifamily housing (5+ units)
- Hospitality
- Agricultural
- Nonprofit

Eligible Improvements:

Chillers, boilers, and furnaces • HVAC, BMS, BAS, EMS controls • Lighting • Water heating systems • Energy management systems and controls • Roofing • Windows • Doors • Insulation • Elevator modernization • Pool equipment • Cogeneration or combined heat and power • Heat recovery and steam traps • Solar panels • Wind turbines • Water management systems and controls • Irrigation equipment • Rainwater collection systems • Toilets • Faucets • Greywater systems... and more!

SPOTLIGHT ON SUCCESS

The City of Dallas' TX-PACE program was utilized to finance \$23.9M in energy & water conservation measures within the redevelopment of the Butler Brothers historic building. TX-PACE enabled the inclusion of these sustainable improvements with significant savings in the cost of capital over the cost of traditional mezzanine financing or equity partner financing in the capital stack of this renovation.

PICK UP THE TX-PACE IN YOUR REGION!

TX-PACE programs are being launched all over the state and are currently available in more than a dozen regions. TX-PACE can help you create jobs, promote economic development, and protect the environment.

Contact Texas PACE Authority to learn how to develop a TX-PACE program for your community.

admin@texaspaceauthority.org
855-738-PACE (7223)
www.TexasPACEAuthority.org

Texas PACE Authority administers the uniform "PACE in a Box" model as a public service on behalf of local governments and is funded through user fees and grants.

TX-PACE FOR THE PUBLIC SECTOR



WHAT IS THE TEXAS PACE PROGRAM?

Texas Property Assessed Clean Energy (TX-PACE) is a voluntary program that creates jobs, improves the environment, and saves Texas companies money on their utility bills. Local governments across the state are taking advantage of the Texas PACE statute and establishing programs to further provide quality and valuable services to their constituencies, stakeholders, and taxpayers. Local PACE programs have already enabled over \$30 million of new private investment in local building stock in urban and rural Texas in just two years.

The Texas PACE Act, Chapter 399 of the Local Government Code, is a local adoption model. The Texas “PACE in a Box” model was created by over 130 PACE stakeholders to facilitate a consistent, user-friendly approach to TX-PACE design and implementation. The model has been unanimously adopted by every local government establishing a TX-PACE program in Texas.

The model plug and play program contains consumer protection underwriting and technical best practices and model documents. “PACE in a Box” has minimal impact on government staff, adds no additional cost to the general taxpayer or burden to the treasury, and is administered by a nonprofit that does not compete with the private sector. Texas PACE Authority administers the uniform “PACE in a Box” model as a public service on behalf of local governments and is funded through user fees and grants.

This successful “PACE in a Box” model is market-based and flexible, providing the lowest possible administrative cost and highest level of consumer protection, allowing owners to do business with the parties of their choosing.

HOW DOES TX-PACE WORK?

TX-PACE facilitates the use of private capital to finance water conservation, energy efficiency, resiliency, and distributed generation projects to eligible commercial, industrial, agricultural, nonprofit, and multifamily properties. Owners choose a private sector capital provider and request that the local government place a voluntary senior lien on the property for the total cost of the project. The owner agrees to pay the TX-PACE assessment until it is paid in full, similar to that of a sidewalk or sewer assessment.

Property owners can lower operating costs and use the savings to pay for eligible projects. Since the assessment is tied to the property and transfers upon sale, TX-PACE makes it easier for owners to invest in facility upgrades and modernization, with little or no upfront capital. The widespread benefits impact the property owner, tenants, environment, and community, resulting in lower operating costs, more local jobs, and a concerted effort to conserve energy and water.

How It Works

A Building Owner:



If the owner, building, and project all meet PACE requirements:



WHAT ARE THE BENEFITS OF PACE?

Local Government Benefits:

Workforce and economic development • No local government obligation • Minimal staff support • Improve building stock • Business retention and expansion • Better air quality • Water and energy conservation

Property Owner Benefits:

Cash flow positive projects • 100% financing • Automatic transfer upon sale • Long-term financing (up to 20 years or more) • Lower energy and water costs • No personal guarantees • Competitive rates and terms • Owner retains all tax incentives • Increase property value • Preserve capital for core business • Healthier and more comfortable facilities • Reduce environmental impacts

Service Provider Benefits:

Increase local hiring • Accelerate project timelines • New market penetration • Best practices • Technology advancement improvements

Capital Provider Benefits:

Steady and stable process • Fully collateralized • Tax assessment lien position • Improve asset value • Mortgage-holder consent • Enhance customer finance position

WHERE IN TEXAS IS TX-PACE?

Counties:

Brazos	Hidalgo	Travis
Cameron	Jefferson	Willacy
El Paso	Navarro	Williamson
Fort Bend	Nueces	
Hays	Tarrant	

Cities:

Amarillo Dallas Farmers Branch
Houston ...and more on the way!

WHAT PROPERTY TYPES AND IMPROVEMENTS ARE ELIGIBLE?

Eligible Property Types:

- Commercial
- Industrial/Manufacturing
- Multifamily housing (5+ units)
- Hospitality
- Agricultural
- Nonprofit

Eligible Improvements:

Chillers, boilers, and furnaces • HVAC, BMS, BAS, EMS controls • Lighting • Water heating systems • Energy management systems and controls • Roofing • Windows • Doors • Insulation • Elevator modernization • Pool equipment • Cogeneration or combined heat and power • Heat recovery and steam traps • Solar panels • Wind turbines • Water management systems and controls • Irrigation equipment • Rainwater collection systems • Toilets • Faucets • Greywater systems... and more!

PICK UP THE TX-PACE IN YOUR REGION!

TX-PACE programs are being launched all over the state and are currently available in more than a dozen regions. TX-PACE can help you create jobs, promote economic development, and protect the environment.

Contact Texas PACE Authority to learn how to develop a TX-PACE program for your community.



TEXAS ★ **PACE**
AUTHORITY

admin@texaspaceauthority.org
855-738-PACE (7223)
www.TexasPACEAuthority.org

Texas PACE Authority administers the uniform “PACE in a Box” model as a public service on behalf of local governments and is funded through user fees and grants.



Texas Property Assessed Clean Energy (TX-PACE) enables commercial property owners to obtain affordable, long-term financing covering up to 100 percent of the cost for energy efficiency, water conservation, and on-site generation technologies. TX-PACE secures private financing for a term as long as the projected useful life of the improvements, resulting in utility cost savings that exceed the amount of the repayment. Owners can modernize commercial properties without fear of over-investment, transferring the TX-PACE repayment obligation to new ownership if the property is sold.

TX-PACE – SERVING URBAN AND RURAL TEXAS WITH PROJECTS BIG AND SMALL



BUTLER BROTHERS BUILDING \$23.9 MILLION - DALLAS, TEXAS

The City of Dallas' first PACE project is now the largest in Texas. The inclusion of \$23.9 million in energy and water-saving measures in the redevelopment capital stack of the historic Butler Brothers Building demonstrates that there is a low-cost, long-term replacement to expensive equity-partner financing. The 20-year term covers improvements for HVAC, lighting, insulation, roofing, glazing, exterior waterproofing and plaster, plumbing fixtures, and irrigation systems. The project will save almost 700,000 gallons of water a year, reduce energy consumption by 40%, and contribute to the creation of over 100 jobs in the Dallas area.



1225 NORTH LOOP WEST \$1.3 MILLION - HOUSTON, TEXAS

1225 North Loop Investments, Inc. utilized the City of Houston's PACE program to invest \$1.3M in property upgrades, making 1225 North Loop West the first commercial office building to implement a TX-PACE project. The improvements will be financed over 20 years and include two new chillers, a building automation system, and a complete LED fixture upgrade. The project will reduce utility consumption by 38% and provide \$3.66 million in savings over the 20-year term. The lasting benefits of steadier budgets, more comfortable work environments, and diminished equipment emergencies will positively impact both ownership and tenants.



ALMOST \$10 MILLION INVESTED IN MALLS ACROSS TEXAS

A global leader in retail real estate ownership has completed 6 projects in Texas for almost \$10 million in improvements. Using the uniform TX-PACE program, 3 of these projects closed in 2 counties with 1 lender on the same day. Improvements include HVAC, lighting, and water saving measures for a combined savings of 5,600,000 kWh in electricity and 14,950,000 gallons of water per year.

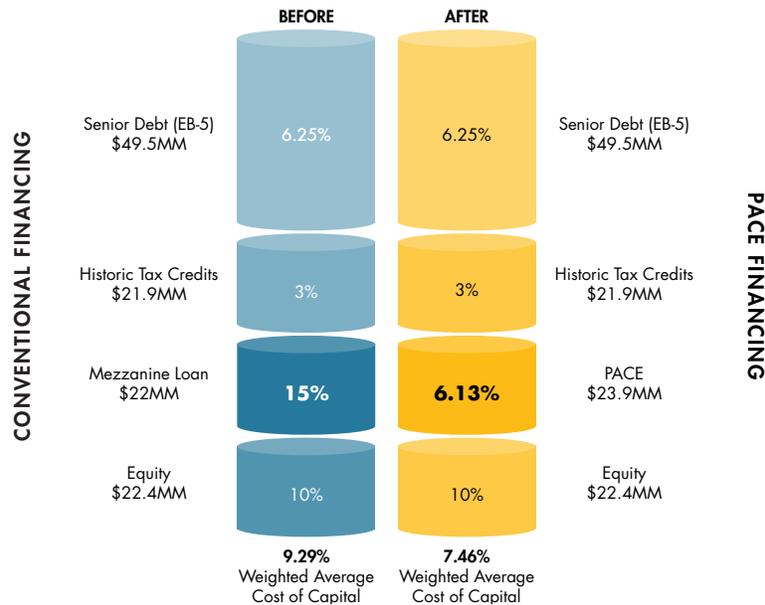
TYPICAL EXAMPLES OF QUALIFIED IMPROVEMENTS:

- Chillers, boilers, and furnaces • HVAC, BMS, BAS, EMS controls • Lighting • Water heating systems • Energy management systems and controls • Roofing • Windows • Doors • Insulation • Elevator modernization • Pool equipment • Cogeneration • Heat recovery and steam traps • Solar panels • Wind turbines • Water management systems and controls • Irrigation equipment • Rainwater collection systems • Toilets • Faucets • Greywater systems... and more!

“TX-PACE pairs incredibly well with historic buildings that are typically energy inefficient and require additional capital in order to renovate the property to modern energy efficiency standards. I am beginning to see greater interest in the utilization of this program for historic and non-historic renovation projects because of its flexibility, relative low-cost and nonrecourse nature.”

– Phill Geheb, Munsch Hardt
Dallas, TX

BUTLER BROTHERS BUILDING CAPITAL STACK



1225 NORTH LOOP FINANCING SCENARIO COMPARISON SUMMARY

	Self-Funded	Conventional Loan	TX-PACE Loan
Out-of-Pocket Investment	(\$1,300,000)	(\$260,000)	\$0
Savings (First Year)	\$200,000	\$200,000	\$200,000
Annual Payment	\$0	(\$282,803)	(\$118,437)
Cash Flow Impact Year 1	(\$1,100,000)	(\$342,803)	\$81,563
Net Project Cash Flow Year 2	(\$900,000)	(\$425,607)	\$163,126
Years to Positive Project Cashflow	6.5	8.4	IMMEDIATE
Debt Service Over Finance Term	0	(1,414,017)	(2,368,742)
10-Year Project NPV	\$172,017	\$20,747	\$600,310
Property Value Increase (20-Year NPV)	\$993,984	\$842,714	\$935,520

- The project does not pass the company’s hurdle rate for investment in energy efficiency (i.e. the ROI is probably not high enough)
- Conventional funding for 5 years at 4.0% (20% down payment)
- TX-PACE funding available for 20 years at 7.0%.
- Energy prices held constant. NPV discount rate at 8%.

YOUR TX-PACE ASSESSMENT CAN INCLUDE:

- Materials and labor costs
- Permit, lender and inspection fees
- Program application and administration fees
- Project development and engineering fees
- Independent third party review and verification fees
- Legal, consulting and other fees
- Incidental installation, modification or improvement costs

admin@texaspaceauthority.org
855-738-PACE (7223)
www.TexasPACEAuthority.org

Texas PACE Authority administers the uniform “PACE in a Box” model as a public service on behalf of local governments and is funded through user fees and grants.



Texas Property Assessed Clean Energy (TX-PACE) enables industrial site owners to obtain affordable, long-term financing covering up to 100 percent of the cost for energy efficiency, water conservation, and on-site generation technologies. TX-PACE secures private financing for a term as long as the projected useful life of the improvements, resulting in utility cost savings that exceed the amount of the repayment.



R.J. LIEBE ATHLETIC LETTERING COMPANY
NAVARRO COUNTY, TEXAS

Liebe is the first manufacturing plant to complete a TX-PACE project. The TX-PACE assessment financed over 20 years provided the Missouri-based company a financially viable way to restore an aging, inefficient facility and relocate much of its operations to the new site. The flexible financing tool allowed Liebe to bypass the significant capital investment needed, retrofitting the lighting to LEDs, and installing HVAC for the first time in the plant's history. Reopening this facility will create 60-80 permanent manufacturing jobs in Corsicana and will save approximately 187,177 kWh of electricity annually.



PACIFIC ETHANOL, MADERA CA

Pacific Ethanol, Inc. (NASDAQ:PEIX), a leading US producer and marketer of low-carbon renewable fuels, used \$10 million in PACE funding to purchase and install a 5 MW photovoltaic (PV) power system at its ethanol plant. This project is the first ever commercial solar electricity system at a US ethanol plant and the largest solar PV system to be funded through PACE.

Pacific Ethanol's PACE project is saving the facility more than \$1 million annually and is cash flow positive from year one. The system also qualified for the Energy Investment Tax Credit, displaces more than 30% of the grid electricity previously used, and drives premium pricing at the plant due to improvements in its carbon-intensity core.



Photo Credit: PRLog <http://bit.ly/2caf5xC>

HELLER MACHINE TOOLS, TROY MI

Heller Machine Tools, a world-leading manufacturer producing state-of-the-art machine tools and production systems for metal cutting processes, used PACE to finance \$978,607 in deep energy retrofits for its 100,000 sq ft production facility. Energy consumption and related costs were reduced by 23% - a savings of \$1.6 million over 15 years.

Measures included:

- HVAC
- Networked building controls
- Compressed air upgrades
- Partial roof replacement
- Lighting replacement
- Server room cooling

TYPICAL EXAMPLES OF QUALIFIED IMPROVEMENTS:

- Chillers, boilers, and furnaces
- HVAC, BMS, BAS, EMS controls
- Lighting
- Water heating systems
- Energy management systems and controls
- Roofing
- Windows
- Doors
- Insulation
- Elevator modernization
- Pool equipment
- Cogeneration
- Heat recovery and steam traps
- Solar panels
- Wind turbines
- Water management systems and controls
- Irrigation equipment
- Rainwater collection systems
- Toilets
- Faucets
- Greywater systems... and more!

“As we work with more and more large brands, being environmentally friendly is a prerequisite to conducting business. In fact, we are graded on it. As a result, Liebe has strategically positioned all of our facilities to be as green as possible.”

- Mike Bernhagen, General Manager of Liebe

THE FINANCIAL IMPACT OF INDUSTRIAL TX-PACE

This example compares self-funding and conventional funding with TX-PACE financing:

- Industrial Facility
- Project involves a \$2.5M 1.3MW CHP system
- Annual net savings of \$473,000 (5.3 yrs simple payback)
- The project does not pass the company’s hurdle rate for investment in energy efficiency (i.e. the ROI is probably not high enough)
- Conventional funding for 5 years at 4.0% (20% down payment)
- TX-PACE funding available for 20 years at 6.0%.
- Energy prices held constant. NPV discount rate at 8%.



FINANCING SCENARIO COMPARISON SUMMARY

	Self-Funded	Conventional Loan	TX-PACE Loan
Out-of-Pocket Investment	(\$2,500,000)	(\$500,000)	\$0
Savings (First Year)	\$473,000	\$473,000	\$473,000
Annual Payment	\$0	(\$561,568)	(\$217,961)
Cash Flow Impact Year 1	(\$2,027,000)	(\$588,568)	\$255,039
Net Project Cash Flow Year 2	(\$1,554,000)	(\$677,136)	\$510,077
Years to Positive Project Cashflow	5.3	7.0	IMMEDIATE
Debt Service Over Finance Term	0	(2,807,839)	(2,368,742)
10-Year Project NPV	\$673,869	\$431,691	\$1,711,330
Property Value Increase (20-Year NPV)	\$2,143,984	\$1,901,806	\$2,504,007

YOUR TX-PACE ASSESSMENT CAN INCLUDE:

- Materials and labor costs
- Permit, lender and inspection fees
- Program application and administration fees
- Project development and engineering fees
- Independent third party review and verification fees
- Legal, consulting and other fees
- Incidental installation, modification or improvement costs

admin@texaspaceauthority.org
855-738-PACE (7223)
www.TexasPACEAuthority.org

Texas PACE Authority administers the uniform “PACE in a Box” model as a public service on behalf of local governments and is funded through user fees and grants.



TEXAS PACE AUTHORITY

Interested in upgrading your nonprofit property with energy/water efficiency and distributed generation technologies but lack the needed capital?

The Texas PACE program (Property Assessed Clean Energy), enables nonprofit property owners to obtain affordable, long-term financing covering up to 100 percent of the cost for energy efficiency, water conservation, and on site generation technologies. PACE secures private financing for a term as long as the projected useful life of the improvements, resulting in utility cost savings that exceed the amount of the repayment.

Typical examples of qualified improvements:

- High efficiency chillers, boilers, and furnaces
- Mechanical system modernization
- Energy system sensors and controls
- Systems to capture, treat and use other on-site sources of water (condensate, rainwater, etc.)
- High efficiency lighting
- Water conservation equipment
- Building enclosure/envelope improvements (insulation, new windows, cool roofs, etc.)
- On site generation such as solar and CHP (resiliency benefits)
- Fuel switching
- Wastewater onsite reuse systems



NEW FINANCING OPTION FOR NONPROFIT PROPERTY OWNERS

CASE STUDIES:



CONGREGATION BETH ISRAEL SYNAGOGUE, AUSTIN, TX

The nonprofit financed a \$460,000 project which included major chiller replacements and other holistic energy saving improvements. The synagogue experienced several air conditioning outages last summer, and was continuing to expend money into cooling an uninsulated and inefficient area. Through PACE financing, the facilities have new mechanical systems and reduced their energy consumption by 9,000 kilowatt hours in the first month of operation and an annual utility savings of approximately \$15,000.



FAMILY ELDERCARE, AUSTIN, TX

Family Eldercare is a Central Texas nonprofit organization that has been serving seniors and adults with disabilities for more than 30 years. It needed to increase net operating income and lower business expenses in order to provide for clients. Long term PACE financing enabled Family Eldercare to complete comprehensive energy efficient upgrades including a new cool roof and solar panels without compromising its operating budget. This resulted in an energy reduction of approximately 20% and 140,000 kWh in electricity savings annually, leading to a positive cash flow.

“Reducing our congregation’s carbon footprint and living with a lightened impact on God’s earth through the vision and ingenuity of the PACE program not only makes economic sense, but also represents a sacred act of both responsibility and hope in the future”
 –Rabbi Steven Folberg of Congregation Beth Israel

THE FINANCIAL IMPACT OF NONPROFIT PACE
 This example compares self funding and conventional funding with PACE financing:

- Church
- Project involves a \$450,000 replacement of chillers, boilers, controls and window film
- Annual energy and maintenance savings of \$45,000 (11.3 years simple payback)
- PACE funding available for 20 years at 6.0%.
- Conventional Funding for 5 years at 4.0% (with 20% down payment).



Financing Scenario Comparison Summary			
	Self-Funded	Conventional Loan	PACE
Out-of-Pocket Investment	(\$450,000)	(\$90,000)	\$0
Savings (First Year)	\$45,000	\$45,000	\$45,000
Annual Payment	\$0	(\$101,082)	(\$39,233)
Cash Flow Impact Year 1	(\$405,000)	(\$146,082)	\$5,767
Net Project Cash Flow Year 2	(\$360,000)	(\$202,164)	\$11,534
Years to Positive Project Cashflow	10.0	13.2	IMMEDIATE
Debt Service Over Finance Term	0	(505,411)	(784,661)

YOUR CONVENIENT PACE LOAN ASSESSMENT CAN INCLUDE:

- Cost of materials and labor necessary for the installation of a qualified improvement
- Permit fees
- Inspection fees
- Lender fees
- Program development and engineering fees
- Independent third party reviewer audit fees, including verification fees
- Any other fees or cost that may be incurred by the property owner incidental to the installation, modification or improvement
- Legal, consulting and other fees on an actual cost basis
- Changes to the existing property incidental to the installation

Contact us to discuss your potential PACE project or to learn more about establishing a PACE program in your community.



Toll Free: 1-855-738-PACE (7223)
 Visit our website: www.TexasPACEAuthority.org
 Email us at Admin@TexasPACEAuthority.org

New Local Program Provides Businesses another Tool for Disaster Recovery

Before Hurricane Harvey damaged countless businesses across the Gulf Coast, the State Legislature approved a financial tool that assists Texas property owners in improving and upgrading their communities. In 2013, Texas Property Assessed Clean Energy (TX-PACE) was passed motivating owners to make property improvements that would increase resiliency, sustainability and efficiency. As a result, this unique program is generating economic activity across the State, providing enormous benefits for property owners, contractors and service providers.

The Texas PACE program enables owners to upgrade their properties with little to no capital outlay by using operational savings that are generated by the improvements made. Owners gain access to affordable, long-term, private financing that is not available through traditional funding avenues.

Owners of eligible commercial, industrial, agricultural, non-profit and multi-family facilities can use TX-PACE to finance new heating and cooling systems, lighting improvements, water pumps, insulation, roofs, windows, and more. Additionally, cogeneration or combined heat and power, solar panels and wind generation are eligible improvements that are becoming more prevalent as owners focus on creating resilient, disaster-proof properties.

Texas PACE is not a personal or business loan. It is a voluntary land-secured assessment that is paid off over time. The energy and/or water savings are structured to exceed the cost of the assessment, resulting in projects that are cash flow-positive. As the assessment is tied to the property, the repayment obligation transfers to the next owner if the property is sold.

TX-PACE answers the question, “How are we going to pay for it?” and is transforming how developers, owners, and contractors look at projects, proving that there is a clear path forward for disaster recovery, energy efficiency, distributed generation, and water-use reduction measures.

As the demand for disaster-recovery and future-proof upgrades continue to rise, this program empowers contractors and service providers to offer their customers a financial solution, answering the question, “How are we going to pay for it?” This voluntary financing tool preserves capital and credit lines and allows owners to retain their available capital for revenue-generating items including employees, technology, products and growth.

Charlene Heydinger, President of Texas PACE Authority, a nonprofit that administers TX-PACE programs on behalf of local governments, explains, “We have always believed that this dynamic program would assist properties in a variety of different ways. We want people to know that TX-PACE can be used as a recovery tool.”

Local regions must opt into the program in order for building owners to be able to take advantage of TX-PACE. The program is currently available in 14 regions across Texas, including many of the areas with the most recent storm damage – Fort Bend, Jefferson, and Nueces counties and the City of Houston, including its ETJ. To date, the counties of Brazos, Cameron, El Paso, Hays, Hidalgo, Navarro, Travis, Willacy and Williamson, as well as the cities of Amarillo and Dallas have also established TX-PACE programs. All are market-based and flexible, allowing property owners to do business with the parties of their choosing at the lowest possible administrative cost. Additionally, a high level of consumer protection is embedded in the program to ensure that the projects will deliver the anticipated savings.

TX-PACE is transforming how developers, owners and contractors look at projects, proving that there is a clear path forward to disaster recovery, energy efficiency, distributed generation, water use reduction and resiliency improvements.

Texas PACE Authority currently administers the uniform “PACE in a Box” model program for all of the active programs as a public service at no cost to local governments.

Visit www.texaspaceauthority.org for more information.



CASE STUDY

R. J. Liebe Athletic Lettering Company
Navarro County, Texas



Liebe is the first manufacturing plant to complete a PACE project in Texas and the first project for Navarro County. Reopening this facility will create 60-80 permanent manufacturing jobs in Corsicana, Texas.

THE PROBLEM:

The sewing manufacturing plant in southeast Corsicana has experienced increasing degradation and obsolescence since opening its doors in 1979. The lack of modern amenities, including air conditioning, contributed to the plant's 10-year vacancy. For many manufacturing companies, the focus on recruitment, safety, and productivity means that providing air-conditioned facilities is no longer a luxury but an operational necessity.

The R.J. Liebe Athletic Lettering Company, based out of Missouri, began looking for a Texas site to relocate much of its operations. Liebe management was attracted to the 36,000 square-foot plant because of the space and location, but knew that it was in need of a significant capital investment to meet the company's operational needs and efficiency standards.

Mike Bernhagen, General Manager of Liebe, explains, "As we work with more and more large brands, being environmentally friendly is a prerequisite to conducting business. In fact, we are graded on it. As a result, Liebe has strategically positioned all of our facilities to be as green as possible."

THE PACE SOLUTION:

The availability of the TX-PACE program in Navarro County provided Liebe a financially viable way to restore the facility. Upgrades included the installation of high-efficient HVAC systems and LED lighting. Without the use of a long-term, flexible financing tool that could cover the entire cost of the project, the substantial capital investment would not have been financially feasible, preventing Liebe from choosing Corsicana as its newest site.

COMMUNITY IMPACT:

Scott Jones, Economic Development Director for Navarro County, said, "The TX-PACE program allows Navarro County an added incentive to offer prospective businesses. This is a beneficial program for all involved."

The Liebe plant will create 60 - 80 new permanent manufacturing jobs. Operations will be moved to the Corsicana facility by year-end 2017.

PROJECT OVERVIEW

PROJECT FINANCING

Total Assessment: \$324,559
Term: 20 years

PROJECT PARTNERS

Lender: Greenworks Lending
Contractor: Prism Tech Systems
Foxconn LED

IMPACT

- 60-80 new manufacturing jobs
- Approximately 187,177 kWh in annual electric savings

BUILDING

Size: 36,000 Square Feet
Built: 1979

IMPROVEMENTS

- Installation of high-efficiency HVAC, LED lighting

PACE IN TEXAS

Texas PACE answers the question, "How are we going to pay for it?" and is transforming how developers, owners, and contractors look at projects, proving that there is a clear path forward for energy efficiency, distributed generation, water use reduction, and resiliency projects in existing buildings.

CONTACT

Texas PACE Authority
admin@texaspaceauthority.org
1-855-738-PACE (7223)
www.texaspaceauthority.org

HOW DOES TX-PACE WORK?

Texas Property Assessed Clean Energy (TX-PACE) is an innovative financing program that offers commercial, industrial, and large multifamily property owners a voluntary program to obtain up to 100% financing for water conservation, energy-efficiency, resiliency, and distributed generation retrofits. TX-PACE has great potential to directly affect a business' bottom line; a project's savings in utility costs offsets the cost of installing the project. In most instances, this will result in immediate positive cash flow.

NAVARRO COUNTY

Navarro County established Texas' 14th PACE region in August 2017 and is the first Dallas - Fort Worth county to establish a PACE program. Navarro County's TX-PACE program is based on the PACE in a Box model, created by over 130 volunteer stakeholders for Texas. The market-based, flexible TX-PACE program enables property owners to do business with the parties of their choosing at the lowest possible administrative cost. The program includes a high level of consumer protection to ensure that the projects will deliver the anticipated savings.

www.texaspaceauthority.org/navarro

R.J. LIEBE ATHLETIC LETTERING COMPANY

The R. J. Liebe Athletic Lettering Company began in 1923 in the basement of a modest St. Louis home. Robert Liebe and his wife started out with a pair of Singer sewing machines embroidering letters and sewing them onto athletic jerseys. By 1935, the small business had attracted so much attention that he signed a contract with Rawlings Sporting Goods to handle lettering for their uniforms. The company now partners with major sports franchises and manufacturers of athletic clothing and gear worldwide.

www.liebe.com

GREENWORKS LENDING

Greenworks Lending is an energy efficiency and clean energy financing company that invests in commercial real estate with the goal of improving cost and energy performance. Greenworks Lending finances 100 percent of the hard and soft costs for qualifying projects through the Property Assessed Clean Energy (PACE) program.

www.greenworkslending.com

PRISM TECH SYSTEMS | FOXCONN LED

Prism Tech Systems is the direct representative of Foxconn commercial LED products in America. Specialties include commercial LED lighting, finance, electronic manufacturing, and LED screens. As a new service for customers, Prism Tech Systems now includes any energy saving system, such as new HVAC, roofing, windows, process machinery and more.

www.prismtechsystems.com
www.foxconnled.com

TEXAS PACE AUTHORITY

The nonprofit organization, Texas PACE Authority, administers the uniform PACE in a Box model on behalf of Navarro County. This model approach ensures local governments can establish an effective program quickly and economically, providing a tool for property owners to invest in more efficient infrastructure.

www.texaspaceauthority.org



Produced with
the support of:





Dallas' first PACE project is now the largest in Texas. \$23.9 million in PACE financing enabled the inclusion of energy and water-saving measures in the redevelopment capital stack of the historic Butler Brothers Building.

THE PROBLEM:

Originally constructed in 1910, the nine-story, 600,000 square-foot historic mercantile warehouse, known as the Butler Brothers Building, had long been an empty eyesore across from City Hall. The abandoned building, purchased by Alterra International, a Dallas-based global real estate development company, had deteriorated, with walls covered in graffiti and warping hardwoods soaked from rain leaking into the building. However, redeveloping a historic building could be a costly, complicated venture. Nathan Whigham, VP Business Development at CleanFund, explains one of the common hurdles with redevelopment projects, "A typical real estate capital stack falls short of the funds necessary to cover the additional up-front cost of more expensive energy and water-saving equipment that lowers the property's operating costs." Accessing future operating savings rarely justifies the diversion of significant existing sources of capital from the core business or company growth.

THE PACE SOLUTION:

The utilization of the TX-PACE program to finance energy and water conservation measures has renewed the Butler Brothers Building and demonstrated that there is a low-cost, long-term replacement to expensive equity partner financing.

Alterra International, a Dallas-based global real estate development company, acquired the historic facility in 2011 with the goal of redeveloping the former warehouse and adding to the revitalization underway at the eastern end of downtown. "The TX-PACE financing allowed us to increase the building's energy-efficiency, attracting more interest and appealing to residents and tenants that look for high-efficiency facilities with low maintenance costs, said Mike Sarimsakci, President of Alterra International. "Additionally, we are able to satisfy the sustainability preference of hotel guests, building greater retention and loyalty."

Apartment residents now relish the restored original hardwoods, the exposed brick and concrete columns, and the layers of charm that have been brought back to life.

"PACE loans pair incredibly well with historic buildings that are typically energy inefficient and require additional capital in order to renovate the property to modern energy efficiency standards," Phill Geheb with Munsch Hardt stated. "I am beginning to see greater interest in the utilization of this program for historic and nonhistoric renovation projects because of its flexibility, relative low-cost and non-recourse nature."

COMMUNITY IMPACT:

This project will contribute to the creation of over 100 jobs in the Dallas area, reduce annual electricity use by more than 6.6 million kilowatt hours, remove over 3,500 metric tons of CO2e each year, and save almost 700,000 gallons of water per year.

"It is great to see Dallas' first PACE deal make it across the finish line. Hopefully this financial model will serve as an example for the other PACE transactions in the Dallas pipeline," said Robin Bentley, Interim Director of the City's Office of Economic Development.

The redevelopment into 238 apartments, a 270-room dual-branded Fairfield Inn/TownePlace Suites by Marriott, and retail and office space is expected to spur additional revitalization in the area.

PROJECT OVERVIEW

PROJECT FINANCING

Lender: CleanFund Commercial
PACE Capital, Inc.
Total Assessment: \$23.9 million
Incentives:
- Historic Tax Credits: \$21 million
Term: 20 years
Lender Consent Granted

IMPACT

- Approximately 6,600,000 kWh in electricity savings annually
- Almost 700,000 gallons of annual water savings
- Approximate annual energy use reduction of 40%

BUILDING

Size: 600,000 Square Feet
Built: 1910

IMPROVEMENTS

HVAC, lighting, insulation, roofing, glazing, exterior waterproofing and plaster, plumbing fixtures, and irrigation systems

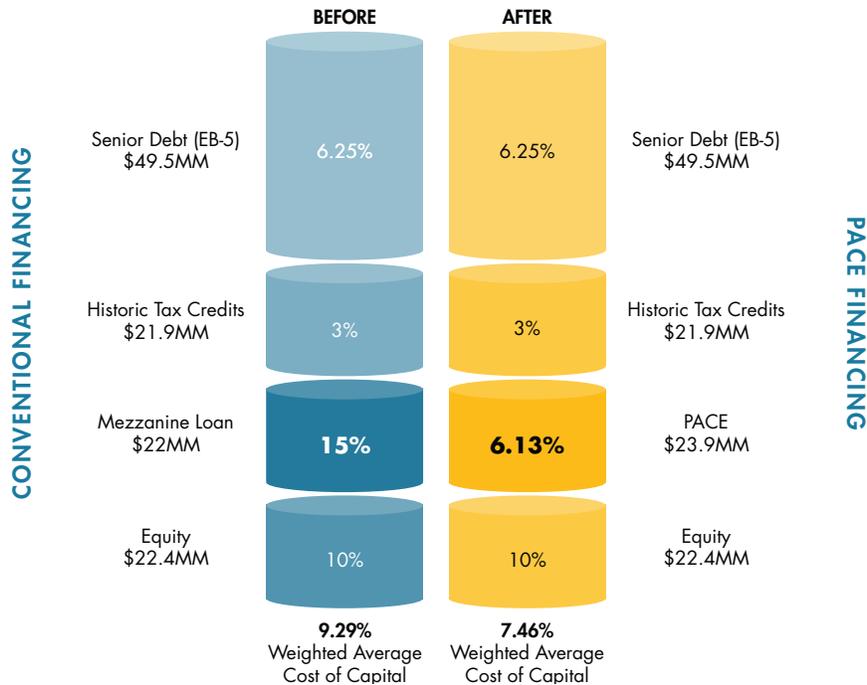
PACE IN TEXAS

Texas PACE answers the question, "How are we going to pay for it?" and is transforming how developers, owners, and contractors look at projects, proving that there is a clear path forward for energy efficiency, distributed generation, water use reduction, and resiliency projects in existing buildings.

CONTACT

Texas PACE Authority
admin@texaspaceauthority.org
1-855-738-PACE (7223)
www.texaspaceauthority.org

CAPITAL STACK COMPARISON



HOW DOES TX-PACE WORK?

Texas Property Assessed Clean Energy (TX-PACE) is an innovative financing program that offers commercial, industrial, and large multi-family property owners a voluntary program to obtain up to 100% financing for water conservation, energy-efficiency, resiliency, and distributed generation retrofits. TX-PACE has great potential to directly affect a business' bottom line; a project's savings in utility costs offsets the cost of installing the project. In most instances, this will result in an immediate positive cash flow.

CITY OF DALLAS

The City's TX-PACE program is based on the Texas PACE in a Box model program created by over 130 stakeholders. The City of Dallas provides a market-based, flexible TX-PACE program that enables property owners to do business with the parties of their choosing at the lowest possible administrative cost. The program includes a high level of consumer protection to ensure that the projects will deliver the anticipated savings.

dallas.texaspaceauthority.org



TEXAS PACE AUTHORITY

The nonprofit organization, Texas PACE Authority, administers the uniform "PACE in a Box" model on behalf of the City of Dallas. This model approach ensures local governments can establish an effective program quickly and economically, providing a tool for building owners to invest in more efficient infrastructure.

www.texaspaceauthority.org



CLEANFUND COMMERCIAL PACE CAPITAL

CleanFund Commercial PACE Capital is the leading direct provider of long-term financing for energy efficiency, water conservation, renewable energy and seismic improvements to commercial, multifamily and other nonresidential properties in the U.S. With significant expertise in commercial real estate, finance, renewable energy and PACE policy, CleanFund offers PACEDirect™ and SolarPACE™ financing programs, which enable property owners to upgrade their properties with no up-front cost, increasing property cash flows and value.

www.CleanFund.com





1225 North Loop Investments, Inc. utilized the City of Houston's PACE program to invest \$1.3M in property upgrades, making 1225 North Loop West the first commercial office building to implement a TX-PACE project.

THE PROBLEM:

The 1984 commercial office high-rise had 35-year-old chillers, an antiquated control system, and inefficient lighting. The chiller replacement parts were costly and difficult to find and the ongoing reliability issues of the aging equipment were haunting for staff and ownership. Management explored replacement options but hesitated at the substantial upfront capital outlay.



According to the US Energy Information Administration, the average office building spends \$1.51 per square foot on energy costs. Just slightly above the nationwide average, the property's management initiated a preliminary energy analysis and concluded that upgrading the aging equipment using operational savings created a realistic opportunity.

THE PACE SOLUTION:

John Myers, President of Peloton Commercial Real Estate, introduced the TX-PACE concept to General Manager Alessandro Clerici at 1225 North Loop Investments. As a Keeping PACE in Texas member who helped create the PACE in a Box toolkit, Myers suggested utilizing TX-PACE to redirect current utility expenses and eliminate the need for diverting core capital. The savings report indicated that the priority mechanical equipment would qualify for the program if it was paired with the inclusion of LED lighting throughout the entire facility. By grouping together efficiency measures with short and long-term paybacks, the projected energy savings would exceed the cost of the project over the 20-year term.

The project includes two new chillers, variable speed drives, air handlers, interior and exterior LED lighting, and building controls. The project will reduce utility consumption by 38% and provide \$3.66 million in savings over the 20-year term. The lasting benefits of steadier budgets, more comfortable work environments, and diminished equipment emergencies will positively impact both ownership and tenants.

Property Manager Seth Eslami explains, "Our priority was the mechanical equipment upgrade. The efficiency component was just an added benefit. I am hopeful that this project will help more people see that TX-PACE is not a typical 'green' program focused solely on saving the environment, but instead has a focus on improving the financial side of a business. TX-PACE can upgrade a building and can pay for itself."

COMMUNITY IMPACT:

"Houston is the energy capital of the world and has a responsibility to lead by example and use our energy resources as efficiently as possible," said Houston Mayor Sylvester Turner.

PROJECT OVERVIEW

PROJECT PARTNERS

Financial Lender: Petros PACE
Finance
Advisor: PACE Houston
Project Manager: Stellar International

PROJECT FINANCING

Total Assessment: \$1,304,352
Utility Incentives: \$30,000
Term: 20 years

BUILDING DETAILS

Square footage: 200,418
Year Built: 1984

IMPACT

Anticipated annual utility use
reduction of 38%

IMPROVEMENTS

Two Chillers, Building Automation
System, Complete LED Fixture
Upgrade

PACE IN TEXAS

Texas PACE answers the question, "How are we going to pay for it?" and is transforming how developers, owners, and contractors look at projects, proving that there is a clear path forward for energy efficiency, distributed generation, water use reduction, and resiliency projects in existing buildings.

CONTACT

Texas PACE Authority
admin@texaspaceauthority.org
1-855-738-PACE (7223)
www.texaspaceauthority.org

FINANCING SCENARIO COMPARISON SUMMARY			
	Self-Funded	Conventional Loan	TX-PACE Loan
Out-of-Pocket Investment	(\$1,300,000)	(\$260,000)	\$0
Savings (First Year)	\$200,000	\$200,000	\$200,000
Annual Payment	\$0	(\$282,803)	(\$118,437)
Cash Flow Impact Year 1	(\$1,100,000)	(\$342,803)	\$81,563
Net Project Cash Flow Year 2	(\$900,000)	(\$425,607)	\$163,126
Years to Positive Project Cashflow	6.5	8.4	IMMEDIATE
Debt Service Over Finance Term	0	(1,414,017)	(2,368,742)
10-Year Project NPV	\$172,017	\$20,747	\$600,310
Property Value Increase (20-Year NPV)	\$993,984	\$842,714	\$935,520

CITY OF HOUSTON

The City of Houston's TX-PACE program is based on the PACE in a Box model, created by over 130 volunteer stakeholders for Texas. The market-based, flexible TX-PACE program enables property owners to do business with the parties of their choosing at the lowest possible administrative cost. The program includes a high level of consumer protection to ensure that the projects will deliver the anticipated savings.

www.texaspaceauthority.org/houston-pace

1225 NORTH LOOP INVESTMENTS, INC.

1225 North Loop Investments, Inc., a privately held real estate investment group, owns 1225 North Loop West. The 11-story, Class A property that offices up to 400 people is managed by Stellar International and is the first office building to complete a TX-PACE project. 1225 North Loop West is an Energy Star designated building, Cleaner & Greener Program participant, and EPA Green Power Partner. Additional environmental amenities include a building-wide recycling program, and free premium hybrid vehicle parking.

www.1225northloopwest.com

STELLAR INTERNATIONAL COMMERCIAL REAL ESTATE

Stellar International Commercial Real Estate LLC is a privately held commercial real estate company in Houston, Texas that manages 1225 North Loop West and approached property ownership with the opportunity of a TX-PACE project. It focuses on providing a fresh approach towards ownership and tenant needs, in addition to maintaining and improving the asset through cost-effective measures and ensuring tenant retention remains in the forefront.

www.stellaricre.com

PETROS PACE FINANCE

Petros PACE Finance, LLC is a leader in providing energy efficiency, renewable energy, and water conservation financing to the commercial PACE market nationwide. Petros PACE Finance has significant institutional backing and was founded by a team with a collective 60+ years of experience in structured finance and lending. Petros is a legacy member of Keeping PACE in Texas.

www.petros-pace.com

PACE HOUSTON

PACE Houston is a private energy efficiency project development company that testified in support of the Houston PACE program in October 2015. It served as a PACE advisor assisting with the process and development of the Houston PACE program and the 1225 North Loop West project, including proposing vendors, evaluating lender proposals, and managing the underwriting document submittal.

www.pacehouston.com

TEXAS PACE AUTHORITY

The nonprofit organization, Texas PACE Authority, administers the uniform PACE in a Box model program on behalf of the City of Houston. This model approach ensures local governments can establish an effective program quickly and economically, providing a tool for property owners to invest in more efficient infrastructure. Program administration is provided at no cost to the local government with best practices in underwriting and technical consumer protections.

www.texaspaceauthority.org





The first PACE beneficiary in Texas is Congregation Beth Israel in Austin. PACE financing enables the synagogue to address critical HVAC failures without diverting charitable dollars from its core mission.

THE PROBLEM:

After years of spending \$15 to \$20k annually for chiller and boiler repairs with obsolete chiller and boiler parts becoming difficult to locate, Congregation Beth Israel (CBI) was finally forced to replace them. When the chiller failed last summer, children in the child development center were moved several times to nap and play in the chapel and sanctuary. On many mornings, The Way Companies' trucks were the first to arrive at CBI to get the chillers back online before the children arrived to school. Even when the chillers were working, they couldn't keep up with the Texas heat in the rooms facing the sun.

THE PACE SOLUTION:

Long term PACE financing with no out-of-pocket expenses enabled the synagogue to solve several critical issues. An energy audit was used to analyze all aspects of the building and identify potential energy savings. The final PACE project enabled CBI to finance new chillers and boilers, controls, and window film from a cash flow positive position. Through the PACE program, CBI is able to solve major energy, mechanical reliability, and comfort issues in a financially responsible way.

COMMUNITY IMPACT:

A well-known Jewish quote from the Babylonian Talmud asserts that, "You're not required to complete the work, but neither are you free to abstain from it." While no single individual, organization or community can complete the task of Tikkun Olam, mending and transforming the world, we all must take responsibility and play our part. Reducing our congregation's carbon footprint and living with lightened impact on God's earth through the vision and ingenuity of the PACE program not only makes economic sense, but also represents a sacred act of both responsibility and hope in the future.

– Rabbi Steven Folberg

PROJECT OVERVIEW

PROJECT FINANCING

Lender: Petros PACE Finance

Total Assessment: \$452,105

Utility Provider Incentives: \$11,000

Term: 20 years

- Lender Consent Granted

IMPACT

- Approximately 135,000 kWh in electricity savings annually
- Energy use reduction of approximately 20%

BUILDING

Buildings' Size: 126,000 Square Feet

Built: 1950, 2001

IMPROVEMENTS

Contractor: The Way Companies

- Two air-cooled chilled water machines
- Two heating water boilers
- The application of window film
- BAS controls

PACE IN TEXAS

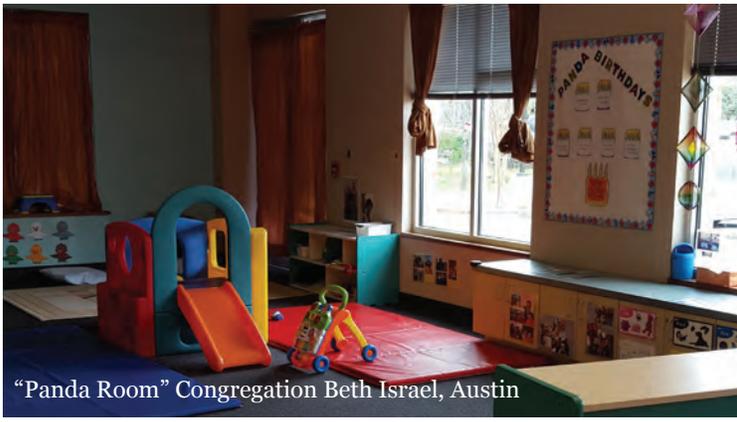
PACE is an innovative program enabling 100% financing for energy and water efficiency projects on commercial property.

FOR MORE INFO CONTACT

The Texas PACE Authority

admin@texaspaceauthority.org

www.texaspaceauthority.org



“Panda Room” Congregation Beth Israel, Austin

HOW DOES PACE WORK?

Property Assessed Clean Energy (PACE) is an innovative financing program that offers commercial, industrial, and large multi-family property owners a voluntary program to obtain up to 100% financing for water conservation, energy-efficiency, and distributed generation retrofits. PACE has great potential to directly affect a business’ bottom line; a project’s savings in utility costs offsets the cost of installing the project. In most instances, this will result in an immediate positive cash flow.

TRAVIS COUNTY

Travis County established Texas’ first PACE program in March 2015. The economic development tool is a voluntary program that allows property owners to obtain long-term financing from private lenders without the use of taxpayer dollars or risk to the county treasury. Loans are repaid to private lenders through an assessment and senior lien placed on the improved property. The Travis County Tax Assessor Collector oversees the PACE program and projects.

www.traviscountytexas.gov/pace

TEXAS PACE AUTHORITY

The Travis County program is administered by the Texas PACE Authority (TPA), a non-profit organization that administers Texas’ new PACE statute by taking a market-based approach to energy finance and economic development. TPA works with all parties – property owners, contractors, and lenders to bring energy and water improvements that are both economically sound and environmentally friendly.

www.texaspaceauthority.org

LENDER CONSENT GRANTED

The Texas PACE statute requires that if the property has a mortgage, then the property owner must obtain the written consent of the mortgagee in order to use PACE financing. CBI received lender consent from its mortgagee.

AUSTIN ENERGY

Austin Energy’s Commercial Energy Efficiency Rebate program provides energy efficiency consultation and rebates for Austin Energy’s mid-to-large sized commercial customers and nonprofits in the Austin Energy service area. These incentives enhance PACE project cash flow.

PETROS PACE FINANCING

Petros PACE Finance, LLC is the first specialty finance firm in the U.S. to dedicate all of its resources to the commercial PACE market nationwide. Petros PACE has projects in Michigan and Texas, and is working on projects in California and Florida as well. The principals of Petros PACE Finance have substantial experience in structured finance and lending, and bring significant value to all parties involved in the transactions in which they participate.

www.petros-pace.com

THE WAY COMPANIES

Founded in 1918, the Way Companies retain in-house design, engineering, and field service personnel specializing in operational cost reduction, comfort control, and infrastructure renewal. Since the 1980s, Way develops and implements building retrofits paid for with reductions in owning & operating costs. Way’s customers range from a university in North Texas to the Statue of Liberty and the Ellis Island Museum. Retrofits include, but are not limited to, HVAC & Lighting Upgrades, Water Conservation and Building Envelope Upgrades.

www.thewaycompanies.com



FOR MORE INFO CONTACT

The Texas PACE Authority
admin@texaspaceauthority.org
www.texaspaceauthority.org



Family Eldercare is the first solar beneficiary of PACE financing in Texas. PACE financing enabled Eldercare to fund its new cool roof and add solar panels without diverting funds from its core mission.

THE PROBLEM:

Family Eldercare is a Central Texas nonprofit organization that has been serving seniors and adults with disabilities for more than 30 years. It needed to increase net operating income and lower business expenses to provide for clients. “With hundreds of people waiting for services, any operational efficiencies we can find allow us to serve more clients,” said Kent Herring, CEO of Family Eldercare. “Our region has the fastest growing population in the country – and the fastest growing senior population as well.” After talks with Circular Energy about adding solar panels it learned that its building needed a new roof to support the distributed generation system. This additional expenditure exceeded the project budget.

THE PACE SOLUTION:

Long term PACE financing allowed Family Eldercare to build a new roof without any out of pocket spending in order to achieve its solar panel goal. Family Eldercare used an energy audit to analyze many efficiency aspects of its facility and get a baseline for potential energy savings. The final PACE project enabled Family Eldercare to finance comprehensive energy efficient upgrades including a new cool roof and solar panels without compromising its operating budget. Using PACE financing on these upgrades actually produced a positive cash flow for the nonprofit.

COMMUNITY IMPACT:

Family Eldercare is a community mission-based organization serving Central Texas since 1982 by ensuring that older adults receive the care they need to remain independent and living in the comfort of their own homes for as long as possible. Today, Family Eldercare provides a wide range of services to older individuals and adults with disabilities and their caregivers. Family Eldercare’s PACE project enables Family Eldercare to stretch every charitable dollar a little further for its clients.

PROJECT OVERVIEW

PROJECT FINANCING

- Lender:** Petros PACE Finance
- Total Assessment:** \$262,000
- Utility Provider Incentives:** \$11,000
 - 7c/kwh PBI Incentives offered
- Term:** 20 years
 - Lender Consent Granted

IMPACT

- Approximately 140,000 kWh in electricity savings annually
- Energy use reduction of approximately 20%

BUILDING

- Building Size:** 126,000 Square Feet
- Built:** 2000

IMPROVEMENTS

- Contractors:** Circular Energy, KENTEX
 - Roofing
 - Cool Roof
 - Solar Panels

PACE IN TEXAS

PACE is an innovative program enabling 100% financing for energy and water efficiency projects on commercial property.

FOR MORE INFO CONTACT

The Texas PACE Authority
admin@texaspaceauthority.org
www.texaspaceauthority.org

HOW DOES PACE WORK?

Property Assessed Clean Energy (PACE) is an innovative financing program that offers commercial, industrial, and large multi-family property owners to participate in a voluntary program to obtain up to 100% financing for water conservation, energy-efficiency, and distributed generation retrofits. PACE has great potential to directly affect a business' bottom line; a project's savings in utility costs offsets the cost of installing the project. In most instances, this will result in an immediate positive cash flow.

TRAVIS COUNTY

Travis County established Texas' first PACE program in March 2015. The economic development tool is a voluntary program that allows property owners to obtain long-term financing from private lenders without the use of taxpayer dollars or risk to the county treasury. Loans are repaid to private lenders through an assessment and senior lien placed on the improved property. The Travis County Tax Assessor Collector oversees the PACE program and projects.

www.traviscountytexas.gov/pace

TEXAS PACE AUTHORITY

The Travis County program is administered by the Texas PACE Authority (TPA), a non-profit organization that administers Texas' new PACE statute by taking a market-based approach to energy finance and economic development. TPA works with all parties – property owners, contractors, and lenders to bring energy and water improvements that are both economically sound and environmentally friendly.

www.texaspaceauthority.org

LENDER CONSENT GRANTED

The Texas PACE Statute requires that if the property has a mortgage, the property owner must obtain the written consent of the mortgagee in order to use PACE Financing. Family Eldercare received lender consent from its mortgagee for this project.



PETROS PACE FINANCING

Petros PACE Finance, LLC is the first specialty finance firm in the US to dedicate all of its resources to the commercial PACE market nationwide. Petros PACE Finance has projects in Michigan and Texas, and is working on projects in California and Florida as well. The principles of Petros PACE Finance have substantial experience in structured finance and lending, and bring significant value to all parties involved in the transactions in which they participate.

www.petros-pace.com

AUSTIN ENERGY

Austin Energy provides a number of commercial rebates and incentives that synergize with the PACE financing package. In this specific instance, AE added roof rebates of \$11,000 dollars to immediately add to the cash flow model for Eldercare. In addition, AE added a production based incentive that is paid as the system produces power, in this case 7cents/kwh produced. For more information about Austin Energy Incentives with PACE projects, go to:

www.powersaver.austinenergy.com

KENTEX ROOFING

KENTEX Roofing Systems, LLC is a diversified commercial roofing contractor specializing in reroofing, new construction and all aspects of leak repair and preventive maintenance. KENTEX ownership and upper management combine over forty years of experience with an unmatched reputation for quality work and customer service. They provide state of the art equipment and a total dedication to safety. For more information go to

<http://kentexroofing.com/>

CIRCULAR ENERGY

With headquarters in Austin, Texas, Circular Energy brings years of combined energy expertise focused on building energy assets and providing innovative electricity products and energy intelligence to help clients manage energy differently. Since 2009, Circular Energy has been dedicated to helping American businesses with high-quality, affordable, resilient and sustainable energy solutions.

<http://www.circularenergy.com>

FOR MORE INFO CONTACT

The Texas PACE Authority

Toll Free: 1-855-738-PACE (7223)

admin@texaspaceauthority.org

www.texaspaceauthority.org



INFO@TEXASPACEAUTHORITY.ORG

1-855-738-7223