PROPERTY ASSESSED CLEAN ENERGY "PACE"

PROGRAM GUIDELINES

Lone Star PACE LLC

Contents

Overview

In 2013, Texas passed legislation giving property owners access to a new form of financing for building energy and water upgrades. Property Assessed Clean Energy (PACE) is a public/private partnership program that builds on a long history of using benefit assessments and serves a public purpose through reducing energy costs, stimulating the economy, improving property valuation, preserving state resources and creating jobs.

PACE allows property owners to access financing to undertake qualifying energy, water efficiency and clean energy improvements on their buildings and repay the investment through an assessment on their property. Similar to a sidewalk or sewer assessment, capital provided under PACE financing is secured by a lien on the owner's property and paid back over time.

Like other benefit assessments, PACE is a non-accelerating senior lien secured by the property. The repayment obligation transfers automatically to the next owner if the property is sold and in the event of default, only the payments in arrears come due. This arrangement spreads the cost of water efficiency and clean energy improvements – such as energy efficient boilers, upgraded insulation, new windows, or solar installations – over the expected life of the measure.

Project payments are tied to the property and are seen as less risky, attracting low-interest private capital raised from the clean energy and energy/water efficiency market with no government financing or bond issuance required. PACE is available to commercial, industrial, non-profit properties, and multifamily properties with five or more units.

The following pages outline the Lone Star PACE (LSP) Program Guidelines that govern all program participants. This guide is a comprehensive overview of how to put together a PACE project under programs administered by LSP. LSP operates using an open-market model of the PACE-in-a-Box program design. Please direct any questions or comments to admin@lonestarpace.com.

Statutory and Programmatic Requirements

There are four keystones of Texas PACE legislation.

Mortgagee Consent

Texas' PACE program requires that the property owner receive the written consent of the mortgage holder before the property is eligible for PACE financing. There are many benefits for a mortgage holder that consents to a PACE assessment with a senior position to its mortgage. Lone Star PACE or the qualified capital provider can help with obtaining consent.

Property Eligibility

In order to be eligible for PACE financing, the property must meet the following requirements:

1. The property must be located within the boundaries of a county or municipality that has adopted a resolution establishing the PACE program.
2. Applicant must provide evidence that it is the legal owner of the property, and all the legal owners of such property agree to participate.
3. The property must be a nonresidential property. Multifamily properties containing five dwelling units or more are eligible.
4. The property must have a property tax identification number. Non-profit buildings with a property tax ID number are eligible.
5. The property owner must provide evidence that the mortgage lien holder (or holders) on the property consents to the PACE assessment.

Project Eligibility

PACE transactions eligible for financing must meet the following requirements:

1. An energy audit or feasibility study must be completed.
2. Installed improvements must lower the energy or water consumption demand of the property or provide on-site generation behind the customer meter.
3. Measures proposed for the project must be permanently fixed to the property. PACE improvements may not be removed from the property during a change of ownership.
4. The term of the PACE assessment must not exceed the weighted average expected useful life (EUL) of the measures. EUL is determined through the energy audit and approved by an independent third party reviewer (ITPR) and the Lone Star PACE in its sole discretion.
5. Energy and water measures together should meet savings to investment ratio (SIR) of greater than 1. Projected savings must be validated (but not guaranteed) by the ITPR.
6. All Projects require the approval of Lone Star PACE.

Voluntary Program

Counties and Cities must adopt a PACE program at the local level before financing is available to property owners in their region.

Example Project Measures

The following list of predominant, long-standing, proven energy efficiency technologies is intended as a reference list for PACE applicants. Even if not included on this list, Lone Star PACE will review proposed technologies and accept them if they meet statutory requirements.

- High-Efficiency Lighting
- Heating, Ventilation, and Air Conditioning (HVAC) Upgrades
- Automated Energy Management and HVAC Controls
- Variable Speed Drives (VSDs) On Motors Fans and Pumps
- Energy Efficient Chillers, Boilers and Furnaces
- Efficient Water Heating Systems
- Combustion and Burner Upgrades
- Fuel Switching Technologies
- Water Conservation Measures Including Irrigation
- Low Flow Water Fixtures
- Heat Recovery from Steam Traps, Water, and Air
- Building Enclosure Improvements
- Renewable Energy Systems
- Combined Heat and Power Cogeneration Systems
- Process Equipment and Automated Controls
- Microgrid Installation

What Can be Included in a PACE Assessment

The goal of PACE financing is that no out of pocket costs are required by the owner. To that end, the final PACE assessment can include:

- Materials and labor necessary for qualified improvement installation;
- Permit fees;
- Inspection fees;
- Capital provider's fees;
- Program application and administrative fees;
- Project development and engineering fees;
- ITPR fees, including verification fees;
- Legal, consulting, and other fees on an actual cost basis; and
- Any other fees or costs that may be incurred by the property owner incident to the installation, modification, or improvement on a specific or pro rata basis (limited to no more than 20% of the total assessment).

PACE Project Process

Below are the detailed the steps involved in putting together a PACE project. The qualified capital provider will assist or complete many of these steps.

Determine PACE Contractor

LSP has partnered with the US Green Building Council's Texas Green Building Marketplace for providing a directory of PACE service providers. After attending a training workshop, a firm can receive a listing. The directory can be found at http://texasgreenbuildingmarketplace.org/listing/guide/pace-related

Determine Capital Provider

Texas PACE is an open-market model, allowing property owners to select from many capital providers. An experienced PACE capital provider can assist with various project tasks and provide guidance. Although LSP does not endorse a specific capital provider, LSP website provides a list of qualified capital providers familiar with PACE for reference.

Eligible capital providers may include:

- Any federally insured depository institution such as a bank, savings bank, savings and loan association and federal or state credit union;
- Any insurance company authorized to conduct business in one or more states;
- Any registered investment company, registered business development company, or a Small Business Administration small business investment company;
- Any publicly traded entity; or
- Any private entity that:
    - Has a minimum net worth of $5 million;
    - Has at least three years' experience in business or industrial lending or commercial real estate lending (including multifamily lending), or has a lending officer that has at least three years' experience in business or industrial lending or commercial real estate lending; and
    - Can provide independent certification as to the availability of funds.
- All capital providers must have the ability to carry out, either directly or through a servicer, the bookkeeping and customer service work necessary to manage the assessment accounts.

Required Application Documents

The primary activity of Lone Star PACE is the review and approval of PACE applications to verify that potential projects meet all statutory requirements. The application review process is based on the PACE-in-a-Box model which was developed by stakeholder groups following the passage of the PACE statute. In most cases, the application to LSP will be submitted by the PACE capital provider, as most if not all of what LSP requires will also be required by the capital provider. See Exhibit B for a list of what documents will need to be submitted to complete an application review.

Note: Property owners contemplating PACE financing for projects should notify Lone Star PACE and receive pre-approval before incurring cost or starting construction. PACE financing can be used for work that has already been completed, but only if that work received prior approval.

Obtain Mortgagee Consent

If a property has an existing mortgage, the holder of the mortgage must consent in writing to a PACE assessment being placed on the property. While this requirement may at first seem daunting, the reality is that a majority of commercial PACE projects involve consent, and this consent can be obtained when a thorough business case is made for it. A qualified capital provider can and should help property owners get consent. There are many good business reasons that mortgagees grant consent, and to date over 100 mortgage lenders have found that approving PACE funded projects makes sense.

- PACE assessments do not accelerate upon default. This means that only the current or past due portion of a PACE financing is senior to a mortgage lender's claim. The increase in property value resulting from PACE project savings will more than offset this fractional amount of the total project cost.
- Every PACE project involves a lender's customer who wants or needs to complete an energy or water related project, such as the installation of solar panels that will reduce or eliminate the cost of purchased electricity or the purchase of a more efficient heating and cooling system to replace an obsolete or failing system. PACE funded projects make good business sense for the building owner, and therefore, the building's mortgage lender.
- Lenders already factor property taxes and assessments into their underwriting models. Some lenders begin their PACE analysis by seeing how the incremental PACE assessment would affect a lending decision. If adding the PACE assessment wouldn't cause the building to exceed established parameters for lending, there should be no reason to object to the use of PACE funding for a project that makes sense.
- PACE projects can increase the debt coverage ratio for mortgage lenders. PACE projects directly reduce a building's operating costs. Coupled with long-term PACE funding, PACE projects result in energy or water cost savings that exceed the amount of the annual PACE assessment, increasing cash flow and a corresponding increase in the debt coverage ratio.
- Because real estate value is based on net operating income, the increased cash flow from a PACE project increases a building's collateral value to the mortgage lender.

Engage an Independent Third Party Reviewer

All PACE projects must be reviewed by an Independent Third Party Reviewer (ITPR) to validate projected savings. The ITPR works for and is chosen by both the property owner and capital provider. The ITPR must have an arms-length relationship with the engineer of record who performs the energy baseline and modeling. Lone Star PACE or the capital provider can help connect property owners with an appropriate reviewer.

The review component will consist of two parts.

- Before Analysis – ITPR will visit property of installation to analyze baseline, energy modeling assumptions, useful life calculation, and projected SIR ratio.
- After Verification – ITPR will visit property of installation to verify project was completed and operating as intended.

Validate Project Savings

The ITPR will execute a review "before analysis" of the project savings and determine if the projected savings are reasonable.

Note: PACE Projects do not require a savings guarantee or performance contract, although the property owner and contractor may enter one if they so choose. Lone Star PACE does not take responsibility for project performance.

Close on Financing

PACE requires a set of contracts be put in place, wherein the property owner voluntarily agrees to the assessment on the property secured by a senior lien and wherein the local government assigns the proceeds of the assessment to the qualified capital provider. LSP will put these contracts together and executes them at the closing. After the financing closes, LSP will then records the notice of the PACE assessment lien on the property with the county clerk.

The PACE project legal documents are the:

- Owner and Local Government Contract
- Capital Provider and Local Government Contract
- Assessment Lien
- Mortgagee Consent (If Applicable)

Construct / Install Project

Texas' PACE program is designed to be flexible and can include pre-construction financing similar to a construction term. Pre-construction financing will include a draw schedule with milestone payments, along with a final draw that is equal to at least 10% of the project cost. This final draw will not be released until LSP receives the final ITPR certificate verifying project completion.

Verify Installation

After project completion, the ITPR will visit the site one final time “after verification” to confirm that the improvements were properly installed and that the project is operating as intended.

Note: Long-term measurement and verification is recommended, but not required.

Reporting

Although LSP does not require traditionally defined M&V, Lone Star PACE will be tracking project performance for City and County reporting purposes. The mechanism for tracking projects is typically measured in resources saved per your and will be determined by LSP and the property owner.

Technical Review Component

The technical methodology incorporated into the review process relies primarily upon the Investor Confidence Project (ICP) - Energy Performance Protocols (EPP) for Standard and Large Commercial Facilities. The ICP EPP contain processes that form a framework for bringing together all aspects of project implementation from establishing a baseline and audit, through M&V. The protocols were created by a large stakeholder community of industry experts and are continuously reviewed and improved. The EPP helps ensure that conservation measures are evaluated consistently throughout the state and creates a national standard for review of PACE projects. More information can be found in the Technical Standards Manual, also included in this guide.

Technical Categories

All projects must first determine what category of technical review they fall under, either a Fast Track Review or Full Assessment Protocol. The Full Assessment Protocol divides an energy/water conservation project into three basic tasks:

1. Establish Energy and Water Baseline Conditions.
2. Create an Energy/Water Assessment Report.
3. Implement the Project.

The Fast Track Review uses a simpler analysis, and is suitable for the following projects:

- Like-for-Like Replacement – Involves like-for-like replacement of energy/water inefficient equipment with more energy/water efficient equipment.
- Single-Measure Efficiency Projects – Installation of single efficiency measures such as window film, additional insulation, or reflective roof coating.
- Distributed Renewable Generation - Installation of an industry accepted renewable energy system such as solar photovoltaic (PV)

Independent Third Party Review (ITPR)

To successfully complete a PACE application, all projects must be accompanied by an Independent Third Party Review (ITPR). The ITPR will conduct a site visit both before and after the project is installed to review baseline measurements, resource modeling, and equipment operation. To be of value, the ITPR must be without conflict or relationship to the project reviewed and ideally follow the same project from initial review to completion. An ITPR must be a licensed Professional Engineer with energy/water efficiency experience and have one of the following certifications:

- American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE)
  - Building Energy Assessment Professional (BEAP)
  - Building Energy Modeling Professional
- Association of Energy Engineers (AEE)
  - Certified Energy Manager (CEM)
  - Certified Measurement and Verification Professional (CMVP)
  - Certified Energy Auditor (CEA)
- Building Commissioning Association
  - Certified Commissioning Professional
- Investor Confidence Project
  - Credentialed Quality Assurance Provider
- AABC Commissioning Group
  - Certified Commissioning Authority

Underwriting Review Component

Every project will also undergo a financial and underwriting review of the applicant's solvency and ability to repay the PACE assessment. LSP will require a list of documents to be submitted, as well as require information from the capital provider verifying the applicant's credit worthiness. These documents can be found in Exhibit B.

Underwriting Metrics

The table below summarizes project metrics to qualify for PACE financing.

Underwriting Criteria	Guideline
Assessment to Value Ratio (ATV)	≤20% of the assessed property value. Requests for a variance are evaluated on a case-by-case basis.
Savings to Investment Ratio (SIR)	≥1.0 Requests for a variance are evaluated on a case-by-case basis.
Mortgage Holder Consent	Written consent required from existing mortgage holders.

Assessment to Value Ratio (ATV)

PACE financings are generally required to be no more than 20% of the assessed property value as defined by the local appraisal district. If a project would like to exceed that ratio, a variance form included in Exhibit B may be submitted.

Savings to Investment Ratio (SIR)

In Texas, PACE projects generally require a SIR > 1 to be approved. This means that over the life of the assessment, the savings from the project are likely to be greater than the cost of the assessment including financing. This logically requires that all projects have a robust savings projection, which must be validated by a third party reviewer. SIR is important for financial underwriting because capital providers want to ensure that borrowers will be able to repay their assessment through the projected utility savings. Any request for a variance of the SIR rule must be made using the form supplied in Exhibit B and must be accompanied by documentation substantiating the need for the variance.

Determine Savings as follows:

Add:

- Avoided annual electricity costs, assuming an appropriate annual escalation of utility electric prices (in most cases, not to exceed 3%);
- Annual demand charge reduction (if claimed, include the specific model demonstrating how this reduction will be achieved);
- Annual revenue from excess electricity sales back to the grid at the wholesale rate, if applicable;
- Any other system-related project revenues; and
- If the property owner has the demonstrated ability to monetize the federal Investment Tax Credit, MACRS depreciation benefits, and/or other depreciation or tax benefits, include the value of those tax savings for each year in which they will be applied. Under PACE, the system owner (either the property owner or a third party owner) is entitled to all tax benefits associated with the system.
- Operational and Maintenance Savings

Note: The general rule followed is that any savings claimed from O&M activities must result in a real decrease in expenditures. The owner's O&M expenditures after implementation need to decrease for savings to be considered, and O&M budget baselines must be based on what the property owner is currently spending. It is ultimately up to the ITPR and program administrator whether and to what extent operational savings will be allowed.

Determine Investment as follows:

Calculate total projected debt service due in respect of the PACE financing including all principal, interest, and any fees over the term of financing. Preventative maintenance costs, extended warranties, or pre-paid service contracts necessary to maintain system operation performance can be added to the investment and capitalized into initial financing.

SIR = Savings / Investment

Example: HVAC and Light improvements
Project Cost: $1,000,000 (including financing costs)
Project Savings: $1,500,000 (over 20-year period)

Savings to Investment Ratio: $\frac{\$1,500,000}{\$1,000,000}$
= SIR 1.5

Note: Lone Star PACE does not guarantee savings, and there is no recourse on the administrator or the local government if savings do not materialize. The issue of long-term project performance is best dealt with between the owner, contractor, and capital provider.

Expected Useful Life (EUL)

PACE assessment term limits are calculated by a weighted cost average of the improvements expected useful life.

Example: HVAC and Light improvements
HVAC: $500,000 and useful life 20 years
Lights: $100,000 and useful life 10 years

Weighted Average: $\frac{(\$500,000)\ (20\ \text{years}) + (\$100,000)\ (10\ \text{years})}{(\$500,000+\$100,000)} = \frac{10,000,000\ \$\text{yrs} + 1,000,000\$\text{yrs}}{\$600,000}$

Expected Useful Life = 18.3 year

Program Administration

The goal of Lone Star PACE is to have an efficient, and financially healthy organization, with minimum operating costs. LSP will charge two types of fees that cover the basic administrative services to complete a PACE project as well as the ongoing program reporting to local governments.

1. Application Fee
    - Amounting to 0.75% of total project cost.
    - Initial $500 to be paid at application. Balance to be paid as part of assessment closing as an origination fee.
2. Ongoing Residual Fee
    - Amounting to 0.10% annually on the assessment, resulting in a declining payment based on the outstanding principal balance to be paid as part of the annual assessment.

Note: This fee can be capitalized and paid in full at closing.

Schedule of Administrative Services

The following are included as part of the administrative fee:

- Application intake and review for administrative/statutory completeness;
- ITPR support, before and after construction (owner funded);
- Pre-Qualification Letter to Property Owner;
- Underwriting review of submitted documents;
- Technical review of submitted documents;
- Preparation of Mortgagee Consent Letter;
- Preparation of Owner Contract and Capital Provider Contract;
- Participation in closing;
- Filing of Assessment Lien; and
- Engagement of ongoing annual reporting plan.

Servicing of Assessments

In Texas, local governments have elected to delegate the collection of their PACE assessment payments to the capital providers directly (or a servicer of their choosing). If requested, a property owner may elect to receive a notice of the upcoming annual assessment payment from the local government included with the annual property tax bill.

In order to receive a notice for the coming year's assessment payment in the same envelope as the real estate tax bill from the local government, PACE projects must close by September 1st of the current year (Example: To receive a notice for the 2017 assessment payment from the local government, the project must close by September 1st, 2016).

Assessment payment schedules typically match the annual property tax payment schedule. In Texas, this means most PACE assessments are paid annually. However, the capital provider may provide another payment schedule if agreed upon.

Collection of Delinquent Payments

The local government is responsible for collecting delinquent payments. By statute, the assessment will be "enforced by the local government in the same manner that a property tax lien against real property may be enforced by the local government." Under no circumstances can the capital provider accelerate the PACE assessment and, in the case of default, the only payment collected will be assessments in arrears.

EXHIBIT A - TECHNICAL STANDARDS MANUAL

TECHNICAL

STANDARDS MANUAL

Lone Star PACE LLC

TECHNICAL STANDARDS MANUAL

TABLE OF CONTENTS

Technical Requirements Overview

In addition to satisfying all underwriting requirements, each project must meet three technical requirements outlined in this manual.

1. The property's current water and energy use must be measured to establish a baseline for comparison.
2. Once an engineer, contractor or installer has prepared the energy/water assessment report, a qualified Independent Third Party Reviewer (ITPR) selected by the property owner performs a site visit and reviews the energy/water assessment report, determining compliance with EPP/Lone Star PACE guidelines. When the project is deemed compliant with EPP/Lone Star PACE guidelines, the ITPR then submits a completed Project Verification Certificate to Lone Star PACE.
3. After the project has been completed, the ITPR must revisit the site to confirm that the improvements were properly installed, meet EPP guidelines, and are operating as intended. The ITPR then submits a Statement of Compliance to Lone Star PACE indicating that the project was properly completed and is operating in accordance with the EPP/Lone Star PACE guidelines.

Note: On their own initiative, property owners are encouraged to maintain the installed project to ensure they receive the ongoing and full benefit of the improvements over time.

Reference Materials

Accepted methods for data collection, measurement, and savings calculations should be used on proposed projects. This manual references several technical documents which will assist in determining pre-retrofit energy and water consumption, predicting retrofit energy and water savings, and verifying whether an installed measure or group of measures is performing as intended.

The technical methodology incorporated into the review process relies primarily upon the Lone Star Pace guidelines and the Investor Confidence Project (ICP) - Energy Performance Protocols (EPP) for Standard and Large Commercial Facilities. Should there be a condition where the guidelines and the protocols are in conflict, the guidelines should be followed.

The ICP EPP contain processes that form a framework for bringing together all aspects of project implementation from establishing a baseline and audit, through M&V. They have been created by a large stakeholder community of industry experts and are continuously reviewed and improved. The EPP helps ensure that conservation measures are evaluated consistently throughout the state and creates a national standard for review of PACE projects.

Technical Standards

The technical standards in EPP relating to baseline determination/calculation, performing energy assessments, and guidelines for performance measurement and verification of energy and water conservation measures respectively are:

- American Society for Testing and Materials (ASTM) E2797-11, Building Energy Performance Assessment (BEPA) Standard (data collection and baseline calculations for the energy audit, building asset data);
- International Performance Measurement and Verification Protocol (IPMVP) (latest edition);
- American National Standards Institute/Building Owners and Managers Association (ANSI/BOMA) Z65.3-2009 (gross floor area measurement);
- ASHRAE Guideline 14-2002 (measurement of energy and demand savings);
- ASHRAE Procedures for Commercial Building Energy Audits (latest edition);
- National Institute of Standards and Technology (NIST) Life-Cycle Costing Manual, NIST Handbook 135 (latest edition);
- ASHRAE Standard 202, Commissioning Process for Buildings and Systems (latest edition);
- ASHRAE Guideline 4, Preparation of Operating and Maintenance Documentation for Building Systems (latest edition);
- ASHRAE Guideline 1.4, The Systems Manual for Facilities; (latest edition);
- ASHRAE Handbook-2011, Fundamentals, Chapter 39 (Codes and Standards); and
- ASHRAE Guideline 14, Whole Building Performance Path (2002 edition).

Other acknowledged resources that may be considered are:

- The Alliance for Water Efficiency (AWE) Conservation Tracking Tool; and
- EPA WaterSense Product Guide.

Independent Third Party Review Process

The Texas PACE law requires an independent third party review the water or energy baseline conditions and the projected water or energy savings for each proposed qualified project. It is the responsibility of the Independent Third Party Reviewer (ITPR) to validate projected future energy or water savings. Additionally, after a qualified project is completed, the ITPR must verify that the qualified project was properly completed and is operating as intended. This requirement provides assurances to the Lone Star PACE program, the property owner, and the qualified capital provider that due diligence has been executed, that a standard of consistency has been applied throughout the PACE process, and that a professional licensed engineer has validated the expected energy and water savings from the proposed project.

Site Visit 1 / Project Verification Certificate (Before)

Once an engineer, contractor or installer has prepared the energy/water assessment report, a qualified Independent Third Party Reviewer (ITPR) selected by the property owner performs a site visit and reviews the energy/water assessment report, determining compliance with EPP/Lone Star PACE guidelines. When the project is deemed compliant with EPP/Lone Star PACE guidelines, the ITPR then submits a completed Project Verification Certificate to Lone Star PACE.

The Reviewer's Certification shall include:

1. A statement that the ITPR has no financial interest in the project.
2. Letter stating the savings (energy, demand, water, and cost) expected project life, and cost are reasonable, follow Lone Star PACE program guidelines and the EPP protocols.
3. Texas Professional Engineer signature and engineering seal.
4. Application for PACE financing will not be considered complete until Reviewer's Certification is submitted.

Note: The Lone Star PACE program does not guarantee projected savings, and it is the responsibility of the property owner to exercise best practices to protect their interests through a contract with the engineer, contractor, or installer responsible for the project's success.

Site Visit 2 / Statement of Compliance (After)

After the project has been completed, the ITPR must revisit the site to confirm that the improvements were properly installed, meet EPP guidelines, and are operating as intended. The ITPR then submits a Statement of Compliance to Lone Star PACE indicating that the project was properly completed and is operating in accordance with the EPP/Lone Star PACE guidelines.

The Statement of Compliance shall include:

1. A statement that the ITPR has no financial interest in the project;
2. A project documentation review letter that covers the PACE Project Report, detailed engineering drawings, designs, and specifications, copies of mechanical, electrical, plumbing, and building permits, and copies of equipment test and balance commissioning reports as well as any change orders; and
3. A Texas Professional Engineer signature and engineering seal.

Note: Retainage funding for the qualified project will not be provided for progress beyond the construction phase, if applicable until Lone Star PACE receives the Statement of Compliance from the ITPR.

Independent Third Party Reviewer Qualifications

To be of value, the work of the ITPR must be both professionally qualified and without conflict or relationship to the project they are reviewing. Ideally, the same ITPR should follow a project from initial review to project completion. An ITPR must be a licensed Professional Engineer with energy/water efficiency experience. The Professional Engineer must have one of the following certifications:

- American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE)
    - Building Energy Assessment Professional (BEAP)
    - Building Energy Modeling Professional (BEMP)
- Association of Energy Engineers (AEE)
    - Certified Energy Manager (CEM)
    - Certified Measurement and Verification Professional (CMVP)
    - Certified Energy Auditor (CEA)
- Building Commissioning Association
    - Certified Commissioning Professional (CCP)

Full Assessment Protocol

A project satisfying the underwriting requirements in Lone Star PACE must also satisfy the Technical Standards required in this manual. This section establishes the basic protocol for complying with Lone Star PACE technical standards. A proposed project qualifying for a Fast Track Protocol established in Section IV, shall use the technical standards in that section.

The Full Assessment Protocol divides a project into four basic tasks:

1. Establish energy and water baseline conditions by collecting utility provider information, consumption and cost data;
2. Create an energy/water assessment report projecting savings of proposed projects when measured against the baseline data;
3. Installation of energy conservation measures (ECMs) and/or water conservation measures (WCMs); and
4. Verify that the qualified project was properly completed and is operating as intended.

Establishing a Baseline

A sound energy and water usage baseline consist of collecting the utility provider information and establishing the critical starting point for accurate projection of potential savings and measurement after implementing ECMs/WCMs. The baseline establishes how much fuel, electricity, and/or water a facility used over the previous 12-month period. It also factors in the impact of independent variables such as weather, occupancy, and operating hours of the property's energy/water use.

For the majority of energy projects, the requirements for establishing a baseline are outlined in the ICP EPP. These protocols currently target energy measures in commercial facilities and are readily adapted to other projects including applicable areas of industrial and agricultural energy as well as water conservation. The EPP provides a roadmap for key elements in performing a successful energy/water retrofit project.

For water conservation projects, the requirements for establishing a baseline are outlined in Federal Energy Management Program's M&V Guidelines: Measurement and Verification for Federal Energy Projects, Version 2.2/3.0. The M&V Guidelines provide applied methodologies for baseline accomplishment. At this time, these protocols do not provide a high level of detail for baselining water efficiency projects. As future, nationally recognized protocols are developed, the PACE Technical Standards will be updated for water projects.

The following table outlines which protocols should be used for establishing a baseline based on facility, project type, and scope.

Facility Type	Full Assessment Requirements
Standard Commercial / Multifamily	Energy: ICP EPP – Standard Commercial (Baselining – Core Requirements, Rate Analysis, Demand, Load Profile, Interval Data) Water: M&V Guidelines v2.2 (Sec VII, p203)*
Large Commercial / Multifamily	Energy: ICP EPP – Large Commercial (Baselining – Core Requirements, Rate Analysis, Demand, Load Profile, Interval Data) Water: M&V Guidelines v2.2 (Sec VII, p203)*
Industrial (Facility)	Energy: ICP EPP – Large Commercial (Baselining – Core Requirements, Rate Analysis, Demand, Load Profile, Interval Data) Water: ICP EPP – Large Commercial (Baselining – Core Requirements, Rate Analysis, Demand, Load Profile, Interval Data)
Agricultural (Facility)	Energy: ICP EPP – Standard Commercial, ICP EPP – Large Commercial (Baselining – Core Requirements, Rate Analysis, Demand, Load Profile, Interval Data) Water: ICP EPP – Standard Commercial, ICP EPP – Large Commercial (Baselining – Core Requirements, Rate Analysis, Demand, Load Profile, Interval Data)
Distributed Generation	Energy: IPMVP Concepts and Practices for Determining Energy Savings in Renewable Energy Technologies Applications (Pages 4-6) Water: IPMVP Concepts and Options for Determining Energy and Water Savings, 2012 (Section 4)

* M&V Guidelines: Measurement and Verification for Federal Energy Projects, Version 2.2; Sec VII M&V for Water Projects.

Energy and Water Audit

The EPP rely upon industry accepted ASHRAE Procedures for Commercial Building Energy Assessment as a technical basis. These procedures define the level of effort for energy audits and provide best practices for auditors and associated project deliverables. ASHRAE also provides necessary sample audit forms and templates for data collection during the audit process.

The level of audit selected is contingent on the complexity of the facility and its installed systems and components, as well as the number and types of anticipated energy and/or water saving opportunities. Information collected during the energy/water audit is integral in determining the facility energy/water baseline conditions. The auditor will also identify energy and water savings opportunities which meet threshold investment requirements and provide verifiable energy and water savings while conducting the audit.

Industrial and Agricultural Projects

For industrial and agricultural projects, an ECM/WCM may affect the facility, a process or equipment used within the facility, or a distinct area outside the facility. Depending on the project, a different protocol shall be used.

Distributed Generation (DG)

For purposes of the Lone Star PACE Technical Standards, the Term Distributed Generation includes energy generation technologies such as CHP, cogeneration, small wind, solar, and biomass systems that generate electricity on the customer's side of the retail electric meter and technologies such as solar water heating and geothermal heat pumps that utilize renewable energy resources to reduce electricity consumption and demand.

DG projects have no pre-retrofit conditions as typically encountered in an energy conservation project. Since DG delivers energy rather than conserves or reduces energy, establishing a pre-retrofit baseline is not a strict project requirement. Metering of delivered energy without a baseline is often recommended in the M&V approach.

DG protocol requirements can be found in IPMVP Concepts and Practices for Determining Energy Savings in Renewable Energy Technologies Applications Volume III; August 2003. Other specific information relevant to DG measurement and verification can be found in IPMVP Concepts and Options for Determining Energy and Water Savings Volume I, January 2012.

Prior Audit

A prior ASHRAE Level II or Level III energy/water audit may be used provided that it was completed within the last three (3) years and that:

- Specific ECMs/WCMs were detailed in the audit and are still viable;
- Energy/water savings were projected for each proposed ECM/WCM;
- Any major facility renovations and/or building additions that occurred after the last audit do not negate relevant findings of the prior audit; and
- Changes in facility equipment and/or facility end-use do not negate findings of the prior audit.

The level of effort associated with updating the project baseline is dependent on the date of the prior audit. If the audit is older than six months, additional energy/water use data will be available and must be included in the updated audit.

In the case where a previous audit was completed in the last six months, savings calculations may be taken directly from the report if applicable. For older energy/water audits, still within the three-year allowable time frame, the following items must be verified and accounted for in updated savings calculations:

- Any change in energy/water and/or demand rates or billing structure;
- Any change to existing facility, system, or project area that significantly affects savings; and
- Any change in building use and/or occupancy that significantly affects savings.

Projected Savings

EPP provides processes that should be used in projecting energy and water conservation savings. Models, spreadsheets, and similar tools must be based on industry standard methodology with sufficient explanation and documentation that savings calculations are transparent and results are readily verifiable. Use of uncommon calculation methods or software is prohibited unless all methodologies associated with their use are well documented by transparent savings calculations and readily verifiable results.

The following table outlines the protocols that should be used to determine projected savings.

Facility Type	Full Assessment Requirements
Standard Commercial / Multifamily	Energy: ICP EPP – Standard Commercial (Savings Calculation) Water: M&V Guidelines v3.0 (Sec 11.6)*
Large Commercial / Multifamily	Energy: ICP EPP – Large Commercial (Savings Calculation) Water: M&V Guidelines v3.0 (Sec 11.6)*
Industrial (Facility)	Energy: ICP EPP – Large Commercial (Savings Calculation) Water: M&V Guidelines v3.0 (Sec 11.6)*
Agricultural (Facility)	Energy: ICP EPP – Standard Commercial, ICP EPP – Large Commercial Water: M&V Guidelines v3.0 (Sec 11.6)*
Distributed Generation	Energy: IPMVP Concepts and Practices for Determining Energy Savings in Renewable Energy Technologies Applications (Page 5, Examples pgs. 9-17) Water: IPMVP Concepts and Options for Determining Energy and Water Savings, 2012 (Section 4)

*M&V Guidelines: Measurement and Verification for Federal Energy Projects Version 3.0.

Verifying Completion and Operation

The Texas PACE law states, "After a qualified project is completed, the local government shall obtain verification that the qualified project was properly completed and is operating as intended." The following table outlines the protocols that should be used for verifying proper project completion and operation.

Facility Type	Full Assessment Requirements
Standard Commercial / Multifamily	Energy: ICP EPP – Standard Commercial (Operations, Maintenance, and Monitoring, Measurement and Verification) Water: M&V Guidelines v3.0 (Sec 11.6)*
Large Commercial / Multifamily	Energy: ICP EPP – Large Commercial (Operations, Maintenance, and Monitoring, Measurement and Verification) Water: M&V Guidelines v3.0 (Sec 11.6)*
Industrial (Facility)	Energy: ICP EPP – Large Commercial (Operations, Maintenance, and Monitoring, Measurement and Verification) Water: M&V Guidelines v3.0 (Sec 11.6)*
Agricultural (Facility)	Energy: ICP EPP – Standard Commercial (pgs. 19-22), ICP EPP – Large Commercial (Operations, Maintenance, and Monitoring, Measurement and Verification) Water: M&V Guidelines v3.0 (Sec 11.6)*
Distributed Generation	Energy: IPMVP Concepts and Practices for Determining Energy Savings in Renewable Energy Technologies Applications (Page 5, Examples pgs. 9-17) Water: IPMVP Concepts and Options for Determining Energy and Water Savings, 2012 (Section 4)

*M&V Guidelines: Measurement and Verification for Federal Energy Projects Version 3.0.

Fast Track Approach

The Fast Track Approach enables accelerated implementation of projects that meet specific eligibility. The Fast Track Approach often reduces project expenses associated with audit costs and, in some cases, the time required to review the proposed project. The property owner and contractor must decide whether the project qualifies for the Fast Track Approach and whether this approach is applicable. For those projects that do not qualify under the Fast Track eligibility criteria, the Full Assessment protocols are required. The qualifications for an ITPR under the Fast Track Approach are the same as qualifications for a Full Assessment.

The Fast Track Approach is deemed relevant and appropriate for the following projects specified below. The required procedures and documentation are unique to each project.

1. Like-for-Like Replacement - Projects that involve like-for-like replacement of energy/water inefficient equipment with more energy/water efficient equipment. Examples may include a lighting retrofit or A/C unit upgrade.
2. Single-Measure Efficiency Projects - Single efficiency measures such as window film, additional insulation, or reflective roof coating.
3. Distributed Renewable Generation - Projects that involve only the installation of an industry accepted renewable energy system such as solar photovoltaic (PV).

Note: Projects with an assessment to value ratio exceeding 10% are not eligible for Fast Track Approach.

Establishing a Baseline

The following information is required to establish a baseline for a Fast Track approach project.

Site Visit

- Confirm building characteristics and major components.
- Records collection (equipment, systems, utilities).
- Staff/occupant interviews.
- Walk-through inspection (written and photo documentation).
- Verification of all collected information by a third party reviewer.

Records/Data Collection

- Building construction data
- Equipment data – HVAC, etc.
- Building operating data
- Energy consumption data
- Water consumption data
- Weather data
- Previous audit reports

Note: Not all items listed will be applicable. Data collected is at the discretion of the professional performing the baseline work and subject to third party review.

Pertinent Interviews (optional)

- Concerning general building characteristics
- Operations of major building systems/components
- Past building operational history (service call logs)

Note: Verification of all collected information is required as part of the Site Visit to determine if there has been significant change; if verified, it is not necessary to conduct repeat interviews.

Review/Analysis of Collected Materials

- Data conversion and normalization
- Determine building energy and water consumption metrics
- Perform modeling and simulation as applicable
- Determine renewable energy system production as applicable

Preparation of Final Assessment Report

- Includes building energy/ water cost and performance
- Energy and use by area (HVAC, lighting), fuel (gas, electric), indoor or outdoor water usage

Note: If a unit of energy or water using equipment is beyond its useful service life, the work associated with the baseline analysis can be considerably reduced. Document the building's age, condition, operating parameters, and expected useful life based on manufacturer's warranty data or ASHRAE guidelines. If the project is a distributed renewable generation project, collect and document information on building structure and orientation relevant to installation, production, and maintenance. For WCMs, not all baseline data collection and analysis apply.

Projected Savings

The requirements in this section are derived in part from the EPP for commercial facilities and are applicable to multifamily units. For single component/system ECMs or WCMs, the contractor should provide appropriate annotations to assist in determining whether a listed requirement is necessary.

The following are considered the minimum requirements in determining savings from energy and water conservation measures under a Fast Track approach:

- Use of industry standard methodology, spreadsheet or software used in savings calculations;
- Detailed outline for savings calculation methodology; should be transparent and easily replicated by independent third party reviewer;
- Reasonable comparison of energy/water pre-retrofit estimates to historical end-use data (for single measure/single component retrofits, use only necessary data set for calibration);
- Consideration of interactive effects of related loads or systems and potential for additional ECMs/WCMs which would affect the appropriate capacity or cost-effectiveness of equipment being replaced;
- Validation of return on investment (ROI) figures based on the previous audit or newly incorporated data sets;
- Validation of ECM/WCM implementation costs including labor and materials estimates; and
- Validation of savings.

The following items are the minimum that must be verified and accounted for in savings calculations for projects that propose the installation of an industry accepted renewable energy system, e.g., solar photovoltaic (PV), approved for interconnection by local utility:

- Current energy and demand rates;
- Applicability of incentives, rebates, and local utility requirements;
- Current distributed renewable generation component pricing, including design and installation of systems;
- Current electrical and/or building code requirements; and
- Current zoning and emissions requirements as they impact the project.

Verifying Completion and Operation

The Texas PACE law states, “After a qualified project is completed, the local government shall obtain verification that the qualified project was properly completed and is operating as intended.”

The requirements in this section follow M&V as referenced in the EPP for standard and large commercial facilities in conjunction with IPMVP Concepts and Options for Determining Energy and Water Savings Volume I, January 2012. The requirements support projects with a single component replacement or multiple ECMs/WCMs or distributed renewable generation system, qualifying as a Fast Track project.

For single component/system conservation measures, the following are the minimum requirements in verifying completion and operation of installed measures under the Fast Track method:

- ITPR review of the installation of the required number and type of ECMs/WCMs as specified in the audit and project design/construction documents; and
- ITPR review of the proper installation and operation of all ECMs/WCMs as specified in the audit
- and project design/construction documents:
    - Ensure that operation and function meet design intent of the project;
    - Determine that installed ECMs/WCMs will provide savings as estimated in original audit findings and commensurate with baseline analysis; and
    - Determine that installed ECMs/WCMs will meet or exceed service life estimates based on the observed operation.

For distributed renewable generation projects, the following are the minimum requirements in verifying completion and operation of installed measures under the Fast Track method:

- ITPR review of the installation of the required number and type of system components as specified in the audit and project design/construction documents; and
- ITPR review of the proper installation and operation of all components as specified in the audit and project design/construction documents:
    - Ensure that operation and function meet design intent of the project;
    - Determine that the installed system will provide savings as estimated in original audit findings and commensurate with baseline analysis; and
    - Determine that the installed system will meet or exceed service life estimates based on the observed operation.

REPORTING

The property owner is required to provide a post-construction Annual Savings Reports to the PACE administrator to measure the impact of the PACE program. This report shall be submitted during the term of the assessment or through a term negotiated between the PACE Program Administrator and the property owner. Information required within the post-construction Annual Savings Reports shall be determined between the PACE Program Administrator and the property owner. These Annual Savings Reports shall be submitted by the property owner

Industrial Protocol

Industrial energy/water conservation projects can impact the facility, a process inside the facility, or a combination of the facility and process inside the facility. It will be necessary to determine the affected area of the facility or the site before moving forward with the auditing and baseline determination process. This protocol serves as a general guideline for the facility owner.

Industrial Energy/Water Protocol (Facility)

For ECMs/WCMs considered to affect, conserve, or reduce energy/water resources in the facility and are not directly linked to any process application, the EPP for Standard and Large Commercial will be followed as applicable. The sections below reference the appropriate EPP and indicate the minimum procedures and documentation required. Since all targeted measures or combination of measures are not known at this time, applicable portions of the EPP will be followed as necessary.

Establishing a Baseline

Document	Section Reference
ICP EPP Standard Commercial	Baselining – Core Requirements, Rate Analysis, Demand, Load Profile, Interval Data
ICP EPP Large Commercial	Baselining – Core Requirements, Rate Analysis, Demand, Load Profile, Interval Data

Savings Calculation

Document	Section Reference
ICP EPP Standard Commercial	Savings Calculation
ICP EPP Large Commercial	Savings Calculation

Verifying Completion and Operation

Document	Section Reference
ICP EPP Standard Commercial	Operations, Maintenance, and Monitoring, Measurement and Verification
ICP EPP Large Commercial	Operations, Maintenance, and Monitoring, Measurement and Verification

Industrial Energy/Water Protocol (Process)

For ECMs/WCMs considered to affect, conserve, or reduce energy/water resources for a selected process in an industrial facility, it is expected that most measures will conform to appropriate *IPMVP Concepts and Options for Determining Energy and Water Savings Volume I, January 2012.*, Option A – Retrofit Isolation: Key Parameter Measurement or Option B – Retrofit Isolation: All Parameter Measurement will provide the necessary requirements for savings verification, while other sections of the IPMVP document will be pertinent to establishing the baseline.

Establishing a Baseline

Document	Section Reference
ICP EPP Standard Commercial	Baselining – Core Requirements, Rate Analysis, Demand, Load Profile, Interval Data
ICP EPP Large Commercial	Baselining – Core Requirements, Rate Analysis, Demand, Load Profile, Interval Data

Savings Calculation

Document	Section Reference
ICP EPP Standard Commercial	Savings Calculation
ICP EPP Large Commercial	Savings Calculation

Verifying Completion and Operation

Document	Section Reference
ICP EPP Standard Commercial	Operations, Maintenance, and Monitoring, Measurement and Verification
ICP EPP Large Commercial	Operations, Maintenance, and Monitoring, Measurement and Verification

Agricultural Protocol

For agricultural conservation projects, it is necessary to determine the affected area of the facility, site, or property. This protocol serves as a general guideline to direct the facility owner towards actions which have a basis in proven engineering concepts.

In general, a proposed project for agricultural energy/water conservation may affect:

1) A facility related to agricultural operations;
2) An isolated equipment component or system (pumps, motors, etc.); or
3) A distinct water use area (i.e., irrigation).

Agricultural activities outside the facility differ from those normally encountered in commercial and/or industrial areas in that water use and the energy associated with the delivery of water may account for a larger percentage of costs relative to the overall energy/water budget. This may be especially true in the farming sector including greenhouse operations.

Agricultural Energy Protocol (Facility)

For ECMs/WCMs considered to affect, conserve or reduce energy/water resources in an agricultural facility and that is not directly linked to agricultural irrigation or any process application outside the facility, the EPP for Standard and Large Commercial should be followed as applicable. The sections below reference the appropriate EPP and indicate the minimum required items as listed in the document. Since all targeted measures or combination of measures are not known at this time, applicable portions of the EPP should be followed as necessary.

Establishing a Baseline

Document	Section Reference
ICP EPP Standard Commercial	Baselining – Core Requirements, Rate Analysis, Demand, Load Profile, Interval Data
ICP EPP Large Commercial	Baselining – Core Requirements, Rate Analysis, Demand, Load Profile, Interval Data

Savings Calculation

Document	Section Reference
ICP EPP Standard Commercial	Savings Calculation
ICP EPP Large Commercial	Savings Calculation

Verifying Completion and Operation

Document	Section Reference
ICP EPP Standard Commercial	Operations, Maintenance, and Monitoring, Measurement and Verification
ICP EPP Large Commercial	Operations, Maintenance, and Monitoring, Measurement and Verification

Agricultural Energy Protocol (Equipment/Systems)

Implementing water-efficiency in the agricultural sector where the majority of water and energy are consumed in irrigation most often use IPMVP Option A (Retrofit Isolation: Key Parameter Measurement) although Option B (Retrofit Isolation: All Parameter Measurement) is also viable depending on the specific measure and the affected equipment or system. The sections below reference the appropriate IPMVP protocols and indicate the minimum required items as listed in the document. Since all targeted measures or combination of measures are not known at this time, applicable portions of the IPMVP should be followed as necessary.

Establishing a Baseline

Document	Section Reference
IPMVP Concepts and Options for Determining Energy and Water Savings Volume I	Chapter 4 (as applicable); selection criteria Fig. 4, p. 33 and Table 3, P. 34

Savings Calculation

Document	Section Reference
IPMVP Concepts and Options for Determining Energy and Water Savings Volume I	Chapter 4 (as applicable); selection criteria Fig. 4, p. 33 and Table 3, p. 34

Verifying Completion and Operation

Document	Section Reference
IPMVP Concepts and Options for Determining Energy and Water Savings Volume I	Chapter 4 (as applicable); selection criteria Fig. 4, p. 33 and Table 3, p. 34

Agricultural Water Protocol

Water conservation projects are intended to provide savings through reduced water consumption as a result of improved performance of water consuming equipment, fixtures, or controls. Savings can also result from reduced water supply charges, sewer charges, and/or energy costs depending on the conservation measure implemented. Energy savings are commonly achieved by reduced water heating, and additional savings may be realized for facilities that use pumps to boost water pressure or to irrigate with groundwater, or at facilities with on-site water treatment systems. The performance of many common water conservation projects can be accounted for through short-term measurements and usage factors can be estimated, water savings are most often verified using IPMVP Option A (Retrofit Isolation: Key Parameter Measurement).

Key issues related to water conservation projects which should be observed are:

- Determining equipment inventory for baseline and post-installation;
- Establishing existing equipment performance for each type of device/system;
- Determining usage characteristics of each type of device/system;
- Determining post-installation equipment performance for each type of device/system; and
- Accounting for any known or observed interactive effects.

The sections below reference the appropriate IPMVP protocols and indicate the minimum required items as listed in the document. Since all targeted measures or combination of measures are not known at this time, applicable portions of the IPMVP should be followed as necessary.

Establishing a Baseline

Document	Reference
IPMVP Concepts and Options for Determining Energy and Water Savings Volume I	Chapter 4 (as applicable); selection criteria Fig. 4, p. 33 and Table 3, P. 34

Savings Calculation

Document	Reference
IPMVP Concepts and Options for Determining Energy and Water Savings Volume I	Chapter 4 (as applicable); selection criteria Fig. 4, p. 33 and Table 3, p. 34

Verifying Completion and Operation

Document	Reference
IPMVP Concepts and Options for Determining Energy and Water Savings Volume I	Chapter 4 (as applicable); selection criteria Fig. 4, p. 33 and Table 3, p. 34

EXHIBIT B – PROGRAM DOCUMENTS

PROPERTY ASSESSED CLEAN ENERGY PROGRAM

REQUIRED DOCUMENTS CHECKLIST

The following will be required as part of the PACE application review process:

- ☐ Signed Property Owner Certification
- ☐ Copy of the Property tax bill and/or Central Appraisal District Property ID number
- ☐ Certificate of Fact from the Texas Secretary of State's Office showing entity in good standing
- ☐ Verification of Franchise Tax Account Status from the Texas Comptroller of Public Accounts

The following will be required prior to closing:

- ☐ Copy of feasibility study and/or energy audit (If not Fast Track)
- ☐ Signed and Sealed ITPR Project Verification Certificate
- ☐ Property Title Report prepared by Title Insurance Company
- ☐ Certificate of Incumbency and Consents (Authorizing Signatory)
- ☐ Signed Qualified Capital Provider Certification

The following may be required for final project approval prior to closing:

- ☐ Certificate of Occupancy
- ☐ Appraisal of Property completed during prior 6 months (if required by Capital Provider)
- ☐ Consent Letter to PACE from Mortgagee (if applicable)

The following will be required post-construction for final project completion:

- ☐ Signed and Sealed ITPR Statement of Compliance
- ☐ Receipts of Expenditures

PROPERTY ASSESSED CLEAN ENERGY PROGRAM

PROPERTY OWNER CERTIFICATION

I, the undersigned Property Owner, hereby certify the following facts with respect to the project described in the Project Application No._____ (the "Project") under the [CITY/COUNTY] Property Assessed Clean Energy Program:

OWNER CERTIFIES:

- The owner is not subject to any outstanding, unsatisfied judgment.
- The owner has not had any property sold at foreclosure in the previous 5 years.
- The owner has not been the subject of bankruptcy proceedings in the previous 5 years.
- The owner has been current with all ad valorem taxes & assessments on property for 3 years.
- The owner is current on all debts secured by the property (other than a mortgage for which consent has been granted).
- The owner has clear title to the property with no encumbrances.
- The Property is not subject to any outstanding tax liens or notices of default.

OWNER IS ABLE AND WILLING TO PROVIDE:

- Certificate of Status from the Secretary of State of Texas.
- Verification of Franchise Tax Account Status from the Texas Comptroller of Public Accounts
- Current Title Report demonstrating property is free of all liens including mechanics liens.
- Written consent to PACE lien from property Mortgagee, if applicable.

I UNDERSTAND THAT: UNDER STATE LAW, THE PROGRAM ADMINISTRATOR IS REQUIRED TO VERIFY THAT OWNERS CAN DEMONSTRATE FINANCIAL STANDING. I CERTIFY THAT THE ABOVE RESPONSES ARE TRUE AND CORRECT AND THAT I WILL PROVIDE EVIDENCE OF SUCH TO THE PROGRAM ADMINISTRATOR.

_____	_____
Signature	Date
_____	_____
Title	Company/Firm
_____	
Print Name	

PROPERTY ASSESSED CLEAN ENERGY PROGRAM

QUALIFIED CAPITAL PROVIDER CERTIFICATION

I, the undersigned Qualified Capital Provider, hereby certify that the underwriting factors implemented with respect to the project described in the Project Application Number _____ (the "Project") under the [CITY/COUNTY] Property Assessed Clean Energy Program, require that the owner of the property on which the Project is to be located ("Property Owner") verify to Qualified Capital Provider the following facts regarding Property Owner and the Project.

THE PROPERTY OWNER VERIFIED TO QUALIFIED CAPITAL PROVIDER THAT:

- Property Owner is the legal owner of record of the benefitted property;
- Property Owner is current on all mortgage and property tax payments;
- Property Owner is not insolvent or in bankruptcy proceedings;
- Property Owner has the financial ability to fulfill the financial obligations to be repaid through contractual assessments and that the ratio of the assessment to the assessed value of the property is appropriate;
- Property Owner is not subject to any outstanding, unsatisfied final judgment;
- Property Owner has not had any property sold at foreclosure in the previous 12 months; and
- Property Owner has provided a current title report to Lender and the property is not subject to any liens, including mechanics liens, and title to the property is not in dispute.

I UNDERSTAND THAT UNDER STATE LAW, THE PROGRAM ADMINISTRATOR IS REQUIRED TO VERIFY THAT CERTAIN UNDERWRITING FACTORS ARE IMPLEMENTED TO VERIFY THAT OWNERS CAN DEMONSTRATE FINANCIAL STANDING. I CERTIFY THAT THE UNDERWRITING FACTORS IMPLEMENTED WITH RESPECT TO THE PROJECT REQUIRED PROPERTY OWNER TO VERIFY THE ABOVE-LISTED FACTS TO CAPITAL PROVIDER AND THAT I WILL PROVIDE EVIDENCE OF SUCH TO THE PROGRAM ADMINISTRATOR IF REQUESTED.

_____	_____
Signature	Date
_____	_____
Title	Company/Firm
_____	
Print Name	

PROPERTY ASSESSED CLEAN ENERGY PROGRAM

CONSENT TO VARIANCE OF SIR/ATV RECOMMENDATION

We, the undersigned Property Owner, and Qualified Capital Provider, hereby acknowledge the following facts with respect to the project described in the Project Application Number _____ the "Project") under the [CITY/COUNTY] Property Assessed Clean Energy Program:

The Project:

- Does not have a Savings to Investment Ratio ("SIR") greater than 1. SIR = _____
- The value of the project exceeds 20% of the assessed value of the property.
- Assessment to Value Ratio ("ATV") = _____

The undersigned certifies that:

- The Property Owner and Qualified Capital Provider are aware that one or more of the recommended metrics for PACE Projects are not being met.
- The Property Owner has demonstrated a valid need for the Project and means for paying the PACE Assessment as agreed.

Qualified Capital Provider Signature	Date
Title	Company/Firm
Property Owner Signature	Date
Title	Company/Firm

REASONS FOR REQUESTING VARIANCE (EXPLAIN BELOW)

PROPERTY ASSESSED CLEAN ENERGY PROGRAM

ITPR PROJECT VERIFICATION CERTIFICATE

I, the undersigned Independent Third Party Review ("ITPR"), hereby certify the following facts with respect to the project described in the attached Project Application Number: _____ (the "Project") under the [CITY/COUNTY] Property Assessed Clean Energy Program.

1. I have the professional qualifications to be an ITPR, in that:
   A. I am a licensed Professional Engineer in the State of Texas, whose registration number and seal are shown below; and
   B. I have experience in energy or water efficiency, including one or more of the professional credentials listed below:
      - Building Energy Assessment Professional (BEAP) or Building Energy Modeling Professional (BEMP) by the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE);
      - Certified Energy Manager (CEM), Certified Measurement and Verification Professional (CMVP), or Certified Energy Auditor (CEA) by the Association of Energy Engineers;
      - Certified Commissioning Professional by the Building Commissioning Association;
      - Credentialed Quality Assurance Provider from the Investor Confidence Project;
      - Certified Commissioning Authority from the AABC Commissioning Group;
      - Five Years Relevant Project Experience in Energy / Water Efficiency.
2. I do not have any conflicting financial interest in the Project, in that:
   A. Neither I nor any member of my family nor any company that I own or have a financial interest in has any ownership or financial interest in the Project, the engineer/contractor, the real property, or its owner; and
   B. Neither I nor any member of my family nor any company that I own or have a financial interest in has provided or will provide any products or services for the Project other than an independent third party review.
3. I personally visited the site of the Project on _____ and examined the energy/water assessment report compiling the baseline measurements of the property's current energy or water consumption and the projected energy or water savings to result from the Project. I evaluated the energy/water assessment report and pro forma model to determine its compliance with generally accepted methods for data collection, measure, and savings calculations, including, as applicable, the technical methodology described in the Investor Confidence Project (ICP) – Energy Performance Protocols (EPP) (http://www.eeperformance.org) and other widely used technical reference documents.

4. On the basis of the energy/water assessment report and my evaluation, and as long as the established baseline conditions remain materially the same, the projected reductions in water or energy consumption or demand to result from the Project are realistic and reasonable in accordance with generally accepted engineering practices to the best of my knowledge and that this knowledge is based on the on-site investigation of the facilities involved, and the period of the PACE contractual assessment does not exceed the useful life of the Project.
5. The Project is a permanent improvement fixed to real property and intended to decrease water or energy consumption or demand, including a product, device, or interacting group of products or devices on the customer's side of the meter that uses energy technology to generate electricity, provide thermal energy, or regulate temperature, and hence is a qualified project under the PACE Act.

SIGNED: _____, 20_____.

ITPR Signature	Company/Firm
Texas Professional Engineer Registration No.	Address
(SEAL)	City, State, Zip Code

PROPERTY ASSESSED CLEAN ENERGY PROGRAM

ITPR STATEMENT OF COMPLIANCE

I, the undersigned Independent Third Party Review ("ITPR"), hereby certify the following facts with respect to the project described in the attached Project Application Number: _____ (the "Project") under the [CITY/COUNTY] Property Assessed Clean Energy Program:

1. I have the professional qualifications to be an ITPR, in that:
   A. I am a licensed Professional Engineer in the State of Texas, whose registration number and seal are shown below; and
   B. I have experience in energy or water efficiency, including one or more of the professional credentials listed below:
      - Building Energy Assessment Professional (BEAP) or Building Energy Modeling Professional (BEMP) by the American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE);
      - Certified Energy Manager (CEM), Certified Measurement and Verification Professional (CMVP), or Certified Energy Auditor (CEA) by the Association of Energy Engineers;
      - Certified Commissioning Professional by the Building Commissioning Association;
      - Credentialed Quality Assurance Provider from the Investor Confidence Project;
      - Certified Commissioning Authority from the AABC Commissioning Group;
      - Five Years Relevant Project Experience in Energy / Water Efficiency.
2. I do not have any conflicting financial interest in the Project, in that:
   A. Neither I nor any member of my family nor any company that I own or have a financial interest in has any ownership or financial interest in the Project, the engineer/contractor, the real property, or its owner; and
   B. Neither I nor any member of my family nor any company that I own or have a financial interest in has provided or will provide any products or services for the Project other than an independent third party review.
3. I personally visited the site of the Project on _____ and observed, based on my inspection, review of construction and commissioning documents made available to me, and witnessing of operations, that the improvements described in the Project Application have been completed and are operating as intended.
4. The attached project documentation review letter provides details of my findings and conclusions.

SIGNED: _____, 20_____

ITPR Signature	Company/Firm
Texas Professional Engineer Registration No.	Address
(SEAL)	City, State, Zip Code