“Not Dead Yet!” Moving Forward with Residential PACE

Peter Adamczyk, Vermont Energy Investment Corporation

ABSTRACT

Property Assessed Clean Energy (PACE) has been widely presumed to be dead in the residential market, since the Federal Housing Finance Agency stated its opposition in 2010 to PACE programs that place a lien ahead of mortgages. Vermont is the only state that has responded to these concerns with a market-based solution, specifying that liens on PACE assessments are subordinate to existing mortgages. Because this makes PACE assessments more susceptible to loss from default, Vermont amended its existing PACE legislation to create two loan loss reserve accounts:[1]

1. Participants are required to contribute 2% of their assessment into one account. These funds are available to cover 100% of PACE assessment amounts in arrears at the time of foreclosure of a participating property.
2. A second account can cover additional losses, up to 90%. Revenue from Vermont’s participation in the Regional Greenhouse Gas Initiative (RGGI) and ISO New England’s Forward Capacity Market provide funds equal to 5% of the total assessments, up to a maximum of $1 million.

This paper examines the potential success of this pilot program and articulates the financing model, which could be replicated in other jurisdictions. This program is expected to provide affordable and obtainable financing for retrofits and renewables for up to 2,000 residences in the state, equal to the last two years of owner-financed projects in the state.

Background

Property Assessed Clean Energy (PACE) is a financing structure that offers an affordable way for building owners to install energy efficiency and renewable energy measures on their buildings, and to pass on repayment obligation to the next owner at time of sale. However, to the extent that it is an understood concept, it has also been marked by controversy. PACE works by a local government creating a special tax assessment district and obtaining financing secured by liens on the real property in the district that is benefiting from the financing. PACE financing can be used to fund efficiency and renewable energy projects, with participating property owners repaying the debt in the same manner and in the same installments as the general property taxes on the property.

The federal government strongly supported the PACE concept, issuing best practices recommendations in 2009 and 2010 as a first step toward national standardization (White House, 2009; U.S. Department of Energy, 2010). Although under way for several years in many

[1] The changes went into effect in January 2012. Both features of this legislation are contained in 24 V.S.A. §3269 and §3270. State PACE reserve fund: http://www.leg.state.vt.us/statutes/fullsection.cfm?Title=24&Chapter=087&Section=03270.

different types of jurisdiction, PACE programs notably came under criticism when the Federal Housing Finance Agency (FHFA) issued a landmark statement in July 2010, opposing residential PACE programs that placed an energy improvement lien ahead of a mortgage in the event of a foreclosure or default. The statement did not acknowledge the fact that all municipal assessments have precedence over mortgages. Indeed, FHFA made a point of confirming that their objection did not pertain to any other special assessment lien. Notably, FHFA did not factor the energy savings obtained by the PACE-financed improvements into their financial analysis.

Vermont became the only state to respond to these concerns with a market-based solution. After a substantial engagement process involving the mortgage lending community and the real estate community, Vermont legislators passed amendments to its existing PACE legislation in 2011 that made liens on PACE assessments subordinate to existing mortgages. Because this junior position makes PACE assessments more likely to incur a loss in the event of a default, Vermont enacted 24 V.S.A. § 3269 and § 3270, effective January 2012, to create two loan loss reserve accounts:

- Participating property owners pay into one account a one-time nonrefundable amount equal to 2% of their assessment. These funds are available to cover 100% of losses in a foreclosure.
- If the first reserve account cannot cover actual losses from a default, the second account, administered by the State Treasurer, can be used to cover additional losses, up to 90%. The fund will hold an amount equal to 5% of the total assessments on participating properties, up to a total of $1 million. Revenue from Vermont's participation in the Regional Greenhouse Gas Initiative and ISO New England's Forward Capacity Market fund this second reserve.

In addressing this opposition with a market-based approach, Vermont has conceptually turned the controversy into a working solution, although at a cost, and has paved the way for homeowners to take advantage of affordable energy improvements.

Why and How PACE Caught on in the First Place: Vermont's Experience

Property owners frequently talk themselves out of energy efficiency projects because of upfront costs, and because few financing options exist that offer the necessary combination of easy qualification, attractive interest rates, and relatively long repayment terms (Fuller, 2009; Fuller, 2010). However, in May 2009, Vermont passed a bill that became Act 45, a law that enabled municipalities to create Clean Energy Assessment Districts, a PACE structure that enabled property owners to pay for energy improvements via a special property tax assessment, and to repay that assessment over a period of up to 20 years.[2] The Vermont Energy Efficiency Utility, the country's first statewide energy efficiency utility (EEU), played an important role in reviewing and approving all proposed efficiency measures, thus ensuring a high value to property owners.

Since PACE uses the same kind of land-secured tax districts that American cities and towns have used for more than 100 years to pay for public-purpose improvements such as street paving, parks, open space, and water and sewer systems, the model is not new. In fact, 37,000

[2] Details of this law can be found in the Vermont Statutes Annotated: 24 V.S.A. §3267ff.

such special tax assessment districts exist (PACENow, 2012). However, applying the model to residential energy improvements is relatively new.

PACE was authorized at the state level, but Vermont's municipalities were tasked with implementing the structure. This meant that up to 251 towns and cities could each determine its own program parameters, provided that they were at least as restrictive as the state parameters, with variations such as lower loan-to-value requirements or maximum project size, exclusion of specific renewables, or funding projects with positive cash flow only. Finally, programs were expected to vary on the issue of adequate reserve funds.

Recognizing that the average Vermont municipality has fewer than 3,000 residents, the legislation allowed participating municipalities to join together in order to achieve more attractive financing terms and economies of scale.

With the passage of PACE-enabling legislation in 2009, Vermont became one of first states to have such a law; shortly thereafter, 13 towns voted to designate themselves as PACE districts, although none of them were able to initiate PACE programs before the FHFA letter was issued.

Why Do We Need PACE?

Participation nationwide in energy finance programs has been less than 0.5% of eligible households per year. This low rate of participation is due primarily to homeowners' reluctance to risk upfront cost, and especially due to the concern that they will not own the property long enough to recoup their investment through energy savings (Fuller, 2009).

In addition, energy financing programs frequently serve those who need them the least. Traditional bank underwriting practices do not capture the energy savings of the proposed energy measures, and consequently many potential borrowers are unable to qualify for projects that have good economics. Finally, most consumer financing mechanisms for an energy improvement have relatively short terms (less than 7 years). This shorter term is typically not an appealing option because the borrower must provide funds for repayment from a source other than energy savings. This option actually can be made attractive if a local energy efficiency, utility, or renewables program can offer substantial subsidies. It is true that some effective energy efficiency measures have payback periods of less than 7 years, but the shorter financing option limits the ability of a homeowner to pursue deeper energy savings and frequently results in little or no positive cashflow for the duration of the loan.

The PACE mechanism, however, can transform the market for residential energy improvements. With a term of up to 20 years repayment, positive cash flow is more easily obtainable. In addition, if a homeowner moves out of a PACE property, the obligation can be transferred to the new owner at the time of sale. This transfer is appropriate because the energy savings continue to accrue to the benefit of the new owner-occupant (alternatively, the PACE assessment can be paid off at any time with no penalty.) A PACE-improved property, if marketed appropriately, can be very attractive to future buyers, since the energy improvements have already been made and their savings disclosed and highlighted at the time of sale. This benefit would increase in the event of higher energy costs.

What Caused PACE to Slow Down?

As noted earlier, the White House and the U.S. Department of Energy strongly supported the PACE concept. The FHFA, however, citing the superior lien position of PACE assessments relative to mortgages, said in a statement on July 6, 2010, that the program structure represented a "key alteration of traditional mortgage lending practice." FHFA asserted that the "opt-in" nature of the PACE structure made it, in their view, not suitable for a municipality's public financing capabilities (Federal Housing Finance Agency, 2010). The letter directed the mortgage securitizing enterprise Fannie Mae and the mortgage-backed securities buyer-seller Freddie Mac to use more restrictive mortgage underwriting standards for all residential borrowers in jurisdictions with PACE programs. FHFA opposed any program using senior-lien assessments and further warned that property owners who participated in such PACE programs would violate standard mortgage provisions and could trigger a mortgage default. The letter also directed Fannie Mae and Freddie Mac not to underwrite mortgages for properties with a PACE assessment (PACENow, 2012). With this statement, most current and any possible subsequent PACE residential programs were effectively dead.

Playing to the Market: Vermont's Market-Based Solution

The FHFA letter sent shockwaves through the national PACE community, and resulted in numerous lawsuits, many of which are still pending. In August 2011, the United States District Court for the Northern District of California provided that FHFA must undertake a formal rulemaking process, stating that the agency had failed to follow established procedures for implementing such a policy change. At about the same time, a bipartisan-sponsored bill was introduced in the U.S. House of Representatives as HR 2599—the PACE Assessment Protection Act of 2011.[3] The bill essentially addresses FHFA's concerns, point by point, and offers minimum criteria for minimum equity, maximum loan-to-value ratios and especially mandating that projects must have positive cash flow. The overarching intent of the bill is to refute the FHFA's claim that a senior-lien PACE assessment must be detrimental to any mortgages in a junior position.

Vermont responded to the FHFA's concerns with an approach that made PACE liens junior to any mortgage liens currently on the property, constituting the country's only market-based response to FHFA. Maine had previously created a junior-lien PACE program, but this was funded through Recovery Act money, which did not require the same protections as private capital sources would require. Therefore, that model is not replicable by other states unless they too have a specific source of money for project financing that does not require repayment.

Many elements of the structure of the Vermont solution, including the lien position and loan-loss risk sharing, were loosely modeled on the PowerSaver loan program offered through U.S. Housing and Urban Development.[4] With support from Congressionally Directed funds

[3] The bill is sponsored by Rep. Nan Hayworth (R-NY) and 50 other sponsors and has bipartisan support. The bill went to the House Committee on Financial Services in August 2011, and has been referred to the Subcommittee on Insurance, Housing and Community Opportunity. http://www.govtrack.us/congress/bill.xpd?bill=h112-2599.

[4] The PowerSaver Program is backed by the Federal Housing Administration (FHA). The loans offer homeowners up to $25,000 to make energy-efficient improvements of their choice. HUD and FHA developed PowerSaver as part of the Recovery Through Retrofit initiative launched in May 2009 by Vice President Joe Biden's Middle Class Task Force. See http://nationalmortgageprofessional.com/news21746/huds-powersaver-program-offer-financing-energy-saving-home-improvements.

obtained in late 2010 through the office of U.S. Senator Bernie Sanders, a statewide initiative known as "PACE Quick Start" was launched. This initiative provided a document toolkit for municipalities, covering all topics and issues necessary to introduce PACE to their town energy committees and select boards, and to get PACE onto the local ballots for March Town Meeting Day in 2012.

Vermont discovered two key issues in its effort to launch the model:

- There was little willingness from individual towns to use their bonding authority to finance energy improvements to homes. It is very difficult to predict what the take-up for PACE will be, especially in the earliest stages, and the minimum size requirement for bonding poses a major obstacle for small communities—in essence, creating a chicken-and-egg problem.
- No town in Vermont is large enough to justify having a stand-alone PACE administrator—a common "Vermont scale" problem. The state turned to Efficiency Vermont, the state's energy efficiency utility, as the entity responsible for administering a reserve fund. In addition, Efficiency Vermont was charged with contacting each town that created a PACE district and offering to act as program administrator, at no charge to the towns.

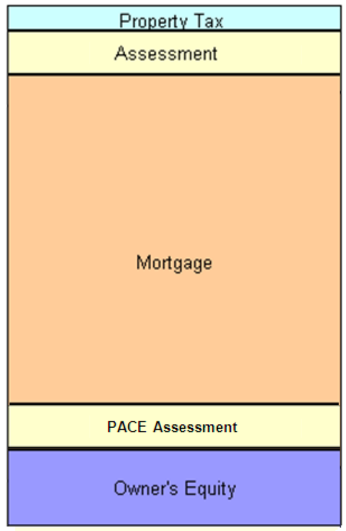
State legislation passed in May 2011 (HB 56) and went into effect on January 1, 2012. It made several important improvements to Vermont's PACE legislation. The following points are all contained in the language of the law, 24 V.S.A. Chapter 87 (Section 3261 et seq.):

- The legislation specifies that PACE liens are subordinate to existing liens and to mortgages, but are superior to any other property liens recorded after the PACE lien was recorded (except for municipal liens, which also take precedence over PACE liens). This approach was taken in direct response to the FHFA statement concerning the senior lien status, which was previously in place in Vermont, and thus subject to the July 2010 FHFA mortgage directives to Fannie Mae and Freddie Mac.
- Further, the legislation created the state PACE reserve fund, and provided clarifying language about the reserve fund supported by participating property owners. Participating property owners must pay a one-time non-refundable fee to support a statewide reserve fund created to cover losses in the event of foreclosure of participating properties (Kimbell, 2012). Efficiency Vermont will administer the reserve fund.
- In addition, an amount equal to 5% of the assessment (not to exceed $1 million) will be transferred to an escrow account maintained by the State Treasurer. This account will provide funds to cover 90% of any losses due to foreclosures on participating properties not covered by the reserve account.

The main purpose of the reserve funds is to reduce risk for potential investors interested in lending money to finance Vermont's PACE program. The two levels of protection for investors in the legislation are necessary because making the PACE lien junior to the mortgage makes it a riskier investment. Without the protection of the loan loss reserves, investors would either need to charge very high interest rates or would be unwilling to offer the money at all. The Vermont Bankers Association testified during legislative hearings that they would be interested in coordinating local banks to provide funding for a Credit Facility because of the significant financial protections created by the reserve accounts.

Figure 1 illustrates the position of a PACE assessment lien in Vermont, compared to other financial factors in home ownership.

Figure 1. Position of a Vermont PACE Assessment Lien, Effective January 2012



In Vermont's legislation, PACE assessments are subordinate to property taxes and other assessments, and to any mortgages in place at the time the PACE lien is attached. Under Vermont law, the relative position of a lien to a mortgage is only an issue in the event of foreclosure; it presents no issues in a normal sale, as a town can use exactly the same procedures and remedies for the collection of special assessments as it does for taxes, whether the lien is above or below any mortgages. This safeguard to the real estate and mortgage lending communities is important, although perhaps less so in Vermont, which consistently ranks as the state with the lowest foreclosure rate in the United States.[5]

Interest rates on Vermont's junior-lien PACE assessments are anticipated to be 2-3% higher than a typical 30-year fixed-rate residential mortgage, according to numerous industry watchers. Although the reserve accounts provide significant protection, no level of loan-loss provisioning (short of 100%!) can provide protection equal to the senior-lien status. As with all financial decisions, especially those involving real estate, homeowners will need to consider different options, depending on their circumstances. Although the interest rates will be higher, the very low application costs relative to a mortgage and the ability to transfer the repayment obligation at sale may make this a more attractive option for homeowners who could also use traditional bank financing.

[5] This information is contained within the Realty Trac website (subscription needed); it is reported elsewhere in sites that refer to Realty Trac data, such as RealTown. For example, see http://www.realtown.com/burlingtonvermontrealestate/blog/vermont-has-lowest-foreclosure-rates-in-the-united-states-in-september.

Putting Together a PACE Program—It's all about the Details

The existence of a regulated EEU in the state allows for several functions to be efficiently coordinated. The EEU must maintain and publish a list of measures that can be financed through PACE,[6] and review and approve the costs and projected energy savings of the proposed energy improvements, including an annual cash flow calculation based on first year savings.

Other activities of the EEU in Vermont, in support of the PACE structure, include:

- Determining the maximum term of assessment, based on the life of the measures installed
- Maintaining the loan loss reserve account, funded by participating property owners
- Providing information concerning implementation, and contacting each municipality that votes to establish a district to offer this information

Since the Vermont EEU provides services statewide, it is in a position to serve all homeowners on PACE matters with information to customers on energy audits, Home Performance with ENERGY STAR® improvements, and lists of General Contractors certified by the Building Performance Institute. Similar listings are maintained for Renewable Energy Contractors with the appropriate certifications. This was a major consideration in a state with only 620,000 residents- and 19 utilities!

The regulator designated to oversee PACE programming and administration in Vermont is the Department of Financial Regulation. DFR established underwriting criteria which provide an adequate level of assurance to all parties that property owners will have the ability to meet the assessment payment obligations. Significantly, the underwriting criteria include expected energy savings as calculated by the EEU when determining eligibility.[7]

In addition, the Vermont PACE statute creates a PACE Administrator, which provides services at no cost to the town. All costs of PACE administration are borne by the participating property owners. Efficiency Vermont, acting in its capacity as PACE Administrator, provides:

- Online and direct customer service to answer questions and perform pre-qualification analyses
- Materials and processes applications for PACE assessments
- A qualification letter to approved customers, with the necessary documents to participate in the project, a timeline for executing the participation agreement and conducting the project, and general customer assistance
- Information letters to potential participants who do not qualify for PACE assessments, on how to increase their energy efficiency at home, or on other ways to finance energy improvements in their homes
- A service that records a reservation for funding with the Credit Facility, upon receipt of an executed participation agreement

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[6] In Vermont, the EEU provides the list online. See http://www.efficiencyvermont.com/docs/about_efficiency_vermont/initiatives/PACE_eligible_measures.pdf.

[7] The underwriting criteria and standards can be accessed through this portal: http://www.bishca.state.vt.us/reg-bul-ord/pace-assessment-underwriting-criteria-and-standards.

- Recording services with the town for the lien
- Review of customer invoices, and approval of payment to contractor or homeowner
- Management of customer billing throughout the life of the assessment
- Annual reports about the status of the assessment, delivered to the town and customer

Efficiency Vermont agreed to take on the PACE Administrator role when the legislation was updated, because the EEU was considered the “least bad fit” of existing entities in the state. There was at the time no entity in the state that was charged with managing such a wide range of energy efficiency and renewable energy measures, in addition to the administrative requirements of supporting town PACE programs on an ongoing basis. However, Efficiency Vermont’s mandate to save energy for Vermonters overlaps well with the potential for PACE, especially for thermal efficiency, for which the state has very limited funds.[8]

Among the additional program characteristics are:

- The amount of PACE financing cannot exceed $30,000, or 15% of the equalized assessed value of the property (AVP), whichever is less. The equalized AVP is the amount used to calculate the property taxes due from the homeowner. Alternatively, a homeowner can choose to use an updated Uniform Standards of Property Appraisal Practice (USPAP)-conforming market appraisal not more than 6 months old.
- The combined loan-to-value (CLTV) ratio of any outstanding mortgages, plus the amount of the PACE assessment, cannot exceed 90% of the AVP. This is a more conservative requirement than almost any other PACE program in the country, which typically allow a CLTV up to 100%, and this provides further assurance to the Credit Facility that eligible PACE participants are able to pay their assessment obligations.
- Assessment amount is determined for actual cost to the homeowner, after all available incentives, rebates, and other discounts have been applied. All installation work must be performed by properly certified professionals, with follow-up audits conducted by the energy efficiency utility on a percentage of projects, to ensure that actual savings are consistent with projected energy savings.
- Program participants must meet the underwriting criteria as determined by the state regulator.
- All proposed energy measures must be reviewed and approved (passing cost-effectiveness screening tests where relevant) by the state energy efficiency utility, Efficiency Vermont.
- All assessments must be secured via a lien on the homeowner’s property; the lien cannot be transferred unless payment on the assessments is current.
- In a foreclosure, funds from one or both of the reserve accounts would be used to pay all past-due amounts on the PACE assessment.
- If the property owner uses an escrow account for property tax and insurance payments, the PACE assessment will also be included in monthly payment.

[8] Thermal efficiency funds account for less than 10% of the state’s 2012 energy efficiency budget, and are a function of RGGI and ISO New England Forward Capacity Market revenues.

Certain parts of the administrative functions will be outsourced, primarily because DFR's underwriting criteria requires certain functions overseen by banking regulators. Therefore, Efficiency Vermont will engage a community bank or credit union to handle all of the confidential documents necessary for the qualification of properties. Efficiency Vermont determined that hiring a for-profit bank to handle all of the administrative functions would put an undue burden on the participants who, under statute, must bear all the costs of the program. Using local lenders for administering the qualification functions makes the PACE program in Vermont only more within reach for potential participants, and adds to the overall argument that a well-designed PACE program can provide economic stimulus to many sectors of the state's economy.

The Model Was Already There

In putting a PACE program in place in Vermont, the state defined its implementation strategy, and successfully used tactics that were already in position from the state's 2009 Clean Energy Assessment Districts legislation, and ready to deploy. Even before the FHFA concerns were raised, 13 Vermont towns had already passed PACE programs. The legislation "correcting" for the lien position and addressing other PACE issues applied to those towns, as well.

The strategy contained three basic elements: (1) implementation was to be statewide—that is, utility-neutral, so that if a town voted in a PACE program, ratepayer-taxpayers would not have any additional hurdle relating to utility service territory; (2) the statewide administrative scope would maximize the chances for economies of scale to be achieved by small towns; and (3) the regulator, DFR, contacted FHFA to confirm that Vermont's proposed model was consistent with FHFA's earlier statements about what it would support in a PACE program (Candon, 2011).

The tactics for deploying the implementation strategy included a shared-resources approach that would cover the state's 251 towns, and provide complete and balanced information to town officials to help place a PACE initiative on their respective ballots for Town Meeting Day in March 2012 if they chose to do so. The approach also needed to determine how Efficiency Vermont would be able to assist participants in proceeding with a project if the town voted in a PACE program. The results of the tactical effort have been notable.

Through the allocation of funds to the Vermont Energy Investment Corporation (VEIC, the company appointed to run the state's Efficiency Vermont program) from the 2010 Congressionally Directed Project from Sen. Sanders for rapid advancement of PACE implementation in Vermont, VEIC staff and subcontractors began the "Quick-Start" effort with the development of legal resources. These included the drafting of application forms, information sheets, and other documentation that would be needed by the participants, town offices, and lending institutions. This initial legal work also included appropriate legal opinions to address possible exigencies, especially around foreclosure issues.

Another outcome of the congressional funding was the development of a Wiki for towns, participants, and others interested in finding out more about PACE programs. The Wiki provided a forum for discussions among town officials, vendors / contractors, and energy advocates, as well as providing a platform to distribute all documents necessary for the creation and administration of a municipal PACE district.[9]

One of the techniques for obtaining town buy-in of the PACE concept prior to putting a measure on its ballot, was the requirement for execution of a prescriptive letter of interest, which VEIC had developed. This letter from each participating town was desirable for two reasons:

- To obtain acknowledgement from town government that there was "official" interest in the PACE program, as opposed to interest coming from individual ratepayers / taxpayers, or from only the town energy committee; and
- To document that congressional funds were being spent appropriately

Approximately 65 of Vermont's 251 towns provided these letters of interest. More than half of those towns ultimately put a PACE question on their ballot. Of the remainder, almost all stated that they continued to have an interest in creating a PACE district, but they preferred to have other towns go first so that they could benefit from their experience.

Scores of PACE-related meetings were held all over the state, whether at the town government or the energy committee level (sometimes these meetings involved both bodies). In addition, VEIC held two half-day forums for energy advocates, and specific presentations were made at conferences sponsored by other PACE sponsors. These nonprofit organizations included the Vermont League of Cities and Towns, the Vermont Natural Resources Council, the Vermont Energy and Climate Action Network, the Vermont Public Interest Research Group, and Renewable Energy Vermont. The State Treasurer, whose office has a mandated role in administering loan loss reserves, was a vocal supporter of the program (Pearce, 2011).

Why It Worked, and How Well It Worked

The key to communicating the PACE message in Vermont rested in several important factors: (1) a network of town and regional energy committees was already in place and was active; (2) VEIC's knowledge base is sufficiently large to add high value to all parties interested in PACE programming—lenders, attorneys, energy committees, town officials, and ratepayer-taxpayers; and (3) energy advocacy network members routinely speak to one another, reflecting a powerful grassroots response to the pressing need to cut energy costs, foster renewable energy generation, and lessen the state's contribution to global warming. In fact, there are more than 100 of these primarily volunteer groups—in a state with 251 towns.[10]

Given the relative complexity of the PACE concept and the multiple issues of how to administer programs statewide, and given the historic concerns of the real estate industry, lending institutions, and the FHFA, the voting results were better than might have been expected. That is, it is reasonable to assume that without the information resources and technical assistance from VEIC and the engagement of the town energy committees, the chances of passage of PACE initiatives would likely have been small. On Town Meeting Day on March 6, 2012, of the 24

[9] See http://pacevermont.wikispace.com.

[10] The Vermont Energy and Climate Action Network membership list provides a glimpse into the scope of this activity. The network conducts an annual conference with the New England Grassroots Environment Fund and the Vermont Natural Resources Council, reinforcing communications and grassroots activity. See http://www.vecan.net/member_list.php.

towns that had placed PACE measures on their ballots, 23 passed them. This 96% success rate boosted the number of PACE districts in Vermont to 35.

It is anticipated that the first PACE applications will be processed in July 2012.

Relevance to Other States

The lessons from Vermont might provide insight for other states or regions that want to proceed prudently, following the FHFA July 2010 letter and because of other jurisdictions' PACE histories. However, it is fair to say that it took Vermont's statewide "bias to action" to position PACE for success. Many Vermonters expressed a high degree of frustration that the FHFA letter caused such a complete shutdown of opportunities for implementing PACE in the state. This was felt even more sharply because Vermont was one of the very first states to pass PACE legislation and plans to begin the programs were close to completion. Many people in Vermont, including state and local government officials, voiced the desire to do *something* about the impasse and regain the initiative.

With this in mind, Vermont's program should not be viewed as a long-term solution. It was devised to solve several coincidental problems that were apparent at the national and state levels, and has been rolled out with only 15% of all towns engaged in its implementation. In all, it is expected to provide financing for approximately 2,000 homes[11]. In addition, the extra cost of establishing and maintaining loan loss reserves is a factor in how well and how extensively PACE will be carried out in Vermont. The key to its probable success is the existence of available and appropriate funds for loan loss reserves, and it is this factor that most limits the possibilities for replication and scalability of Vermont's model elsewhere in the country. Vermont had a unique combination of existing infrastructure, available funds for loan loss reserves, and a willingness to modify the existing legislation. Other states might find it more difficult to implement with their particular situations.

Conclusions

1. The Vermont PACE approach—with its well-discussed design, strategy, and implementation, utilizing design components that have been proven in other programs—has presented an opportunity similar to a case-control laboratory experiment to demonstrate that there is demand for residential PACE, and the extent of that demand.
2. A well-planned and regulated PACE program provides an opportunity for greater implementation of deep retrofit measures in the nation's housing stock, and thus the opportunity to obtain greater energy savings—with data collection aligned with an optimal amount of rigor.
3. PACE programs are most likely to be put in place, and to have a good success rate, in jurisdictions in which a "bias to action" exists, and is supported at the community level and in the Legislature. One very specific piece of evidence of this would be the willingness to divert the funds necessary to create a loan-loss reserve to support the structure.

[11] This assumes an average of $8,000 per job for energy efficiency projects only and $22,000 for projects including renewables. These numbers are based on a combination of historical data and surveys of prospective PACE users.

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