CLEAN ENERGY FINANCE GUIDE, THIRD EDITION

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Chapter 13.

Commercial Property-Assessed Clean Energy (PACE) Financing

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Introduction

Summary

The property-assessed clean energy (PACE) model is a new, innovative mechanism for financing energy efficiency and renewable energy improvements on private property—commercial or residential. PACE programs allow local governments, when authorized by state law, to fund energy improvements on commercial and residential properties.

PACE financing for clean energy projects is generally based on an existing structure known as a "land-secured financing district," often referred to as an assessment district, a local improvement district, or other similar phrase. In a typical assessment district, the local government issues bonds to fund projects with a public purpose such as streetlights, sewer systems, or underground utility lines. The recent extension of this financing model to energy efficiency (EE) and renewable energy (RE) allows a property owner to implement improvements without a large up-front cash payment. The property owners that voluntarily choose to participate in a PACE program repay their improvement costs over a set time period—typically 10 to 20 years—through property assessments, which are secured by the property itself and paid as an addition to the owners' property tax bills. Nonpayment generally results in the same set of repercussions as the failure to pay any other portion of a property tax bill.

A PACE assessment is a *debt of property*, meaning the debt is tied to the property as opposed to the property owner(s), so the repayment obligation transfers with property ownership. This eliminates a key disincentive to investing in energy improvements whereby property owners are hesitant to make property improvements if they think they may not stay in the property long enough for the resulting savings to cover the upfront costs.

Residential PACE programs have recently received considerable attention and regulatory scrutiny. Recent FHFA guidance letters have caused many residential PACE programs to suspend operations, but they do not directly affect commercial PACE programs.

Is PACE the Right Choice?

A summary of the key advantages and disadvantages of PACE for property owners is presented below in Table 1.

Table 1 - PACE Advantages and Disadvantages

PACE Advantages	PACE Disadvantages
• Allows for secure financing of comprehensive projects over a longer term than does traditional financing, making more projects cash flow positive (i.e., monthly energy savings are greater than monthly principal and interest payments). • Transfers the repayment obligation with ownership, potentially overcoming hesitancy to invest in longer payback measures* by spreading repayment over many years and removing the requirement that the debt be paid at sale or refinance. • Can lead to low interest rates because of the high security of loan repayments as a result of their attachment to the property tax bill. • Helps some property owners deduct payments from their income tax liability. • Allows municipalities to encourage energy efficiency and renewable energy without putting their general funds at risk. • Taps into large sources of private capital, such as the municipal bond markets.	• Available only to property owners; renters cannot access the program directly. • Cannot finance portable items (e.g., screw-in light bulbs, standard refrigerators, etc.). • Can require dedicated local government staff time. • High legal and administrative expenses to set up. • Not appropriate for investments below $2,500 due to minimum origination and administrative costs. • Potential resistance by lenders/mortgage-holders whose claim to the property may be subordinated to the unpaid assessment amount should the property go into foreclosure.

* In this chapter, a "measure" stands for a single improvement that has been or can be made to a property to reduce its energy usage. One or more measures to be implemented on a property to improve energy efficiency are referred to as a "project."

For details on the above points, as well as advantages from the local government point of view, see Attachment A. Advantages and Disadvantages of PACE.

Overview of Steps to Launch Commercial PACE

This section presents the key steps that local governments (grantees) may follow to implement a commercial PACE program. The 13 steps are first summarized:

1. **Review and Address Issues:** Become familiar with issues related to PACE and factor their impact into program design and implementation.
2. **Establish Supporting Framework:** Lay a solid foundation for the program in the areas of team composition, goals, legislation, and assessment district formation.
3. **Choose Capital Sourcing Approach(es):** Choose how the financing will be funded.
4. **Choose Credit Enhancement and Apply the American Recovery and Reinvestment Act of 2009 (ARRA) Funds:** Decide how to achieve the best interest rates for the program and how best to apply and leverage ARRA funds to fit the program's design.
5. **Choose Eligible Property Types:** Select the commercial property types eligible for the program.
6. **Assemble Eligible Project Measures:** Draw up a list of project measures eligible for PACE financing.
7. **Choose Energy Audit Requirements:** Decide the types of energy audits applicants will be required to undergo to assess expected project energy/cost savings.
8. **Choose Program Eligibility Criteria:** Determine the program underwriting/eligibility criteria that applicants and their properties must meet.
9. **Leverage Existing Utility Rebate/Incentive Programs:** Investigate local utility rebate/incentive programs and how best to leverage them.
10. **Plan Quality Assurance/Quality Control:** Decide how the program will ensure that project work meets program quality standards and how to guard against fraud.
11. **Design Application Processing Procedures:** Design the process for reviewing applications and either approving or rejecting them.
12. **Specify Contractor Requirements:** Specify the requirements for energy auditors and contractors to participate in the program.
13. **Market and Launch Program:** Decide what kind of outreach will be made to property owners and contractors and launch the program.

The following sections correspond to and expand on each of the steps above. Note that many steps will be carried out concurrently and not necessarily in this exact order.

1. Review and Address Issues

1.1 Current Regulatory Issues

On July 6, 2010, the Federal Housing Finance Agency (FHFA) issued a statement that PACE programs with senior lien position[1] "present significant safety and soundness concerns that must be addressed by

[1] *Senior lien position* refers to a debt having priority over all other debt on a property in the case of foreclosure (i.e., it gets paid off first before other outstanding debt, including mortgages). Most PACE programs use a senior lien position for the PACE debt because the PACE assessments are part of the property taxes, and property taxes are already senior to other property debt. But there are some PACE programs that use a *subordinate* or *junior* position instead, which means the mortgage has priority over the PACE debt.

Fannie Mae, Freddie Mac, and the Federal Home Loan Banks." In particular, PACE liens were deemed to "run contrary to the Fannie Mae-Freddie Mac Uniform Security Instrument...." —i.e., the standard mortgage contract.

The FHFA letter was specific to home mortgage lending and did not directly address or challenge commercial PACE programs. Regulatory hurdles for commercial PACE are distinct from those for residential PACE. In addition, commercial PACE programs require that the property owner obtain the consent of the mortgage lender before a PACE assessment can be placed upon the property. Such lender consent protocols address the contractual encumbrance clause issues (see Section 1.2).

On the same day the FHFA released its statement, the Office of the Comptroller of the Currency (OCC) also issued PACE guidance. The OCC regulates national banks. This statement raised additional concerns by specifically mentioning commercial properties in its statement that "safety and soundness concerns" exist.

> "The Office of the Comptroller of the Currency (OCC) is issuing this guidance to alert national banks to concerns and regulatory expectations regarding certain state and local lending programs for energy retrofitting of **residential and commercial properties***, frequently termed a Property Assessed Clean Energy (PACE) program. PACE or PACE-like programs use the municipal tax assessment process to ensure repayment. Under most of these programs, such loans acquire priority lien, thereby moving the funds advanced for energy improvements ahead of existing first and subordinate mortgage liens. This lien infringement raises significant safety and soundness concerns that mortgage lenders and investors must consider." [*Note: emphasis added]

Most of the OCC statement addressed residential mortgage issues, but it gave specific guidance regarding commercial PACE in one section.

> "National bank lenders should take steps to mitigate exposures and protect collateral positions. For existing mortgage and home equity loans, actions may include the following in accordance with applicable law:... **In the case of commercial properties, securing additional collateral***." [*Note: emphasis added]

The U.S. Department of Energy (DOE) and industry experts are seeking clarification on what this statement means. One possible interpretation is that commercial lending standards[2] may be increased throughout a community that undertakes a commercial PACE program. Another interpretation is that OCC would simply require banks to more carefully underwrite commercial properties that request permission for a PACE lien.

Generally speaking, there is no reason to assume that commercial PACE programs with lender and owner consent provisions—both the existing lender and property owner must give their written consent and acknowledgement for the PACE financing—create unsafe or unsound lending practices. With consent provisions in place, lenders can protect their investment, and property owners are not subject to unwanted debt. However, it appears that regulators have not drawn a firm line between commercial and residential PACE programs.

[2] Lending standards are typically criteria used by a lender to determine the credit worthiness of a potential borrower, and whether or not to lend to that person or entity. This can include financial ratio thresholds that a borrower must meet, such as a payment-to-income ratio or a debt-to-income ratio.

1.2 Lender Consent

Most commercial mortgages have a *Due on Encumbrance* clause that gives the mortgage-holder the right to call the loan due if additional debt is placed on the property without the lender's consent. Given this clause and the complexity of commercial mortgages, a commercial PACE program requires applicants to get the written consent of their existing mortgage-holder(s) in order to apply for financing. An example of a lender consent form used by the Sonoma County Energy Independence Program (SCEIP), along with information on PACE to help lenders become more comfortable with the concept, is available on the SCEIP website[3] and in Attachment C. Lender Information and Acknowledgement Form from Sonoma County Energy Independence Program (SCEIP).

1.3 Davis-Bacon and Prevailing Wage

Section 1606 of the Recovery Act specifically requires that all laborers and mechanics performing work on any project "funded directly by or assisted in whole or part by" Recovery Act funds be paid prevailing wages as determined by the Secretary of Labor.[4] Consequently, commercial PACE financing programs that use ARRA funds as a credit enhancement[5] are subject to Davis-Bacon prevailing wage requirements. Grantees/subgrantees and contractors/subcontractors must (a) ensure that all laborers and mechanics performing work on such projects are paid prevailing wages as determined by the U.S. Department of Labor (see www.wdol.gov/Index.aspx) and (b) comply with all of the reporting requirements of the Davis-Bacon Act.

1.4 National Environmental Policy Act (NEPA)

ARRA funds used for credit enhancement of a financing program— including a debt service reserve fund, interest rate buy-down, or third-party loan insurance—maintain their federal character; therefore, programs that use funds in this manner are subject to federal requirements including the National Environmental Protection Act (NEPA). Many, if not all, of the projects that are eligible for financing under a commercial PACE program should qualify for a categorical exclusion (CX) determination (PART 1021 National Environmental Policy Act Implementation Procedures Subpart D Appendix B5 [Actions to Conserve Energy]). A categorical exclusion applies to projects that DOE has determined do not normally have a significant negative environmental impact and, therefore, are not required to prepare an environmental assessment or environmental impact statement. A complete list of DOE's CXs can be found in Appendices A and B to Subpart D of DOE's NEPA Regulations.[6] Grantees can complete the State Energy Program (SEP) and Energy Efficiency and Conservation Block Grant (EECBG) Program NEPA Templates[7] if a proposed project meets the CX requirements. The Template helps grantees submit streamlined information about proposed projects that will allow DOE to review their potential impacts and expeditiously apply CXs. Program planners should seriously consider restricting eligible efficiency improvement measures to those that qualify for a categorical exclusion. If a program does not limit financing to only those project types that adhere to the Template, DOE is required to conduct a NEPA review for individual projects that would typically include an Environmental Assessment and/or an

[3] www.sonomacountyenergy.org/lower.php?url=quick-links
[4] EECBG Program Notice 10-004A "Guidance on Implementation of the Davis-Bacon Act Prevailing Wage Requirement for Energy Efficiency and Conservation Block Grant Recipients Under the American Recovery and Reinvestment Act of 2009."
[5] *Credit enhancement* refers to techniques used by debt issuers to raise the credit rating of their offering and thereby lower their interest costs. See Section 4.1 Credit Enhancement for details.
[6] http://apps1.eere.energy.gov/state_energy_program/doe_guidelines_nepa.cfm
[7] http://www1.eere.energy.gov/wip/nepa_guidance.html

Environmental Impact Statement.[8] A NEPA review typically adds significant time (on the order of months) and additional cost to a project.

2. Establish Supporting Framework

The process of developing a commercial PACE program to the point of launch should take 6 to 12 months once there is enabling legislation (see Section 2.3), but the timeframe depends on approval schedules and the level of resources a local government is able to direct toward the effort. The following sections review some of the key activities in laying a solid foundation for a program.

2.1 Form Program Team

Each local government should evaluate whether capacity exists in-house to set up and manage the PACE program or whether it will need to engage financial or administrative partners. Partnerships can range from a turnkey administrative and financial partner that handles all of the processing and bond sale, to the targeted use of outside expertise. The decision on how to manage the program launch and administration will be tied to the unique capacity and preferences of each local government.

Important team members for planning and implementation include—

- Senior managers and analysts from the mayor or city manager's office, the county administrator's office, and the department that will be administering the program
- Legal counsel representing the jurisdiction and/or bond counsel
- A finance/auditor-controller department representative and/or a financial consultant
- A climate, energy, or sustainability program staff person (if available)
- Staff from energy efficiency and renewable energy programs operated by the government, utility, or local nonprofit
- Staff from the county recorder and/or tax collector's offices.

Administrative functions include—

- General management, oversight, and coordination
- Marketing the program and responding to public requests for information
- Processing and approving applications
- Collecting appropriate documents and recording the tax liens
- Bond issuance and/or other financial transactions necessary to fund projects
- Property tax administration, levying special tax or assessment
- Customer service and assistance
- Program evaluation.

[8] Energy Efficiency and Conservation Block Grant Program Notice 09-002B "Guidance for Energy Efficiency and Conservation Block Grant Grantees on Financing Programs." State Energy Program Notice (10-001) and Energy Efficiency and Conservation Block Grant Program Notice (10-003) "National Environmental Policy Act Guide for State Energy Program and Energy Efficiency and Conservation Block Grant Projects."

2.2 Design Program to Meet Specified Goals

Planning for the commercial PACE program should integrate the local government's goals (e.g., greenhouse gas reduction targets, economic development, and workforce development goals, if applicable). It is also important to engage local stakeholders and potential partners to assist in determining program goals, key program design elements, and criteria for eligible property improvements. Relevant stakeholders include contractors, auditors, investors, lenders, potential program participants, and financial administrators. Planners should examine and, to the extent they are combining ARRA funds with PACE programs, follow the relevant DOE Guidelines for Pilot PACE Financing Programs as they design underwriting standards, choose eligible measures, and determine other program details.

2.3 Determine Authority for PACE

Most communities will require authorization from their state legislature to allow local governments to collect a special tax or assessment to pay for energy efficiency or renewable energy improvements on private property. Local governments in California, for example, already have this authority under Chapter 29 of the 1911 Assessment Act through AB 811 and through Mello-Roos (for charter cities).

The key features that often must be added to existing state law to enable energy financing districts include the following:

- Authority to finance improvements on private property
- Authority to finance renewable energy and energy efficiency improvements
- An opt-in feature

See Attachment B. Key Features to be Added to Existing State Law for details.

2.4 Initiate Formation of an Energy Financing District

This step is likely to require several actions by the city council or county board of supervisors and various approvals. As this is a lengthy process, starting it as early as possible is a good idea.

New Mexico passed authorizing legislation for residential and commercial PACE programs to finance renewable energy projects. The districts in New Mexico's PACE programs are referred to as Renewable Energy Financing Districts (REFDs). Santa Fe County, as an example, established a REFD in about 6 months, with the following process:

1. Identify a champion (typically an elected official to support the program)
2. Determine staff resources
3. Coordinate the effort with bond counsel
4. Identify administrative and financial partners
5. Determine which geographical regions the REFD will include
6. Determine the composition of the REFD Board
7. Adopt a resolution of intent to form the REFD
8. Conduct a formation hearing
9. Adopt the formation ordinance

3. Choose Capital Sourcing Approach(es)

The ability to fund PACE programs can be the biggest hurdle for many local agencies. Some local governments with reserves or investment portfolios may choose to use them as a source of capital, thus using their PACE program as one of their investment portfolio strategies. Otherwise, despite the current lack of availability of large-scale private capital, there are a number of financing models that can provide an investment with low risk and a low-enough interest rate that will result in long-term savings (i.e., total costs less than total savings) for program participants.

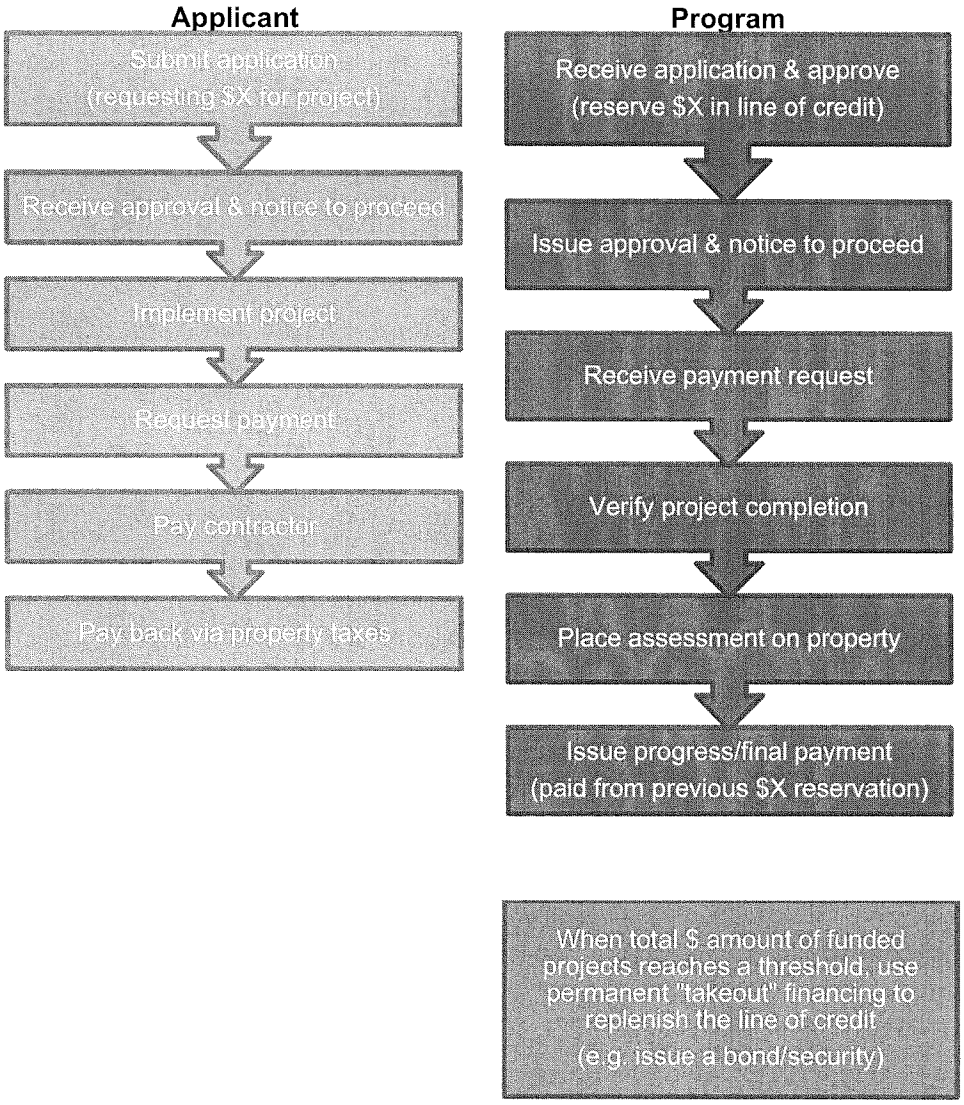
Generally, local governments can choose from three approaches for commercial PACE programs: warehoused, pooled bond, and owner arranged, as described in the following sections.

3.1 Warehoused

In the warehoused approach, a large line of credit (in the millions of dollars) is secured to fund energy efficiency and renewable energy projects. (Similarly, local or state governments can choose to fund projects from their reserves or investment portfolios.) When a commercial property owner submits an application and the PACE program approves it, a reservation is placed for the project amount against the total line of credit, thus reducing the total remaining line of credit available. The project is then allowed to proceed to implementation right away. When the project requests payment for work completed, it is paid from the reservation previously made.

When the PACE program has issued enough total project funding from the line of credit to reach a certain threshold (determined by the program planners and their financial partners), the line of credit is then replenished—for example, by issuing a bond against the group of funded projects and using the proceeds to pay down the credit line (the threshold being a certain dollar amount that makes the transaction costs of issuing a bond a reasonable charge against the proceeds). The warehoused approach is the fastest way to fund projects because the funding from the line of credit is essentially available *on demand* without additional delay. See Figure 1 for a diagram of the process flow.

Figure 1 – Warehoused Approach Process Flow



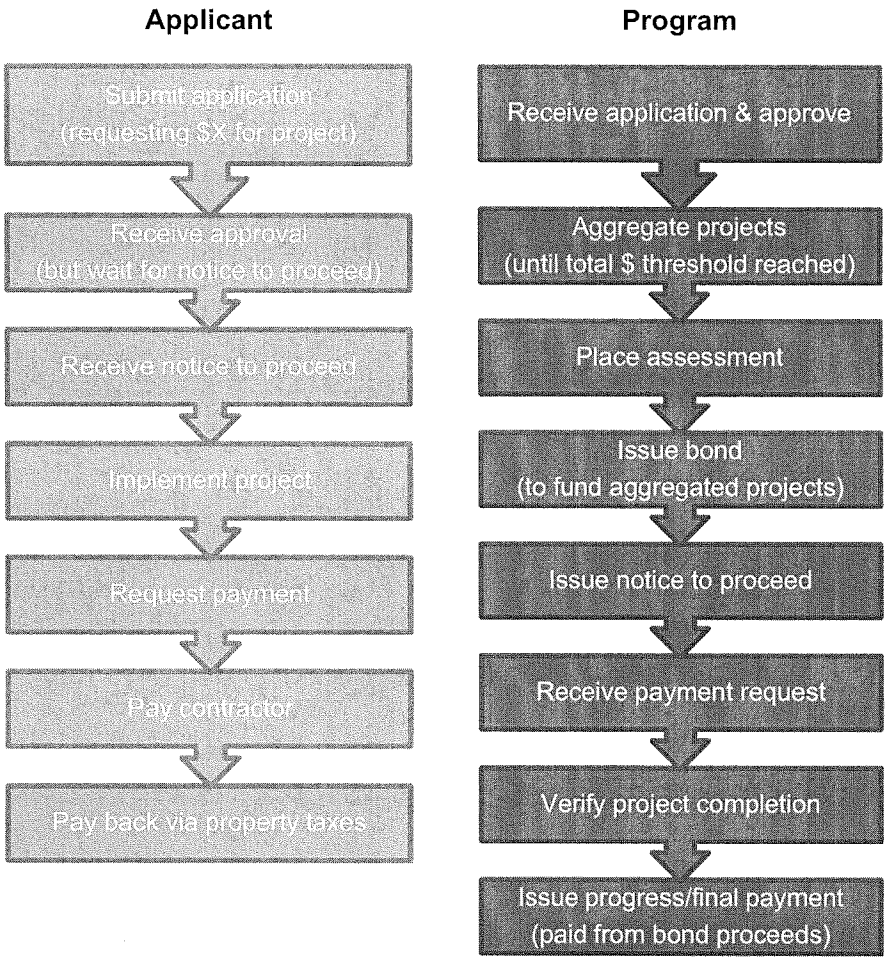
The San Francisco GreenFinanceSF program is an example of this warehoused approach in action using a large line of credit, specifically for its residential PACE financing program. The Sonoma County Energy Independence Program (SCEIP) is another example, but differs in that it uses the county's investment portfolio for warehousing. SCEIP has financed both residential and commercial projects using this approach.

3.2 Pooled Bond

The pooled bond approach involves a waiting period during which applications for PACE financing are accepted and aggregated. The applications can be approved during the aggregation period, but the participants are not given permission to proceed to implementation. When a sufficient pool of requested project funding has been assembled, the local government sells a bond to cover and fund all of the included projects. This approach introduces two waiting periods: one while projects are aggregated (~30

to 90 days, or however long it takes to reach a sufficient dollar threshold), and the other while the bond completes the issuance process (~30 to 90 days). It is only after the bond is issued that the covered projects are given notice to proceed with implementation because it is only then that funding can be guaranteed. See Figure 2 for a diagram of the process flow.

Figure 2 – Pooled Bond Process Flow



This pooled bond approach is similar to the one used by Boulder County, Colorado, which recently launched a commercial PACE program.[9]

3.3 Owner Arranged

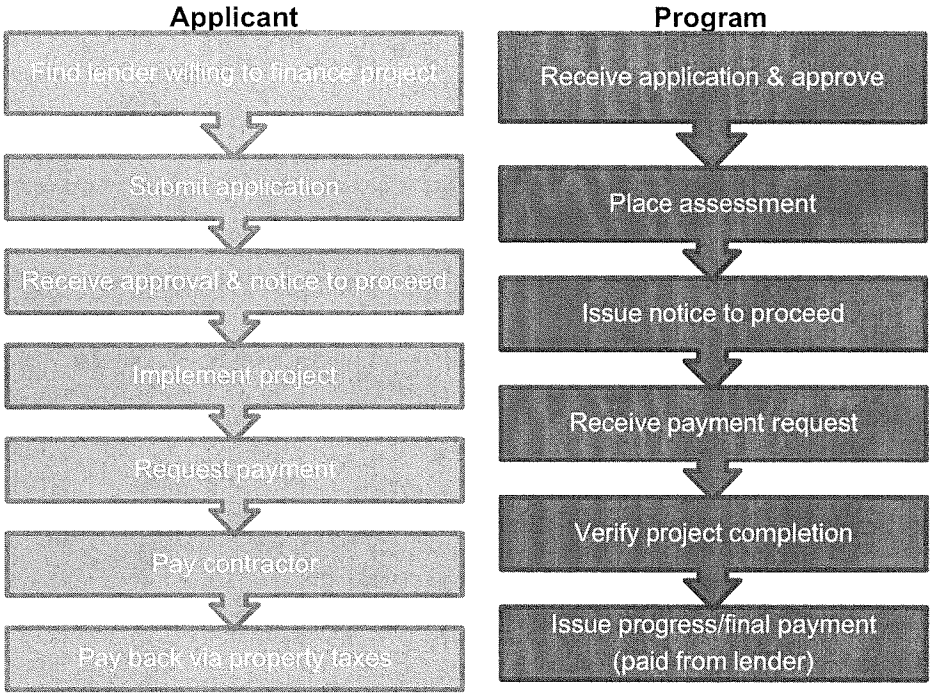
If a property owner has a lender that is interested in providing project financing directly and is willing to accept the PACE securitization and payback framework, then owner-arranged financing is an option. This avoids both waiting periods associated with the pooled bond approach and allows for immediate financing of projects at interest rates set by the underlying credit of the particular project. Owner-arranged financing is easier for program planners to design and program administrators to run because they do not have the

[9] www.bouldercounty.org/bocc/cslp/cslp_commercial.html

responsibility to secure or replenish funding for the projects that are financed by the program. This approach puts the onus on property owners to find and secure their own financing from lenders.

There are two potential drawbacks to owner-arranged financing. The first is that putting responsibility on property owners to find their own financing can limit program participation to larger properties or more sophisticated owners who have the knowledge and the network to secure funding on their own. The second is that if a local government's PACE program uses both owner-arranged and pooled bond approaches, then the owner-arranged financing option has the potential to siphon off the best (i.e., most credit worthy) properties and projects from the rest because lenders will be more interested in providing financing for them and at more favorable rates. If this occurs, then the remaining projects (that are less attractive individually to lenders under owner arranged) will have to use the pooled bond option, which will likely have a higher interest rate because the projects' combined credit worthiness is lower.

Figure 3 – Owner-Arranged Process Flow



This owner-arranged financing model is similar to the one being pursued by the City of Los Angeles for a commercial PACE program in partnership with the Clinton Climate Initiative.

3.4 Weighing the Options

Regardless of the type of financing a commercial PACE program uses, the type, condition, and image (i.e., how big and/or well-known a property or its owners are) of the properties included in the pool can have a significant impact on the interest rate available (offered by the funders) for the capital to finance the clean energy projects. A group of projects made up of mostly signature office buildings and premier hotels will almost always achieve more favorable interest rates than small, less well-known commercial projects, unless program planners apply significant credit enhancement (see Section 4.0).

Local governments should carefully structure a private capital commercial financing program with a watchful eye toward project credit quality, particularly at the start of a program, to attract funding with low interest rates. In one program under development in California, capital providers quoted an interest rate range of 7% to 15% for a pool of projects, depending on the type of projects included.

The warehoused approach has a number of potential advantages over the other two approaches due to its on-demand availability; but in the current tight commercial lending environment, it is difficult to secure a large commercial line of credit without a substantial credit enhancement from the sponsoring program (and may not be possible even with credit enhancement). Therefore, either the pooled bond or owner-arranged approach is a more viable option in the short term for local or state agencies.

That said, the pooled bond approach is also dependent on the bond market having an understanding and appetite for this kind of debt. Initially, there may not be much market enthusiasm for it, or the bond may be at interest rates that are not very attractive, particularly if the pool includes a number of undesirable projects. Boulder, Colorado, however, had success in issuing a PACE bond based on a pooled approach in late 2010.

The lingering question as to whether or not the OCC will support commercial PACE (see Section 1.1) has caused some local governments to be concerned about the impact that could have on the warehoused approach (for those instances where the plan is to eventually do a take out of the financed projects) and the pooled bond approach. The concern is whether the OCC uncertainty will either render take out or bond issuance impossible, or will cause the interest rates to be exceptionally high.

The caveats noted above have led a number of communities to structure their new commercial PACE programs to use the owner-arranged model to launch their programs more quickly and with more certainty. This enables them to start getting projects done and to start gathering statistics on repayment and default rates. Those statistics are expected to be helpful in building the case for banks and investors that commercial PACE is low risk and, therefore, banks and investors should support pooled bond and warehoused approaches for commercial PACE and offer attractive rates.

Each grantee should consider the above caveats in light of the grantee's unique situation and decide which capital sourcing approaches work best in the local context at program launch.

4. Choose Credit Enhancement and Apply ARRA Funds

4.1 Credit Enhancement

Credit enhancement refers to techniques used by debt issuers (in this case the local government) to raise the credit rating of their offering and thereby lower their interest costs. Stated another way, credit enhancement simply refers to the steps taken to artificially improve the likelihood that lenders or bond investors will be paid on time and in full. Reducing risk increases the comfort of those key stakeholders and increases the odds that they will participate in a PACE program.

Commercial PACE already provides a relatively secure means of repayment by including the payment obligation in the owner's property tax bill. In the context of PACE, credit enhancement is generally used to provide even greater assurance that full payments to lenders would be made even if the property owners fail to pay their taxes on time. There are two primary methods used to "credit enhance" PACE.

First, and most commonly, the program planner creates a reserve fund to make up for any shortfalls in PACE assessment receipts. This reserve, described in more detail below, is almost always essential for an assessment bond to achieve an investment grade rating (a highly desirable goal because it broadens the

number of potential bond purchasers and typically results in significantly lower interest rates). A rating is a key feature for any bank or lender looking to participate. To achieve similar investment grade rating and attractiveness to banks or lenders, program planners can set up a slightly more sophisticated "senior-subordinate" payment structure (also described more fully below).

Second, local or state governments can fully or partially guarantee repayment by placing a general or moral obligation on the bonds. Under a general obligation, local or state governments pledge their full faith and credit to the bonds—effectively guaranteeing that if tax receipts fall short, they will make up the difference out of their own treasury. A moral obligation is a similar, but somewhat weaker, enhancement that is being used by Boulder County, Colorado, for its PACE program. Moral obligation bonds do not require a local government to cover bond defaults, but do indicate it is very likely they will do so. Such guarantees improve the credit quality of the bonds or loan, but also affect the credit quality of the local government and count against the government's indebtedness limits.

Grantees have a number of options for using ARRA funds to support their commercial PACE programs, some of which address the credit enhancement options above. Details on several of the major options are presented in the next sections.

4.2 Debt Service Reserve Fund

Bond investors typically expect there to be a debt service reserve fund (DSRF) to cover bond debt service (i.e., payments made to bond investors) in the event of late payments or defaults by participants. This is commonly an amount set aside with a trustee. Note that other chapters in this Finance Guide refer to this reserve as a loan loss reserve fund (LRF), but in this chapter it is called a DSRF. For assessment bonds, the typical DSRF is in the range of 5% to 10%. The reserve can be funded in several ways, but is usually added to the financed amount for each participant, so participants pay for it. For example, a $10,000 project would be financed at an $11,000 level in the case of a 10% DSRF. If a bond experiences low or no defaults, then the money in the reserve fund is generally used by the PACE program toward making the final payment on behalf of the property owner (assuming the owner funded the reserve). A DSRF may or may not be required for owner-arranged financing, but such a reserve will be expected in all other forms of property assessment bonds.

Adding an additional 5% to 10% on top of the total project financing amount increases the annual percentage rate (APR) and can give applicants significant reason to pause and think hard about the costs of the PACE financing option. Therefore, anything that can be done to lower or alleviate that cost can bolster program participation. One appealing option is for grantees to use their ARRA funds to provide the debt service reserve fund so that program applicants do not have to cover its cost.

If ARRA funds are used for a 10% DSRF, the APR to the property owner will be reduced by approximately 1.6% (in contrast to the property owner funding the DSRF and having it added to the financed amount). The difference can be seen by contrasting columns 1 and 2 in Table 2 (note the applicant APR of 9.6% versus 8.0%).

A common capital markets approach to establishing a DSRF to enhance the credit of the financing would be to set up a "senior-subordinate" structure. In such an approach, the ARRA funds would be combined with private capital and provided for project financing rather than held in reserve. In the event of a default, the losses are taken first by the ARRA funds, leaving the private investor unharmed unless all ARRA funds are exhausted. Using ARRA funds in this "first loss" position has two advantages. First, it allows for more total project funding. Second, it is set up in a manner more appropriate for a securitized capital markets takeout (i.e., combining all the project financings into a bond or security and selling it to investors).

4.3 Interest Rate Buy-Down

A third option is for grantees to use ARRA funds to buy down the interest rate that will be paid by property owners to such a point that PACE financing becomes an attractive option. That can be a way to gain more attention for the PACE program, reward early participants in a newly launched program, and build market demand.

On a dollar-for-dollar basis, an interest rate buy down will result in the same APR as the funding of a 10% DSRF. That result can be seen by comparing columns 2 and 3 in Table 2 (note that the resulting APR in both cases is 8%). However, it is better to use ARRA funds to fund the DSRF because defaults on property taxes are historically very low and any defaults will be satisfied at the time of property sale. This means the money in the DSRF will be preserved and available for continued use as a DSRF, or eventually repurposed. Contrast that with using ARRA funds to buy down the interest rate, in which case the funds are exhausted.

Table 2 – Contrasting ARRA Funding Impact on Applicant APR

	1. Applicant Funds DSRF	2. ARRA Funds DSRF	3. ARRA Subsidizes Rate
Term in Years*	15	15	15
Debt Service Reserve Fund (DSRF)	10.00%	10.00%	10.00%
ARRA Funds Applied	$0	$1,000	$1,000
Applicant Interest Rate	8.00%	8.00%	6.48%
Project Cost	$10,000	$10,000	$10,000
DSRF Amount Financed by Applicant	$1,000	$0	$1,000
Bond Amount	$11,000	$10,000	$11,000
Bond Price (Par 100)	100	100	90.9 [10]
Applicant APR	**9.60%**	**8.00%**	**8.00%**

**Assumes 15-year semi-annual assessment and 8% par (100) priced coupon*

4.4 Subsidize Transaction Costs

As described in previous sections, applicants can face additional costs associated with participating in a commercial PACE program. ARRA funds can be used to partially or fully cover one or more of those costs. A good candidate that could be subsidized or paid in full is the energy audit conducted on the property. That is an early and key step in the application process, so offsetting part or all of the audit cost might encourage more applicants to get involved. Funding for the audit can be made contingent on the property owner ultimately completing an energy retrofit or improvement.

[10] The bond price of 90.9 means that the bond is being sold at a discount to face (par 100) value in order to compensate investors for the fact that this bond has a lower interest rate (6.48% vs. 8.0%). So an $11,000 bond ($10,000 project cost + $1,000 DSRF financed by applicant) sold at bond price of 90.9 yields ~$10,000 ($11,000 x 0.909), and then $1,000 of ARRA funds are added so there is enough money to cover both the $10,000 project cost and $1,000 DSRF.

4.5 Offer Additional Rebates Beyond Utility Rebates

Finally, ARRA funds can be used to augment the rebate/incentive amounts offered by utility programs to property owners undertaking clean energy improvements. That would, in turn, reduce the total amount of financing needed by the applicants for their projects. This is another way of encouraging participation in utility programs and possibly reducing the costs borne by the program associated with processing and approving an application or a project payment (in other words, use ARRA funds to subsidize transaction costs).

5. Choose Eligible Property Types

A commercial PACE program can cover a wide variety of property types, including office, retail, industrial, warehouse, agricultural, and multifamily (more than 4 units). A related subcategory of multifamily is affordable housing. And within each one of those broad property categories, there is wide variation in property subtypes. For example, retail includes the corner mom-and-pop store, big-box chain stores, and grocery stores. Multifamily includes a 2-story, 8-unit apartment building and a 30-story, 600-unit condo high-rise.

The mix of property types and sizes has an impact on a number of PACE program features, including:

- Project size, complexity, and timeline
- Amount of financing needed
- Type of qualifying project measures relevant to the property type
- Owner permission (e.g., multifamily may involve getting permission of some or all tenants, the homeowner association, etc.)
- Skills and experience required to conduct an energy audit
- Contractor requirements (e.g., licenses, certifications)
- Software modeling and other tools used by contractors.

That mix affects how much time and effort the local government must spend designing and launching a program that addresses all of those features.

The typical commercial energy auditor and contractors will be able to handle office buildings, retail, and warehouses because they commonly encounter those building types. Larger projects, over 100,000 square feet, will appeal to Energy Service Companies (ESCOs) that specialize in larger undertakings. ESCOs may also offer a performance guarantee to their client, which means that if the energy savings fall below the agreed-upon thresholds, the ESCO makes up the shortfall to the customer, thus reducing risk. The industrial, agricultural, and multifamily properties, however, typically require more specialized auditing and construction knowledge and experience. Therefore, it can be harder to design and launch a PACE program that adequately addresses their characteristics.

Each local government must carefully consider which types of properties are important to include in the program at two different points in the process: (1) at program launch and (2) in the long term. This decision will determine how much program design time needs to be spent and on which properties now and what can wait until a future date. Launching a commercial PACE program that initially addresses only the simpler property types and then adding the more complex ones in a later phase is a wise way to proceed if the local government is unable to handle all property types from the outset.

6. Assemble Eligible Project Measures

Two factors influence the types of measures eligible for financing under PACE. The first one is that the enabling legislation allowing the PACE financing mechanism to access governmental powers (i.e., add a special assessment to property taxes) comes with a requirement. The requirement is that projects funded by PACE must serve a valid public purpose (e.g., greenhouse gas reductions, energy security, etc.).

The second factor is that in DOE's Guidelines for Pilot PACE Financing Programs—which mainly applies to residential PACE programs—DOE states, "...PACE financing should generally be limited to cost-effective measures to protect both participants and mortgage-holders until PACE program impacts become more widely understood. The financed package of energy improvements should be designed to pay for itself over the life of the assessment." DOE further recommends in those guidelines that the metric for judging a project's ability to pay for itself should be a Savings-to-Investment Ratio (SIR)[11] greater than one. In plain language, that means residential projects financed by PACE should save more money over their expected lifetimes than they cost to implement. Although the DOE guidelines seem to mainly target residential PACE programs, they do not specifically exclude commercial programs, so the cost-effectiveness recommendation could apply to commercial, as well.

Those two factors, therefore, strongly suggest that the eligible measures should be restricted to those that have a solid track record and, where possible, independent verification of their ability to save energy. To keep the process straightforward and make application approval/rejection defensible at program launch, a commercial PACE program may need to be more conservative initially about the measures eligible for financing (i.e., how directly they contribute to energy savings) and the proof of savings required. The types of eligible measures can be expanded over time as the program administrator develops more knowledge and gains experience in evaluating projects and their actual associated savings. One proof of potential savings, for example, is that an eligible measure is already included in a utility's incentive program (see Section 9. Leverage Existing Utility Rebate/Incentive Programs for more information).

It can be challenging for a grantee trying to launch a new PACE program to develop a comprehensive list of eligible measures that covers all types of properties, improvements, and the aforementioned requirements. Therefore, a program may decide to draw up an official list of eligible measures, and then allow applicants to submit measures not on that list for consideration on a case-by-case basis. In doing so, the program must consider how it will cover any additional time and cost involved in reviewing measures not already on the official list (see Section 11.2 Project Review).

7. Choose Energy Audit Requirements

Commercial PACE programs typically require applicants to have an energy audit of their property conducted by a third-party auditor/contractor or a utility-sponsored energy efficiency program. An energy audit serves a number of purposes:

- Makes the property owner aware of all energy/cost saving opportunities

[11] DOE defines SIR in its Guidelines for Pilot PACE Financing as follows: SIR = [Estimated savings over the life of the assessment, discounted back to present value using an appropriate discount rate] divided by [Amount financed through PACE assessment]. Savings are defined as the positive impacts of the energy improvements on participant cash flow. Savings can include reduced utility bills as well as any payments for renewable energy credits or other quantifiable environmental and health benefits that can be monetized. Savings should be calculated on an annual basis with an escalator for energy prices based either on the Energy Information Agency (EIA) U.S. forecast or a substantiated local energy price escalator.

- Makes the property owner aware of the best energy/cost saving opportunities based on return on investment
- Provides independent analysis to the PACE program of the energy/cost savings of the measures for which the property owner is seeking financing.

The inherent challenge of requiring energy audits is finding the balance between cost and rigor, especially across small, medium, and large projects with differing cost sensitivities. A sensible response to this challenge is for the program to develop tiered audit requirements based on the number and combination of measures being installed, project costs, and existing lender or underwriter requirements. These will likely include some combination of the audits in Table 3, which are listed in order of lowest to highest cost.

Table 3 – Energy Audit Types and Descriptions

Audit Type	Description
Utility Rebate/Incentive Audit	A free or low-cost audit that is part of a utility energy efficiency rebate/incentive program (this is often equivalent to an ASHRAE Level I Audit).
Targeted Audit	Only examines the energy use of the system of concern, rather than the energy use of the whole building. This approach is generally used for large, single-system projects.
ASHRAE* Level I Audit	a.k.a. *Walk-through Analysis*; A brief review of building systems with primarily qualitative results.
ASHRAE Level II Audit	a.k.a. *Energy Survey and Engineering Analysis;* This includes identifying energy efficiency measures with estimates of energy and cost savings for capital projects.
ASHRAE Level III Audit	a.k.a. *Detailed Analysis of Capital-intensive Modifications*; This includes more detailed calculations based on monitored end-use data or hourly building simulations. It also includes more detailed project specifications for retrofits.
Investment-Grade Audit (IGA)	A very rigorous and expensive audit, typically undertaken to evaluate a potential upgrade to a facility's energy infrastructure, wherein it must compete for capital funding with nonenergy-related investments. The projected operating savings from the implementation of the project must be developed such that they provide a high level of confidence.

** ASHRAE: American Society for Heating, Refrigerating and Air-Conditioning Engineers*

The cost of an audit can range from free (utility audit) to tens of thousands of dollars for an investment grade audit. Therefore, composing tiered audit requirements that are appropriate for all potential property/project sizes is critical to ensuring that the related costs do not become an unreasonable hurdle that dissuade property owners from participating.

Grantees should note that multifamily housing is very different from other types of nonresidential buildings, and will likely be subject to different audit protocols and standards than those for office, retail, and warehouse properties. Currently, a broad stakeholder group assembled by the California Home Energy Retrofit Coordinating Committee (HERCC) is nearing completion of recommended protocols and

standards for multifamily properties. Private firms are also working on multifamily energy retrofit analysis tools.

8. Choose Program Eligibility Criteria

Like any other type of financing, a PACE program must specify eligibility criteria that applicants must meet to be approved for financing. These criteria are heavily influenced by the criteria that the underwriters (e.g., banks or bond underwriters) will require applicants to meet.

Underwriting is the process of determining whether an applicant is credit worthy enough to receive financing. Both banks and underwriters will want to see that a consistent and appropriate set of underwriting criteria have been met by each and every property/property-owner participating in the PACE program. This is especially important when trying to issue a bond; the underwriter and investors want to ensure that all underlying collateral met the same criteria.

To this end, DOE issued underwriting best practice guidelines in its Guidelines for Pilot PACE Financing Programs dated May 7, 2010, that are specific to residential but largely applicable to commercial properties as well.

As an example, the set of PACE commercial underwriting/program eligibility criteria can include the following:

- Applicant(s) has/have clear title to the property.
- The property is located within the energy financing district.
- All legal owners must agree to participate and sign the application.
- Applicant has written existing-lender (mortgage-holder) consent.
- A maximum Lien to Value (LTV) ratio (i.e., what percentage the PACE financing will be compared to the property value) is generally capped at 10%.
- Applicant has no recent notices of default or foreclosure.
- Applicant has no recent bankruptcies.
- Applicant is current on mortgage payments.
- There is a limit on involuntary liens (e.g., liens placed by contractors who were not paid for their work) on the property.
- Details about current occupancy of the property are supplied.

9. Leverage Existing Utility Rebate/Incentive Programs

As stated previously, commercial PACE financing is available only for measures that will save energy or produce renewable energy (see Section 6. Assemble Eligible Project Measures for more detail). In some cases, water conservation may be included as well. Program staff must review each submitted project at time of application to verify that it includes eligible measures and that those measures will save energy in the context where they are being deployed. The level of rigor of this project review and the extent to which the local government wants to validate the projected savings is a key consideration for program planners.[12] Conducting more rigorous project reviews often requires a certain amount of energy engineering knowledge, experience, and professional judgment.

One option for ensuring proper project reviews (and reducing program costs) is to channel the reviews through existing utility rebate or incentive programs that reward customers for reducing energy usage.[13] Grantees should note that sometimes the terms *rebate* and *incentive* are used interchangeably to describe utility programs; but there can be significant differences between the two, depending on what a local utility offers and how such offerings are structured. The programs and their typical differences can be summed up as follows:

- **Rebates**: *Prescriptive* measures/payments wherein there is a set payment amount per measure/unit that is on a fixed list of eligible measures. An application to a rebate program is generally made after the measures have been installed. For example, a customer installs a high-efficiency furnace and then receives a $500 payment from the utility.
- **Incentives**: *Customized* payments wherein the payment amount is calculated for each measure based on a combination of kW and kWh reductions achieved in the specific context of deployment. An application to an incentive program is typically made *before* the measures have been installed and pre-approval (or *approval*) must be obtained before proceeding with the measures. An example of this type of program is the PG&E *Customized Retrofit Incentive*, also known as the *Statewide Customized Offering for Business*. (Note that an applicant will receive approval from the incentive program that also includes estimated payment amounts, but the final payment amounts may differ from the original approval estimates for a number of reasons.)

Both types of utility programs already build in expert project review and do not typically charge for participation, although *when* that project review happens can vary by program type. For rebate programs, a determination is made up front that a certain measure will usually result in energy savings for all projects, so anyone who implements that measure will receive the same payment amount. For incentive programs, each submitted measure and its context undergo expert review by program staff, and they determine its ability to save energy. Payment is relative to the savings, so different customers may receive different payment amounts for the same measure.

There are several good reasons for grantees to leverage existing utility rebate and incentive programs:

- They act as an outside, independent confirmation that the covered measures will likely result in energy savings and that the measures are cost-effective.

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[12] The rigor of validating energy saving projections could be anything from merely checking that all measures are on the program's eligible measures list, to requiring energy audits and accepting their recommended measures' estimated savings, to having expert program staff or external consultants review each project or a subset of projects. Determining what method(s) will be used will depend on local government goals and stakeholder feedback—especially from existing lenders and investors/underwriters.

[13] Rebate and incentive programs typically are structured to incentivize applicants to exceed the minimum performance criteria required in current building code requirements for the equipment and materials being installed.

- The incentive (as opposed to rebate) programs tend to have a rigorous technical/engineering project review process that further guarantees the approved measures will, indeed, achieve energy savings and provides an estimate of how much.
- These programs tend to have inspection, verification, and QA processes that cover installed measures (with incentive programs usually having more rigorous processes than rebate programs).
- They reduce the amount of financing that applicants need to complete their clean energy projects.

Given those reasons, channeling PACE projects through existing utility rebate and incentive programs is a good practice that can shift some or perhaps a majority of the commercial PACE effort and cost of:

- Reviewing projects to confirm the included measures are eligible and will save energy
- Verifying contractor/auditor energy saving estimates for the measures
- Verifying installation and QA of measures, possibly including onsite postinstallation inspections.

The potential drawbacks of participating in utility incentive programs (as opposed to rebate programs, which tend to be simpler) are as follows:

- The application process can be long and onerous.
- The review and approval can introduce significant time delays (could be as much as 30 to 45 days, although given the long lead time of many commercial projects, this may not be an issue).
- The PACE program does not have direct control over but depends on third-party programs (if there are capacity issues, the PACE program cannot necessarily do anything about them).
- The utility program might not cover all of a project's measures, in which case separate review, approval, QA, and/or inspection processes would be required for different measures (i.e., those measures covered by the utility program versus those that are not). And coordination would be required between those separate processes for a single project.

A commercial PACE program could greatly benefit from leveraging existing utility rebate and incentive programs when a project's measures are eligible for participation in those utility programs. Therefore, a key thing for local governments to determine is the amount of overlap between PACE program eligible measures and the utility rebate/incentive program eligible measures.

The PACE program can then be designed either to (a) require PACE applicants to also participate in any applicable utility rebate/incentive program, or (b) make it optional but then charge applicants additional fees for project review if they choose not to participate in the utility programs. An example of effectively leveraging an existing utility program is the Sonoma County Energy Independence Program (SCEIP). It requires commercial properties to obtain a free onsite PG&E energy audit to determine the most effective route to maximizing their investment.

10. Plan Quality Assurance/Quality Control

In addition to the advantages mentioned in Section 9, one important reason for recommending that commercial PACE programs leverage existing rebate or incentive programs is that those utility initiatives (especially the customized incentive programs) typically perform inspections of installed measures to verify completion and quality. Another way for the PACE program to check on project completion and quality is to require that applicants submit the finalized building permits (for those measures that require

them) to the PACE administrator as part of the package of verification documents necessary for final payment.

In addition to the checks on completion and quality performed by utility and building inspectors, a recommended practice for a PACE program to adopt is performing independent inspections (by program staff or a third-party inspector) of completed projects. If program planners decide that inspection of 100% of projects is not warranted, or is not feasible (due to budget or resource constraints), then inspecting a subset is encouraged. Inspections on a subset of projects can have two components:

1. Inspection of a certain number of the first projects completed by each contractor under the PACE program (e.g., the first three projects, or some unstated number of the first five projects).
2. Inspection of a random sampling of projects annually beyond the first projects included in #1 above (e.g., 15% of total projects annually).

The purpose of independent inspections is to ensure quality expectations are met, to guard against fraud,[14] and to make sure contractors are abiding by the terms of the program. Also, if an applicant has elected not to participate in a utility incentive program (if the PACE program decides participation is optional), or if some of the project's measures are not covered by the utility incentive program and its associated inspections, then third-party inspections will likely be necessary for measures not otherwise subject to utility inspection.

In addition to independent postinstallation inspections, a PACE program may decide a preinstallation inspection is appropriate and necessary to verify the *before* conditions and to guard against fraud.

11. Design Application Processing Procedures

The PACE application process for a property owner typically includes the following actions:

1. **Energy Audit:** Have a trained technician perform an energy audit that includes recommended measures for improving the property's energy efficiency.
2. **Eligible Measures:** Choose measures to be included in the project based on PACE eligibility, goals, and cost effectiveness.
3. **Lender Consent:** Engage the mortgage-holder and obtain consent to add the PACE assessment to the property tax bill.
4. **Application Submission:** Submit application package to the PACE administrator.
5. **Application Approval:** Receive application approval from the PACE administrator.
6. **Project Implementation and Completion:** Have licensed contractors implement the measures.
7. **Payment Request:** When project milestones are met or the project is completed, submit request for progress/final payment.
8. **Repayment:** Pay back the assessment via property taxes; the term is between 5 and 20 years, depending on the useful lives of the included measures.

The two points at which the PACE program administrator is most heavily involved are when the property owner submits the application (step 4) and when the applicant requests payment (step 7). It is vital for the

[14] As in any large industry, a few unethical companies can take advantage of certain situations and not complete the project work as expected or promised. Grantees should always use licensed contractors and make monitoring and verification of work, results, and savings a mandatory part of their commercial PACE programs.

PACE program to have clear processes both internally and externally to handle these steps properly and efficiently.

11.1 Making Approval as Simple and Objective as Possible

A recommended practice for any PACE program is to make the application approval process as objective as possible by reducing the decision to a simple and consistent set of *go/no-go* decisions based on clear, defensible criteria. For example, the two key stages of application processing might include the following go/no-go criteria:

At point of application submission (step 4):

- Is the application filled out completely and signed by all legal owners?
- Has written lender consent been obtained?
- Has the applicant/property met all program eligibility criteria?
- Does a property title search confirm legal owners and eligibility?
- Are all measures in the project eligible for financing?
- Does project review verify that the total project will save energy?
- If the applicant is participating in a utility rebate/incentive program, has the associated paperwork been submitted?
- Does the project meet the Savings-to-Investment Ratio (SIR) target?
- Are the chosen contractors eligible to participate in the program?

At point of request for progress/final payment (step 7):

- Has a lien been placed on the property to secure the financing?
- Is there proof that the project has been completed or that a milestone has been reached?
- Has the applicant signed and submitted the payment request form that states a milestone has been reached and the owners are satisfied with the work?
- If the applicant wants payment to go directly to the contractor, has the applicant signed a payment assignment document?
- Have appropriate permits been submitted?
- Have contractor invoices showing progress been submitted?
- Is an independent onsite inspection necessary, and if so, does it verify claimed progress?

11.2 Project Review

Clean energy projects applying for financing are likely to be significantly different, largely due to the mix of property sizes and types in a commercial program. This means that PACE program administrators or their consultants will need to be well-versed in reviewing a wide range of project sizes and combinations of efficiency measures within them in order to verify the legitimacy and energy-saving potential of the projects that seek funding.

A key source of information to determine project savings is the energy audit submitted with the application. But energy audits come in all formats and use differing assumptions (e.g., escalation rate for energy, opportunity costs, etc.), which complicates the review process for the program administrator.

An excellent way for the PACE program to deal with such variation is to have its own analysis template (an Excel spreadsheet, for example) that applicants (or contractors on their behalf) must fill out and submit with their applications (see Attachment D. Energy and Cost Savings Analysis Template for an example). By having a uniform project summary format (analysis template) that is the same for every applicant and uses a realistic, consistent set of assumptions, the program administrator can more quickly review the individual measure savings and total estimated energy/cost savings and cost-effectiveness of the project.

The commercial PACE program further benefits from having access to someone with sufficient energy engineering knowledge/experience who can review projects that are more complex (i.e., ones that have a lot of measures or equipment/materials that are not as common). This person could be a local government staff member in the same or another department (e.g., Planning Department or Department of Environment), or a consultant from an energy engineering services firm brought in on an as-needed basis.

11.3 Property Title Search

Ownership of commercial properties takes various forms. These include a corporation, limited liability company (LLC), partnership, trust/trustees/living trust, individual(s), joint tenants, and common property. Sometimes an entity that owns a property in one of those ways is nested within another legal entity.

The ownership variations affect a PACE program in two important ways: (1) determining who is or are legal property owner(s) with authority to encumber the property with a PACE tax assessment, and (2) determining whether the owner(s) meets the program eligibility requirements. Grantees can determine the answers to both by having a title search performed on the property. A firm with specialized expertise and experience usually conducts this search.

The complexities of commercial property ownership make commercial title searches more expensive than their residential counterparts, as it takes longer to trace the chain of legal entities and verify who the owners are and whether program eligibility requirements are met. Title search costs can range from $200 to $1,000 for a single property, and the PACE program must factor in this expense and decide how best to cover it (i.e., built into administrative costs or billed separately to the applicant).

12. Specify Contractor Requirements

The commercial building energy audit market is fragmented, with no universally accepted standards for auditors. As a result, a commercial PACE program cannot point to a single accreditation that auditors be required to have. In the absence of a single accreditation, PACE programs best serve their participants by providing them with a list of recommended licenses/credentials to seek in a contractor's team, along with questions to ask about their experience and what they will deliver to the client (the property owner seeking clean energy improvements). A sample list is provided in Attachment E. Finding a Qualified Energy Auditor.

Minimum requirements for energy audit and energy service contractors seeking to participate in the program and be included in the list of eligible contractors should include:

- Hold licenses for the type of work they are doing, if any are required
- Get permits for any work that they do that requires a permit

- Attend a contractor information session where they learn specifics about the PACE program
- Sign a program terms and code of ethics agreement
- Have proven experience and references.

If a contractor does not adhere to the program's terms and conditions for participation or fails to maintain passing scores on QA inspections, that contractor should be delisted and ineligible to perform work for current and future PACE program applicants.

Aside from providing a list of contractors that meet the general requirements for program participation, PACE programs may wish to avoid "endorsing" specific contractors because doing so could increase the program's (and, therefore, the local government's) legal liability if a participant has a problem with those contractors. To maintain good relationships with all contractors and build trust with the public, a commercial PACE program should remain neutral on service providers and, instead, set a reasonably high qualifications bar and work to foster a fair, competitive marketplace.

13. Market and Launch Program

Program marketing and outreach should focus on educating property owners on both the energy-related benefits, such as saving money and reducing greenhouse gas emissions, and the nonenergy benefits, such as improving occupants' health and comfort, all of which are the result of energy efficiency and renewable energy improvements in commercial buildings. Property owners should be advised on the estimated costs and savings of installing efficiency measures or renewable energy under the commercial PACE program. A local government-sponsored PACE program should be rolled out with as much detail as possible on the costs of financing improvements and the availability of funds through the grantee's PACE program.

General PACE Resources and Guidelines

DOE Guidelines for Pilot PACE Financing Programs

http://www1.eere.energy.gov/wip/pdfs/arra_guidelines_for_pilot_pace_programs.pdf

White House Policy Framework for PACE Financing Programs

These comprehensive best practices guidelines are intended to help implement the White House's *Policy Framework for PACE Financing Programs,* available at http://www.whitehouse.gov/assets/documents/PACE_Principles.pdf

University of California, Berkeley (UCB) Renewable and Appropriate Energy Laboratory (RAEL) Guide to Energy Efficiency & Renewable Energy Financing Districts for Local Governments

http://rael.berkeley.edu/sites/default/files/berkeleysolar/HowTo.pdf

DOE Webinars on PACE

http://www1.eere.energy.gov/wip/solutioncenter/financialproducts/PACE.html

Lawrence Berkeley National Laboratory (LBNL) PACE Policy Briefs

- Accelerating the Payment of PACE Assessments http://eetd.lbl.gov/ea/emp/reports/ee-policybrief_050410.pdf

- Transferring PACE Assessments Upon Home Sale
  http://eetd.lbl.gov/ea/emp/reports/ee-policybrief_041210.pdf

- PACE and the FHFA
  http://eetd.lbl.gov/ea/emp/reports/ee-policybrief_031710.pdf

PACENow.org

PACEnow.org is a website that acts as a central collection hub for all news and information related to PACE and for coordinating legislative action to support PACE programs.

Specific Resources for Commercial PACE

Sonoma County, California, Program Documents

Sonoma County Energy Independence Program (SCEIP) program information and forms can be found at http://www.sonomacountyenergy.org/lower.php?url=quick-links

City of Palm Desert, California, Program Documents

The City of Palm Desert's Energy Independence Program (EIP) program information and forms can be found at http://www.cityofpalmdesert.org/Index.aspx?page=484

Placer County, California, Program Documents

Placer County's mPOWERPlacer program information and forms can be found at http://www.mpowerplacer.org

Boulder County, Colorado, Program Documents

Boulder County's ClimateSmart Commercial Loan program information and forms can be found at http://www.bouldercounty.org/bocc/cslp/cslp_commercial.html

Attachments

A. Advantages and Disadvantages of PACE

B. Key Features to be Added to Existing State Law

C. Lender Information and Acknowledgement Form from Sonoma County Energy Independence Program (SCEIP)

D. Energy and Cost Savings Analysis Template

E. Finding a Qualified Energy Auditor

Attachment A. Advantages and Disadvantages of PACE

This attachment contains details about the advantages and disadvantages of PACE financing as summarized in Table 1 - PACE Advantages and Disadvantages.

Advantages for Property Owners

The PACE model has several advantages for property owners over other financing options, as follows:

Longer repayment period. Commercial PACE programs offer a longer term of up to 20 years, in contrast to the much shorter terms for utility and unsecured loans (2 to 5 years), and in some cases, secured loans (10+ years). The longer term can enable commercial property owners to do more comprehensive work and more closely match their payments with the future energy savings. This means certain projects that would not be cash flow positive under types of loans with shorter terms may become cash flow positive under PACE with its longer term.

Repayment transfers with ownership. Many property owners do not want to invest in energy efficiency or renewable energy improvements if they plan to sell their property in a few years. PACE allows the current owner to invest today, knowing that the repayments and the financed improvements can transfer to the new owner if he or she decides to sell the property.

Information from a trusted source. Trust is a key issue in encouraging property owners (and residents) to act. People are bombarded with information from an overwhelming number of sources—some reputable, others not. Local governments are generally seen as an objective source of information because they have no financial stake in the decisions made nor ties to private-sector profits. Local governments simply provide tools and resources to enable residents and businesses to learn about available programs and weigh the options for taking action. For example, local governments can offer a single source of information on how to get started with clean energy upgrades, and many of them provide educational workshops about the various options available to their constituents.

Low interest rates. Low rates may be available to PACE program applicants thanks to the lower interest on municipal bonds and other sources of financing available to local governments in contrast to conventional (private-sector financing) options. (In some cases, however, administrative fees may push the cost of a PACE program above conventional options.) Senior-position financing, which PACE programs typically have, is likely to offer lower interest rates than subordinated financing.

Tax benefits. A portion or all of the property owner's repayments may be tax deductible. Property owners are also eligible for the federal income tax credit (FITC), a 30% investment tax credit for solar installations (although this tax credit is subject to change; program planners are advised to verify it is still in effect at the time of program design).

Disadvantages

The advantages listed in the previous section make PACE an attractive option for property owners, but there are certain limitations local governments should recognize.

Available only to property owners. PACE programs are available only to property owners; renters cannot access this program directly. The main reason is split incentives—the owner is the one that invests in the improvements, but the tenants generally pay the utility bills (and reap the energy/cost savings). (Grantees should note that there is a type of commercial lease, typically referred to as *Triple Net,* wherein property taxes flow through to tenants, in which case the split incentive disappears). In some U.S. cities, a significant percentage of the residents and commercial businesses are renters. In such cases, local

governments will need other targeted energy efficiency policies and incentives for rental properties in addition to the existing low-income weatherization programs.

Cannot finance portable items. PACE programs cannot finance portable items, such as ENERGY STAR qualified light bulbs, refrigerators and appliances, and other products because they can be easily removed when the current owner leaves. Local governments must find other ways to encourage the purchase and use of these valuable upgrades.

Requires dedicated staff time. Administering a PACE program requires time on the part of local government staff. The local governments with existing PACE programs generally have dedicated staff with the time and motivation to run a proper program, as well as support from their local mayors, council members, and other government officials.

High legal and administrative set-up expenses. Now that there are several live programs in California and Colorado, replicating PACE will be easier and likely less costly for grantees just getting started. Local governments may also choose to work together to pool their limited resources and create countywide or regional programs. Still, the concerted effort needed to pass statewide enabling legislation where it is lacking, gain local approval, as well as design and administer a commercial PACE program should not be underestimated.

Not appropriate for investments below $2,500. High origination and administrative costs make PACE programs inappropriate tools for financing investments below a certain cost threshold, typically $2,500.

Some resistance by lenders whose priority in foreclosure may be reduced. If a property should go into foreclosure, typically any assessments that are past due (including incremental PACE assessments, as opposed to the entire PACE-financed amount) would have to be paid off first, thus making existing lenders/mortgage-holders "second in line." Lenders/mortgage-holders may be resistant to having their existing claim on the property (in foreclosure) become subordinate to PACE.

Advantages From the Local Government Point of View

From the point of view of local governments, commercial PACE programs offer the following advantages:

Direct support for constituents' actions – PACE programs are a way for local governments to support climate- and environment-friendly building improvements with very little direct cost to governments beyond the high legal and administrative set-up expenses.

Job creation – This new activity stimulates the local economy and creates jobs as the solar energy and energy efficiency sectors grow.

Positive publicity – The local governments in California and Colorado that have been involved in Energy Financing Districts thus far have received positive attention from the media and local civic groups.

Safe and efficient security mechanism – The PACE financing mechanism is extremely secure due to the senior lien on the property, and delinquent special taxes and assessments are repaid before private liens in the case of foreclosure. Risk to the local government's general fund is minimal.

Attachment B. Key Features to be Added to Existing State Law

As stated in Section 2.3 Determine Authority for PACE, several key features often must be added to existing state law to enable Energy Financing Districts. This attachment contains details on those features.

Authority to Finance Improvements on Private Property – In some states, the statutes authorizing local governments to create assessment districts specify that the improvements to be financed by such assessments must serve a "public purpose" (i.e., must benefit the general public in some way, such as reducing pollution, improving health, etc.) It is, therefore, sometimes necessary to amend the state code to specifically state that renewable energy and energy efficiency improvements on private property are a valid public purpose.

Other states expressly prohibit the use of assessment districts to develop or improve private property. In those states, the code sections authorizing assessment districts must be amended to authorize the financing of renewable energy and energy efficiency improvements on private property.

Authority to Finance Renewable Energy and Energy Efficiency Improvements – State law already authorizing the creation of assessment districts often limits the authority of local governments to financing only certain enumerated types of improvements, such as sidewalks, parks, sewers, and the like. In those states, to enable the authority to create Energy Financing Districts, it is necessary to expand that list to specifically include renewable energy and energy efficiency improvements.

Opt-In Feature – In most states, when the governing body of a municipality creates assessment districts, it must designate their geographic boundaries; and all parcels of property on the tax roll for such designated area are included in the district. In the Energy Financing Districts model, a particular parcel of property is not assessed unless that property owner "opts-in" and applies to participate in the PACE program. To create the legal authority for this "opt-in" mechanism, the code section authorizing assessment districts must usually be amended to provide that, when creating an Energy Financing District, the governing body of the municipality may initially designate a geographic area comprised solely of properties ***proposed*** for annexation into the district. Once the district is created, properties join the Energy Financing District (and thereby become eligible for financing of clean energy improvements and subject to special assessments) only when all of the owners of a particular property voluntarily decide to annex their property into the district.

Attachment C. Lender Information and Acknowledgement Form from Sonoma County Energy Independence Program (SCEIP)

ENERGY
INDEPENDENCE
A SONOMA COUNTY PROGRAM

SONOMA COUNTY ENERGY INDEPENDENCE PROGRAM

INFORMATION FOR LENDERS REGARDING ASSESSMENT FINANCING

What kinds of properties/owners are eligible for assessment financing?

Assessment financing is available for residential, commercial, industrial or any other real property that is subject to secured property taxes. Property owners may be individuals, associations, business entities, cooperatives, and virtually any owner which pays real property taxes.

What kinds of improvements are eligible for assessment financing?

Assessment financing is available for energy efficiency, water efficiency and renewable energy improvements that are permanently affixed to the property. In general, eligible improvements include solar panels, high efficiency heating and cooling systems, high efficiency windows and insulation, low flow toilets, on-demand hot water systems, and "smart" irrigation controllers, among others.

Are there limits on the amount of financing available to the property owner through assessment financing?

Improvement costs must be reasonable in relation to property value. As a guideline, proposed Improvements should not exceed 10 percent of assessed value. If more costly Improvements are proposed, the Program Administrator may require additional information supporting the reasonable relationship of the Improvements to the property, and the ability of the property owner to repay the assessment. Projects under $60,000 may be approved by Program Staff. Projects between $60,000 and $500,000 must be approved by the Program Administrator. Financing over $500,000 must be reviewed and approved by the Sonoma County Board of Supervisors at a public meeting.

404 Aviation Boulevard, Santa Rosa CA 95403 • Ph: 707-521-6200 • Fax: 707-524-3769
www.sonomacountyenergy.org

Are there eligibility requirements for property owners to receive assessment financing?

Applicants must be current on property taxes and any mortgages for the property. For commercial properties, the property owner is required to provide written documentation of consent from a first lender, unless the lender has agreed to have property owners participate in the Program without further review by the lender. Property owners may not be in bankruptcy and the property may not be an asset in a bankruptcy proceeding.

How long does the assessment lien remain in place?

The assessment lien remains until the financing is paid off, which is scheduled to be five, ten, or twenty years.

What is the priority of the assessment lien compared to the lien held by my institution?

The contractual assessment lien has the same priority as property taxes and other assessments. See Streets & Highways Code section 5898.30. This means that in the event of a default or foreclosure, the contractual assessment lien would have priority over your liens.

If in the event my institution forecloses on a property, must we pay off the assessment?

In the event of a foreclosure by your institution, as with any outstanding property tax liens, only the amount of the assessment that is due or in default would need to be paid at the time of the foreclosure. The remainder of the assessment remains a lien on the property, assumed by the purchaser.

In the event of a default on payment of the assessment, the County would normally treat the default in the same manner as a default in property taxes. Generally, properties are sold for failure to pay taxes after the taxes remain unpaid for five years. In the event the County proceeded to foreclose on property because of the unpaid assessment lien (i.e., if covenants in bonds sold to finance the Program required foreclosure), you as a lien holder would receive notice, and have an opportunity to cure the non-payment.

Why is assessment financing a benefit to my institution?

There are several benefits to your institution by allowing the Program to finance improvements on properties for which you hold a security interest. First, of course, unlike a home equity line of credit, the funds provided by the County Program can only be spent on renewable energy or energy efficiency improvements that are permanently affixed to the property. These improvements will add market value to the property, or extend the life of the existing property.

Second, generally, the lien periods are shorter than the useful life of the Improvements installed, so your institution will enjoy the extra value as added security interest after the assessment has been paid and the lien removed.

Finally, we all need to participate in the effort to reverse climate change and reduce dependence on fossil fuel. In the current difficult fiscal environment, there are very few avenues open to property owners to finance the types of improvements needed to "green" their property. Supporting a program that facilitates these changes will benefit our whole community. We would be proud to acknowledge your support in this endeavor.

If you have additional questions, please contact Deputy County Counsel Kathy Larocque or Cory O'Donnell at (707) 565-2421.

RETURN TO:
Program Administrator
Sonoma County Energy Independence Program
404 Aviation Boulevard
Santa Rosa, CA 95403

A.P.N.: _____ _____ _____

SCEIP File No: _____

LENDER ACKNOWLEDGEMENT OF OWNER PARTICIPATION IN SONOMA COUNTY ENERGY INDEPENDENCE PROGRAM

THIS ACKNOWLEDGEMENT ("Acknowledgement") is granted this _____ day of _____, 20___, by _____, a _____ ("Lender"), and for the benefit of Property Owner ("Owner"), _____, and the COUNTY OF SONOMA, a subdivision of the State of California ("County"), acting on behalf of the Sonoma County Energy Independence Program.

RECITALS

A. County has established the Sonoma County Energy Independence Program ("Program") to finance installation of distributed generation renewable energy sources or energy efficiency improvements, including water conservation improvements ("Improvements"), as further described in Exhibit A attached hereto, that are permanently fixed to real property.

B. Owner has applied to the Program to finance the amount of $_____, to be paid back with interest as an assessment on Owner's real property, described in Exhibit B attached hereto ("Property"), over a period of _____ years.

C. Owner has previously executed a deed of trust dated _____, to Lender, as trustee and beneficiary thereunder, covering the Property, to secure a promissory note in the sum of $_____, and recorded on _____, _____ as Instrument No. _____ in the Official Records of Sonoma County ("Deed of Trust").

D. Owner has executed, or is about to execute, an Assessment Contract with County ("Assessment Contract") by which County will disburse funds to Owner in a principal amount not to exceed $_____ ("Disbursement") to finance purchase and installation of Improvements, and such Disbursement will be payable with interest, upon terms and conditions described in the Assessment Contract[1].

E. Pursuant to Chapter 29, Part 3, Division 7 of the California Streets and Highways Code, repayment by Owner under the Assessment Contract will be by a statutory assessment levied against the Property (the "Assessment") notice of which shall be recorded against the Property in the Official Records of Sonoma County, and which Assessment, together with interest and any penalties, shall constitute a lien (the "Lien") on the Property, and shall be collected in installments on the property tax bill in the same manner as and subject to the same penalties, remedies and lien priorities as real property taxes.

ACKNOWLEDGEMENT

Lender acknowledges that it has been informed of Owner's participation in the Program, and agrees that Owner's execution of the Assessment Contract will not constitute a default under Lender's Deed of Trust.

LENDER:

Lender Officer to sign:

By: _____
Signature

_____
Name

_____
Title

_____
Date

[1] A form of the Assessment Contract can be viewed on-line at www.sonomacountyenergy.org, or will be provided to Lender upon request.

(ALL SIGNATURES MUST BE ACKNOWLEDGED)

State of California
County of _____

On _____ before me, _____
Date *Name and Title of Officer*

personally appeared _____
Name(s) of Signers

Who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

This area for official notary seal.

_____
Signature of Notary Public

EXHIBIT A
(Include List of Improvements)

EXHIBIT B
PROPERTY DESCRIPTION

REAL PROPERTY IN THE COUNTY OF SONOMA, STATE OF CALIFORNIA, DESCRIBED AS FOLLOWS:

(per Title Report or other identifying information)

Attachment D. Energy and Cost Savings Analysis Template

This attachment (see next page) contains an example of an energy and cost savings analysis template that PACE programs could require applicants to fill out and submit with their applications. By having a uniform project summary that uses a realistic and consistent set of assumptions, the program administrator will be able to more quickly review the individual measure energy/cost savings and total estimated savings and cost-effectiveness of the project.

Property Location: Office Tower, 123 Main St., Oakland

Sample Energy and Cost Savings Analysis

The Measure Description should match the measure description in the Eligible Measures List as closely as possible.

Entering Data: Applicant/Auditor to manually enter all data in red font

The "Measure Life" can be found in the Eligible Measures List. If the measure is not included in the Eligible Measures List, please contact the Program Administrator.

Measure Number	Measure Code*	Measure Description	Annual Energy and Cost Savings				Payback		Paybacks with Incentive					Measure Life
			Peak Savings (kW)	Electricity Savings (kWh)	Gas/Fuel Savings (therms)	Total Cost Savings	Measure Cost	Simple Payback (yr)	Potential Utility Incentive	Net Measure Cost	IRR (over Life of Measure)	NPV	Simple Payback (yr)	Measure Life
1	NCM	Check the Programmable Thermostats of the Supplemental Office Heat Pumps	0.0	124,406	0	$ 14,276	$ -	n/a	$ -	$ -	0%	$13,596	0.0	1
2	LCM	Install High-Capacity Air Filters	18.5	25,660	0	$ 2,943	$ 2,045	0.7	$ -	$ 2,045	44%	$756	0.7	1
3	LCM	Condenser Water Temperature Reset	25.8	17,149	0	$ 1,958	$ 3,510	1.8	$ 1,372	$ 2,138	35%	$15,078	1.1	10
4	CIM	Variable Speed Condenser Water Pumping	0.0	348,631	0	$ 39,219	$ 79,044	2.2	$ 25,250	$ 53,793	70%	$263,032	1.5	10
5	CIM	T-12 to T-8 Lighting and Occupancy Controls	74.2	196,502	0	$ 22,775	$ 141,100	6.3	$ 15,858	$ 125,242	15%	$74,012	5.5	10
6	CIM	Install Bi-Level T8 Fluorescent Lighting in Stairwells	22.6	32,267	0	$ 2,555	$ 13,120	5.1	$ 2,000	$ 11,120	22%	$17,232	4.4	10
7	CIM	Reflective Window Film	96.3	543,441	0	$ 62,360	$ 50,657	2.4	$ 58,975	$ 91,683	71%	$453,806	1.6	10
8	CIM	Install Premium Efficiency Inverter Duty Motors on Air Handler Fan and Condenser Water Pump Motors	10.7	105,283	27,273	$ 42,222	$ 18,156	0.4	$ 984	$ 17,602	243%	$351,745	0.4	10
		SUB-TOTALS	230.2	1,352,330	27,273	$ 185,321	$ 410,673	2.2	$ 107,039	$ 303,634	36%	$1,183,253	1.6	10
Demand Response														
1	DR	Reduce Lighting	170.1	6,585	0	$ 3,153	$ 11,350	3.6	$ -	$ 11,350	28%	$16,807	3.6	10
2	DR	Reduce Ventilation	50.9	4,176	0	$ 1,942	$ 1,500	0.8	$ -	$ 1,000	197%	$15,984	0.5	10
		SUB-TOTALS	221.0	10,983	0	$ 5,104	$ 12,360	2.4	$ -	$ 12,360	43%	$32,291	2.4	10
Self Generation / Renewables														
1	SGM	Solar PV System at Parking Structure	195.1	316,686	0	$61,000	$ 1,667,000	27.3	$ 950,000	$ 717,000	9%	$319,757	11.8	40
		SUBTOTALS	195.1	316,686	0	$ 61,000	$ 1,667,000	27.3	$ 950,000	$ 717,000	9%	$319,757	11.8	40
TOTALS (Recommended Measures)			646.4	1,681,998.7	27,273.0	251,425.2	2,090,032.6	8.3	1,057,038.9	1,032,993.7	23%	2,135,306.6	4.1	40

* "NCM" stands for No-Cost Measures
"LCM" stands for Low-Cost Measures
"CIM" stands for Capital-Intensive Measures
"DR" stands for Demand Response
"SGM" stands for Self Generation / Renewables

Enter Actual Annual Energy Usage:	
Past 12-months of Actual Annual Electricity (kWh) Usage:	9,611,421.1
Past-12 Months Actual Annual Fuel (therms) Usage:	303,333.3
Total Past 12-Months Annual Energy (kBTu) Usage:	63,037,502.2
Savings Percentages:	
Percentage of Annual Estimated Electricity Savings:	17.5%
Percentage of Annual Estimated Fuel Savings:	9.0%
Percentage of Total Annual Estimated Energy Savings:	13.4%

Please enter last 12-months of electricity and fuel usage for the property here.

Average electricity/fuel costs will be sufficient for most proposals. If you have a measure that requires an actual fuel cost, please propose it and contact the Administrator.

Actual Electricity / Fuel Costs, per Property's Rate Schedule		
Average Electricity Cost	$ 0.1148	/kWh
Average Gas/Fuel Cost	$ 1.11	/therm
NPV Discount Rate	5.00%	
Electricity / Fuel Annual Inflation Rate	3.00%	

Provide Description of Rate Schedule:
Average for E20S Rate Schedule
Average for GNR1 Rate Schedule

Please enter the property's rate schedule here, which correlates to the electricity/fuel costs entered in the adjacent table.

For the purposes of evaluation and comparison, the Commercial PACE Program requires the use of a 3% escalation rate for electricity and fuel costs and a 5% discount rate for NPV calcs in all PACE Energy Audits.

2010 Utility Incentives	
Incentives	Rate
Motors / Equipment / Controls	$0.08 /kWh
Lighting	$0.05 /kWh
AC & Refrigeration	$0.14 /kWh
Gas	$0.80 /therm
Rebates	
Occupancy Sensors - Wall (L53)	$16.50 /sq.ft
Occupancy Sensors - Ceiling (L53)	$44.00 each
T12 to T8 Retrofit - 4 ft (L290)	$4.25 per lamp
Bi-Level Stairwell Fixtures (L732)	$25.00 per fixture
VFD for HVAC Fans (H146)	$80.00 per hp
Demand Response	
Assumed curtailment DR - penalties	$0.35 per kWh

This table provides sample data only. Each auditor must fill out the utility incentive/rebate information in this table that is relevant to the Proposed Project.

Attachment E. Finding a Qualified Energy Auditor

The commercial building energy audit market is fragmented, with no universally accepted standards for auditors. Therefore, a commercial PACE program cannot point to a single accreditation that auditors be required to have.

In the absence of a single accreditation, PACE programs can best serve their participants by providing them with a list of recommended licenses/credentials to seek in a contractor's team, and questions to ask about their experience and what they will deliver to the client.

Recommendations for finding a qualified commercial energy auditor include the following:

- Look for staffing to include—
    - Individuals with a Professional Engineering License (P.E.)
    - Individuals who are a Certified Energy Manager (CEM) or a Certified Energy Auditor (CEA) from the Association of Energy Engineers (AEE)
    - A collection of individuals who, between them, have multidisciplinary competence (e.g., lighting, HVAC, refrigeration, appliances).
- Ask about involvement in relevant professional organizations (e.g., the Association of Energy Engineers (AEE), the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), the Illuminating Engineering Society (IES), the U.S. Green Building Council (USGBC), etc.) or with federal efficiency programs such as ENERGY STAR.
- Ask for previous client references and follow up to confirm the quality of work and service
- Ask for a sample audit report (redacted) and confirm it is thorough, professional, and clear
- Be clear about what outcomes are expected, including:
    - Actionable recommendations
    - Transparent analysis
    - Credible energy and cost savings estimates
    - Reasonable cost estimates or vendor bids
    - Interactive effects of multiple measures
    - Measurements of existing systems
    - Utility incentive/rebate application assistance.

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