



EVALUATION OF THE  
EFFICIENCY MAINE TRUST  
PACE LOAN PROGRAM:  
INTERIM PROCESS REPORT  
**Final**

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# 1. EXECUTIVE SUMMARY

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## 1.1 EVALUATION OBJECTIVES

Efficiency Maine contracted with Opinion Dynamics Corporation and subcontractors Dunskey Energy Consulting, Johnson Consulting Group, and Mad Dash to conduct an independent evaluation of their Property Assessed Clean Energy (PACE) Loan Program, which provides loans to Maine homeowners to finance the cost of making eligible energy saving improvements to their property. The evaluation also covers the new PowerSaver Loan Program, which offers loans with different requirements than the PACE Loan Program, and the residential Direct Install Program, which provides homeowners who complete an energy audit with a rebate towards air sealing and insulation work.

The evaluation is intended to fulfill the statutory requirements that the Trust arrange for an independent evaluation, at least once every five years, of each program that has an annual budget of more than \$500,000, including an evaluation of the program's effectiveness in achieving goals specified in the law governing the Trust (35-A MRSA section 10104, subsection 10). In addition, the evaluation was part of the Better Buildings Grant application to DOE and will fulfill the requirements of that grant.

The Trust has two main objectives for this evaluation:

- (1) To examine the design and delivery and market effects of the Maine PACE Loan Program and identify opportunities to increase the program's success, including the PowerSaver loan and residential Direct Install programs the Trust has introduced in conjunction with PACE; and
- (2) To quantify and verify the energy savings achieved through PACE and PowerSaver loan funded home energy improvements and the cost-effectiveness of those savings.

This Interim Process Report is the first milestone in the evaluation of the PACE Loan Program. Subsequent phases of this evaluation will include an analysis of program impacts and further assessment of program processes. Additional milestones include an Interim Impact Report (December 2012) and a Final Evaluation Report (June 2013). The Final Evaluation Report will integrate findings from the two Interim Reports and any additional research efforts.

## 1.2 EVALUATION METHODS

The Evaluation Team conducted a variety of evaluation activities supporting this Interim Process Report:

- **Successful practices review:** We conducted a review of successful practices employed in energy efficiency financing programs. We developed the successful practices and lessons learned from a combination of sources, including a literature review of innovative financing programs and strategies that have been used throughout North America, in-depth interviews of program administrators involved with four financing programs, and our team's first-hand experience in both developing and evaluating innovative financing programs throughout North America.
- **Review of program materials:** We reviewed all available program materials for the PACE Loan Program and the PowerSaver Program, including implementation documents, marketing collateral, and training materials. Review of these materials provided necessary background

information for the other research objectives and informed the development of our primary data collection instruments.

- **In-depth interviews with program and implementation staff:** We conducted four in-depth telephone interviews with Efficiency Maine Trust and implementation staff involved in the design and administration of the PACE Loan Program and the PowerSaver Program. These interviews allowed us to fully explore details of program design and implementation and informed the design of our primary data collection instruments.
- **Telephone survey of PACE participants:** We conducted a telephone survey with 62 participants of the PACE Loan Program. The survey explored a variety of aspects of their participation experience and satisfaction and also addressed attribution of energy efficiency installations to program efforts (free-ridership and participant spillover).<sup>1</sup>
- **Telephone survey of PACE drop-outs:** We conducted a telephone survey with 56 “drop-out” households who initiated the application process for the PACE Loan Program but did not follow through to get a loan. The survey asked about a variety of topics related to their experience with the program, including reasons for dropping out and subsequent energy efficiency actions taken.
- **Telephone survey of non-participants:** We conducted a telephone survey with 100 customers that have never participated in the PACE or PowerSaver programs. This survey supported the process evaluation and explored knowledge and attitude towards energy efficiency, demand for program measures, and barriers to participation.
- **In-depth interviews with Energy Advisors and Vendors:** We conducted 25 interviews with Participating Energy Advisors (PEAs) and Registered Vendors (RVs) to obtain feedback about the PACE and PowerSaver programs. Topics included contractors’ experience and satisfaction with the program, perceived customer awareness, participation barriers, and the programs’ impact on the market for home energy improvement services.

## 1.3 KEY FINDINGS

### Program Participation and Satisfaction

Participation levels for Efficiency Maine’s loan programs are below initial expectations. Through July 2012, 26% of the \$20.4 million BetterBuildings grant was lent or in the process of being lent out in PACE and PowerSaver loans. At current participation levels and trends, the PACE and PowerSaver loans may not utilize the full amount of the BetterBuildings funding by the end of the grant period.<sup>2</sup> Efficiency Maine is pursuing additional strategies to deploy the BetterBuilding funds, including the Residential Direct Install Program.

Through May 16, 2012, 195 participants had received loans through the Efficiency Maine PACE Loan Program.<sup>3</sup> The number of closed loans per month between April 2011 and May 2012 ranged from

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<sup>1</sup> Attribution results will be reported in the upcoming Interim Impact Report.

<sup>2</sup> The grant award originally had an end date of June 30, 2013, but U.S. DOE has granted a three-month extension to September 30, 2013.

<sup>3</sup> As of September 2<sup>nd</sup>, 2012, the program had closed 256 PACE loans totaling \$3.3 million.

eight to 25 and has increased slightly over time. Three-quarters of projects financed with a PACE loan include insulation, 53% include HVAC equipment, and 23% air sealing. Most homes install multiple measures, with a mean of 2.2 measures per home. Over 100 contractor firms have participated in the program, either as a Participating Energy Advisor, a Registered Vendor, or both.

Both participants and contractors are generally satisfied with their participation in the program. Confirming their general satisfaction, all surveyed participants would recommend the PACE Loan Program to their family and friends.

## Loan Terms and Eligibility Criteria

The loan terms and eligibility criteria of Efficiency Maine's PACE Loan Program are similar to those of comparable energy efficiency financing programs. Efficiency Maine provides PACE loan terms of 5, 10, or 15 years and a fixed interest rate of 4.99% APR. Participants may borrow between \$6,500 and \$15,000, up to 100% of their home equity. Notably, nearly half of participants borrow the maximum loan amount of \$15,000.

Approximately 47% of total applications were declined through August 2012. This decline rate is consistent with similar financing programs (typical rates range from 20% to 50%), although on the high side. According to Efficiency Maine program staff, declined applications are most often due to either a lack of sufficient home equity or a debt-to-income ratio above 45%.

Many PACE program drop-outs are interested in participating in the Trust's PowerSaver Program or the Direct Install Program. The level of interest varies with whether or not they had an audit (interest is higher for those who have not had an audit) and whether or not they already completed their projects (interest is higher for those who had not completed the project).

## Loan Application Process

Overall, participants and program drop-outs report satisfaction with the program's loan application process. Both groups find that it is easy to complete the application paperwork and provide the documentation required for the PACE loan. Participants generally find both Efficiency Maine and AFC First representatives to be very helpful. More than two-thirds of participants closed their loan within four weeks of the initial application, and nearly all are very satisfied or somewhat satisfied with the loan processing time.

More than a third of program drop-outs report that they experienced problems during the loan application process. Issues most commonly identified include the amount of paperwork and the length of the application process.

## Marketing and Outreach

Efficiency Maine's broad, statewide energy efficiency marketing and the targeted marketing for the PACE Loan Program have resulted in high awareness of Efficiency Maine and its loan programs among Maine residents. Both PEAs and RVs find that awareness of the program is fairly widespread, particularly among highly populated areas of the state. Contractors also promote the PACE Loan Program to virtually all of their customers.

While the program provides some contractor training for PEAs and RVs, it does not appear to be as structured as training offered for some other financing programs, which require either one-time or regular mandatory training and have detailed training materials. Almost 20% of participants were not satisfied with their PEA's ability to answer questions about the program, with some noting that the

PEA seemed inexperienced with the program. This suggests that at least some PEAs might benefit from additional training.

## Home Energy Audit

A home energy audit, completed by a PEA, is a requirement to qualify for a PACE loan. All participants had an audit, as well as 41% of program drop-outs and 19% of non-participants. Many participants and drop-outs had the audit conducted because it is required to qualify for a PACE loan. Nearly two-thirds of participants would have been unlikely to have an energy audit performed if it had not been part of the PACE Loan Program.

Participants and program drop-outs report general satisfaction with their PEA overall as well as with the quality of information in the audit report. There was some dissatisfaction with the Advisor's ability to answer questions about the PACE Loan Program.

## Home Improvements

The program is achieving a good mix of home improvements, with insulation being the most commonly installed measure. However, 69% of participants report not making some of the improvements their Energy Advisor recommended with the PACE loan. There is evidence that some of these participants would have made additional improvements, if they had not been limited by the maximum loan amount of \$15,000.

Non-participating Maine residents indicate that there is demand for types of energy-related home improvements commonly installed through the PACE Loan Program. Approximately half are very likely to make home energy improvements in the next year, with most expecting to pay for these improvements through their own savings. About a third of non-participants would be interested in purchasing and installing energy saving home improvements if they had access to a loan that could offer no money down and competitive interest rates.

## Barriers to Energy Efficiency and Program Participation

The PACE and PowerSaver programs help remove two key barriers to saving energy: lack of knowledge (through the home energy audit) and first cost (by spreading the cost of the improvements over time). In addition, the introduction of the PowerSaver loan has addressed barriers to participation among residents in non-PACE municipalities and among those who seek loan amounts outside of the PACE range. However, the price of energy efficient equipment remains a key barrier.

Only 5% of non-participating Maine residents are somewhat likely to apply for a loan through the PACE or PowerSaver programs in the next year (none are very likely, 37% are not very likely, and 58% are not at all likely). Of those that are not likely, the most commonly identified reasons for not applying include not planning home improvements and that their home is already efficient. Other commonly identified reasons for not participating or for dropping out of the program include unwillingness to take on higher debt loads, the loan qualification criteria, the interest rate being uncompetitive, and the cost of doing an energy audit. However, when asked more generally, a third of non-participants expressed an interest in "a loan to purchase and install energy saving home improvements that offered no money down and a competitive interest rate."

## **1.4 OPPORTUNITIES FOR PROGRAM IMPROVEMENT**

Based on our key findings, the following are opportunities for program improvements the PACE Loan Program may wish to consider:

- Consider offering interest rate enhancements such as buy downs to increase the attractiveness of PACE loans. This is a practice employed by many successful financing programs.
- As the program matures, reassess the desirability of offering a tiered interest rate structure.
- Consider providing a rebate for all or part of the cost of the audit.
- Consider bundling the loan offerings with rebates for upgrades, to ensure that participants follow through with the planned projects and are encouraged to achieve deeper energy savings. This is a practice employed by many successful financing programs.
- Consider implementing a “concierge” type service to assist customers through the loan application process. Some successful programs have used such an approach, which involves assigning an advisor to help the customer understand the program, complete the application, and provide technical guidance when needed.
- Consider better coordination between Efficiency Maine’s marketing efforts and contractors’ marketing, such as cooperative advertising in newspapers.
- Consider developing a more comprehensive training program for PEAs and RVs to provide them with information about Efficiency Maine’s loan products and their requirements. Consider leveraging similar contractor training activities offered by AFC First.
- Follow up with program drop-outs to capture their interest in energy efficiency upgrades through the new PowerSaver and Direct Install programs.

## **2. INTRODUCTION**

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### **2.1 EVALUATION OBJECTIVES**

Efficiency Maine contracted with Opinion Dynamics Corporation and subcontractors Dunsky Energy Consulting, Johnson Consulting Group, and Mad Dash to conduct an independent evaluation of their Property Assessed Clean Energy (PACE) Loan Program, which provides loans to Maine homeowners to finance the cost of making eligible energy saving improvements to their property. The evaluation also covers the new PowerSaver Loan Program, which offers loans with different requirements than the PACE Loan Program, and the residential Direct Install Program, which provides homeowners who complete an energy audit with a \$300 rebate towards air sealing and insulation work.

The evaluation is intended to fulfill the statutory requirements that the Trust arrange for an independent evaluation, at least once every five years, of each program that has an annual budget of more than \$500,000, including an evaluation of the program's effectiveness in achieving goals specified in the law governing the Trust (35-A MRSA section 10104, subsection 10). In addition, the evaluation was part of the Better Buildings Grant application to DOE and will fulfill the requirements of that grant.

The Trust has two main objectives for this evaluation:

- (1) To examine the design and delivery and market effects of the Maine PACE Loan Program and identify opportunities to increase the program's success, including the PowerSaver loan and Residential Direct Install programs the Trust has introduced in conjunction with PACE; and
- (2) To quantify and verify the energy savings achieved through PACE and PowerSaver loan funded home energy improvements and the cost-effectiveness of those savings.

This Interim Process Report is the first milestone in the evaluation of the PACE Loan Program. It includes findings from several research activities:

- a literature review of successful practices in the design and operation of energy efficiency financing programs;
- in-depth interviews with program and implementation staff;
- in-depth interviews with Participating Energy Advisors and Registered Vendors; and
- telephone surveys with program participants, drop-outs, and non-participants.

Subsequent phases of this evaluation will include an analysis of program impacts and further assessment of program processes. Additional milestones include an Interim Impact Report (December 2012) and a Final Evaluation Report (June 2013). The Final Evaluation Report will integrate findings from the two Interim Reports and any additional research efforts.

### **2.2 PROGRAM DESCRIPTION**

The Maine PACE Loan Program provides loans to Maine homeowners to finance the cost of making eligible energy saving improvements to their property. This program is designed to provide a financing option that makes energy improvements more feasible for homeowners.

Legislation enacted in 2010 established the legal framework for the Property Assessed Clean Energy (or PACE) Loan Program (Maine PACE Act, PL 2009, c.591). To qualify for a PACE loan, the homeowner's property must be located in a municipality that has adopted a PACE ordinance authorizing the program. As of August 31, 2012, a total of 145 Maine municipalities had passed PACE ordinances and entered into an agreement with Efficiency Maine to administer the loan program on their behalf.

Efficiency Maine applied for and won a competitive grant from the U.S. Department of Energy (DOE), to capitalize, administer, and market the PACE Loan Program. This grant is funded with American Recovery and Reinvestment Act of 2009 (ARRA), Energy Efficiency and Conservation Block Grant (EECBG) funds administered through the DOE BetterBuildings program. With the EECBG BetterBuildings grant, Efficiency Maine has established a \$20.4 million revolving loan fund for the PACE Loan Program. As homeowners pay back PACE loans, the loan fund will be replenished so that Efficiency Maine can issue loans or procure additional funding to finance home energy savings improvements for the next round of homeowner applicants.

### ***PACE Loan Features***

Maine PACE loans range in value from \$6,500 to \$15,000 and offer a repayment period of 5, 10, or 15 years at a fixed interest rate of 4.99% APR, with no processing fees. What makes a Maine PACE loan different from other home equity loans is that the PACE loan stays with the property. PACE loans in Maine are different from those in other states because Maine's PACE law dictates that the loans do not have a senior priority over a primary home mortgage, original or new, and that loan assessments (payments) will not be added to or treated like a property tax.

PACE loans are available for residential buildings with one to four units located in municipalities that have passed a PACE ordinance. Homeowners must meet underwriting requirements set by the PACE Loan Program. These underwriting requirements include:

- a debt-to-income ratio of no more than 45%;
- a loan-to-value ratio less than 100%;
- property tax and sewer payments being current; and
- no outstanding liens; no reverse mortgages; and no mortgage default, foreclosure, or delinquency.

Maine PACE loans are available for home energy projects that meet the requirements of the former Efficiency Maine weatherization program known as the Home Energy Savings Program (HESP). During 2010 and 2011, the HESP program offered cash incentives (rebates) funded by an ARRA State Energy Program (SEP) grant to homeowners for completion of home energy efficiency projects. For several months in 2011, when the SEP-ARRA funds for HESP rebates were winding down, Efficiency Maine paired the Maine PACE loan financing with HESP for energy improvements. However, as of the fall of 2011, rebates were no longer available.

PACE-eligible energy improvements include, but are not limited to: insulation, air sealing, energy efficient heating systems, lighting and appliances, windows and doors, and solar energy systems. Under current program guidelines, the homeowner's package of energy efficiency improvements must generate energy savings of at least 20% to qualify for a PACE loan.

## **Program Delivery Structure and Components**

The PACE Loan Program is delivered by a team, led by the Trust, that includes financial services vendor AFC First, Conservation Services Group (CSG), and a network of PEAs and RVs. The financial side of the PACE Loan Program is provided as a contractual service by AFC First. AFC First's responsibilities include originating, processing, closing, and servicing PACE loans on behalf of Efficiency Maine, including the functions of master servicer and master provider. Specific duties include, but are not limited to: maintaining a call center and online application system; receiving and processing PACE loan applications; performing underwriting analyses and determining loan approval or denial based on underwriting standards established by the Trust; and disbursing loan proceeds and managing loan servicing activities.

The home energy improvements side of the PACE program is delivered through a network of PEAs and RVs. CSG also plays a key role as the reviewer of the proposed work scope and associated energy model for each project; approval by CSG of PEA work scopes and projected savings estimates is required before the loan is finalized. Energy audits and post-installation verification inspections performed for a PACE loan project must be completed by Efficiency Maine designated PEAs. All PEAs must go through specific training and be certified by the Building Performance Institute (BPI). The installation of energy efficiency measures on PACE loan projects must be conducted by a Registered Vendor, who has completed a Registered Vendor agreement with Efficiency Maine and supplied necessary supporting documentation.

The PACE Loan Program currently involves the following components and steps for participants:

1. Have a home energy audit by a Participating Energy Advisor
2. Obtain contractor bids for the energy improvements
3. Submit PACE loan application forms and related documents
4. Close loan following approval
5. Complete energy savings improvements with an Efficiency Maine Registered Vendor (30% of the project cost is available the week following closing)
6. Have project verified by a Participating Energy Advisor
7. Submit project completion forms
8. Receive the balance of the loan
9. Make monthly loan repayments for up to 15 years

To increase the pool of eligible participants and provide more options to Maine homeowners, Efficiency Maine added two new offerings in the spring of 2012, supplementing the existing PACE Loan Program: the PowerSaver Program and the Direct Install Program. Both new programs are funded by the BetterBuildings grant.

- The PowerSaver Program covers the same home energy improvements as PACE, but offers a wider range of loan amounts, is available statewide, and has slightly different eligibility criteria. Loans can range up to \$25,000. For loans under \$7,500, there is no homeowner equity requirement. However, homeowners must have a minimum median credit score of 660 and have less than a 45% debt-to-income ratio to qualify for a PowerSaver loan of any amount. The interest rate for PowerSaver loans is the same as that for PACE, 4.99%.
- The Direct Install Program offers a \$300 rebate towards air sealing and insulation work in homes that have received an energy audit.

## 2.3 ORGANIZATION OF REPORT

The remainder of this report is organized as follows:

- **Section 3: Evaluation Methods** provides a detailed summary of the data collection and other evaluation activities performed, including sampling approaches and a discussion of weighting and sampling error, where relevant.
- **Section 4: Process Analysis** provides the findings of the process evaluation. Topics of analysis include program participation, program design and implementation, marketing and outreach, barriers to energy efficiency and program participation, participant satisfaction, the program's effect on the market, and awareness of/interest in other Efficiency Maine Programs.
- **Section 5: Successful Practices of Financing Programs** presents a summary of the successful practices literature review and an assessment of structural and operational components of the Efficiency Maine PACE Loan Program against those successful practices.
- **Section 6: Findings and Recommendations** summarizes the findings from our research efforts and provides recommendations for program improvement.
- **Appendix A: Survey Dispositions and Response Rates** presents the disposition and response rates for the participant, drop-out, and non-participant surveys.

### 3. EVALUATION METHODS

The interim process evaluation of the Efficiency Maine PACE Program is supported by several primary data collection activities as well as a review of program materials. Table 3-1 summarizes these evaluation activities. The subsections following the table provide details regarding each activity.

**Table 3-1. Summary of Evaluation Activities**

Evaluation Activity	Sample Design	Sample Size	Timing
Review of Program Materials	n/a	n/a	January-April 2012
Successful Practices Review	n/a	n/a	March-June 2012
In-Depth Interviews with Program and Implementation Staff	Purposeful sample of key program management, implementation, and design staff	4	March-April 2012
Survey of Participating Customers	Census attempt of customers who completed a PACE-funded project (as of May 16, 2012)	62	May-June 2012
Survey of Program Drop-outs	Census attempt of customers who began the PACE application process but dropped out (as of May 16, 2012)	56	June 2012
Survey of Non-Participating Customers	Random digit dial sample of households in PACE municipalities	100	June 2012
In-Depth Interviews with Participating Energy Advisors and Registered Vendors	Census attempt	25	May-June 2012

#### Review of Program Materials

The Evaluation Team reviewed all available program materials for the PACE Loan Program, including implementation documents, marketing collateral, and training materials. Review of these materials provided necessary background information for the other research objectives. It informed the development of the research instruments we used in our program and implementation staff interviews as well as the homeowner and contractor survey efforts.

#### Successful Practices Review

The Evaluation Team conducted a review of successful practices employed in energy efficiency financing programs. We developed the successful practices and lessons learned from a combination of sources, including:

- A literature review of innovative financing programs and strategies that have been used throughout North America;

- In-depth interviews of program administrators involved with four financing programs: the Pennsylvania Keystone HELP program, the Midwest Energy How\$mart Program,<sup>4</sup> the Hawaiian Electric Company (HECO) Solar Saver Pilot Program, and the Berkeley FIRST Pilot Program; and
- Our team's first-hand experience in both developing and evaluating innovative financing programs throughout North America.

Section 5 presents a summary of the findings of the Successful Practices Review. The full report was delivered under separate cover.

## **In-Depth Interviews with Program and Implementation Staff**

Opinion Dynamics conducted four in-depth phone interviews with Efficiency Maine Trust and program implementation staff involved in the design and administration of the PACE Loan Program. These interviews allowed us to fully explore details of program design and implementation and explore the perspective of the people who are in direct contact with participating customers and participating contractors. As such, these interviews informed many of our subsequent research activities.

Experienced project analysts conducted all interviews, which took place in March and April of 2012.

## **Survey of Participants**

Opinion Dynamics conducted a Computer-Assisted Telephone Interviewing (CATI) survey with 62 customers that participated in the PACE Loan Program through May 16, 2012. This survey supports both the current process evaluation and the forthcoming net impact evaluation.

The survey explored a variety of aspects of participants' experiences ranging from recall and perceptions of marketing and outreach efforts, knowledge of and attitude towards energy efficiency, perceptions of and satisfaction with the program participation process, including the loan application process, experience working with the Participating Energy Advisors and Registered Vendors, usefulness of the audits to the participant, recommended and installed measures, changes in energy behavior since participating in the program, and recommendations for improving program delivery. In addition, the survey explored attribution of energy efficiency installations to program efforts (free-ridership and participant spillover).<sup>5</sup>

Opinion Dynamics' Utah-based telephone interviewing center conducted the interviews in May and June 2012.

## **Sampling/Weighting**

The sampling unit was the household. Based on the program tracking database, 165 unique households received a loan and completed the home improvement project through May 16, 2012. All of these projects were included in the sample frame, and we attempted to reach all of the households (census attempt).

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<sup>4</sup> Midwest Energy implements its How\$mart Program utilizing funds from the Efficiency Kansas Loan Program.

<sup>5</sup> Attribution results will be reported in the upcoming Interim Impact Report.

Since our sampling strategy was a census attempt, no weighting was necessary, and there is no sampling error associated with the survey results.

## Survey of Program Drop-outs

Opinion Dynamics conducted a CATI survey with 56 “drop-out” households who initiated a PACE loan application but did not follow through to get a PACE loan. The survey explored a variety of topics, including knowledge of and attitude towards energy efficiency, recall of program outreach, the decision-making process, barriers to participation in the PACE Loan Program, reasons for dropping out of the program, and energy efficiency actions made after dropping out.

Opinion Dynamics' Utah-based telephone interviewing center conducted the interviews in June 2012.

### *Sampling/Weighting*

The sampling unit was the household. Based on the program tracking database, 238 households withdrew their application by May 16, 2012. We removed 10 records that either had a duplicate phone number with another record (five records) or were a program participant (five records). The remaining 228 households were included in the sample frame, and we attempted to reach all of these households (census attempt).

Since our sampling strategy was a census attempt, no weighting was necessary, and there is no sampling error associated with the survey results.

## Survey of Non-Participants

Opinion Dynamics conducted a CATI survey with 100 Maine residents that have never participated in Efficiency Maine's PACE or PowerSaver Loan Programs.

The survey explored a variety of topics, including awareness of Efficiency Maine and the PACE and PowerSaver programs, knowledge and attitude towards energy efficiency, recall of program outreach, demand for program measures and for financing programs, and barriers to home retrofit programs and participation in the PACE and PowerSaver Loan Programs.

Opinion Dynamics' Utah-based telephone interviewing center conducted interviews in June 2012.

### *Sampling/Weighting*

The sampling unit was the unique Maine household. The sample frame consisted of a purchased list of approximately 2,000 random, non-duplicate landline numbers from towns that had passed PACE ordinances as of May 7, 2012.

Since we randomly selected households for this survey, no weighting of results was necessary. The estimated sampling precision is approximately 8% at a 90% confidence level.

## In-Depth Interviews with Contractors

The Evaluation Team conducted 25 in-depth interviews with PEAs and RVs. According to interviewees, 12 are registered vendors, 2 are participating energy advisors, and 11 are both. Topics of these interviews included perceived customer awareness of energy efficiency and the PACE Loan Program, marketing and outreach, participation barriers, communication preferences, training/resource needs, program impact on the market for home energy improvement services,

satisfaction with the program, and awareness of the PowerSaver Program. Dunsky Energy Consulting staff conducted all contractor interviews in May and June of 2012.

Most of the interviewed contractors have been involved in the PACE Loan Program since the start. Most contractors were also active in the former Home Energy Savings Program (HESP).

### ***Sampling***

According to the program tracking database, 101 unique firms participated in the PACE Loan Program through May 16, 2012, either as a Participating Energy Advisor or a Registered Vendor, or both. We tried to reach all of these firms. Repeated attempts were made to reach the contractors for interviews, with efforts focusing on those providers who had delivered services for the greatest number of PACE participants. We were able to reach the majority of the most active registered vendors and energy advisors.

The interviewed contractors cover a range of sizes and functions from individual and small operations (one to five employees) to larger contractors with as many as 50 employees. The primary area of expertise for the majority of interviewees (52%) was “insulation/weatherization.” Other areas included energy auditing (24%), general contracting (16%), solar heating and electrical systems (12%), and HVAC equipment 12%).<sup>6</sup>

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<sup>6</sup> Some contractors listed more than one area of expertise.

## 4. PROCESS ANALYSIS

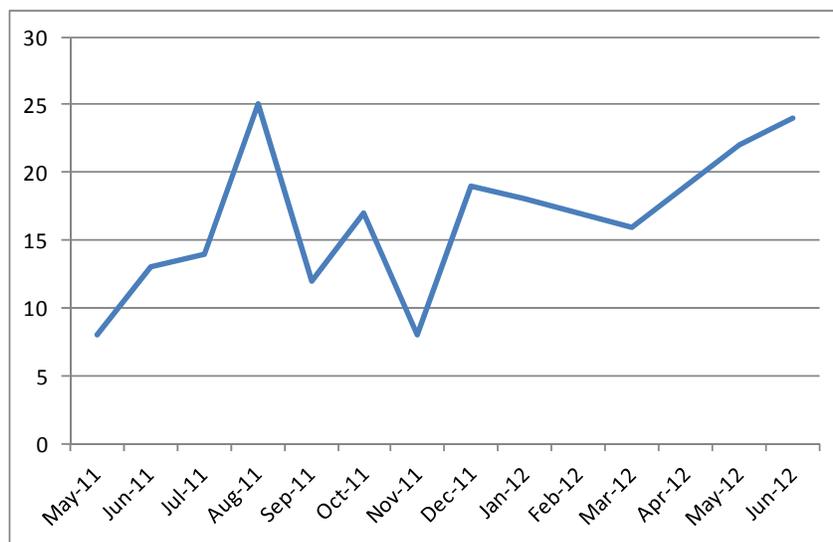
### 4.1 PROGRAM PARTICIPATION

So far, participation in Efficiency Maine’s loan programs has fallen short of initial expectations. As of July 22, 2012, the loan originator, AFC First, had closed 240 PACE loans totaling just over \$3 million. In addition, \$1.8 million in PACE loans were in process and \$457,000 in PowerSaver loans had been closed. Taken together, the \$5.4 million of committed PACE and PowerSaver loans through July 22, 2012, account for only 26% of the total \$20.4 million BetterBuildings funds. Based on current participation levels and trends, the PACE and PowerSaver loans may not utilize the full amount of the BetterBuildings funds by the end of the grant period.<sup>7</sup> Efficiency Maine is pursuing additional strategies to deploy the BetterBuilding funds, including the Residential Direct Install Program.

#### Program Participants

Over the first 15 months (April 2011 through June 2012), 246 participants received loans through the Efficiency Maine PACE Loan Program.<sup>8</sup> The number of closed loans per month ranges from eight to 25, with participation trending upward.<sup>9</sup>

Figure 4-1. Number of PACE Loans per Month



Source: AFC First Tracking Data

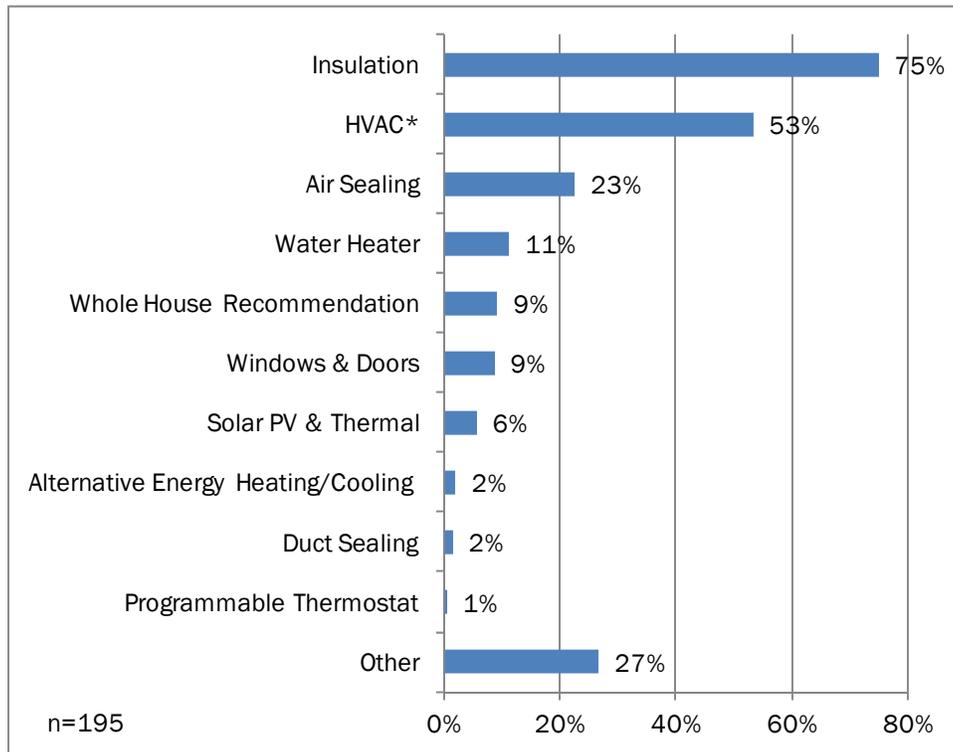
<sup>7</sup> The grant award originally had an end date of June 30, 2013, but U.S. DOE has granted a three-month extension to September 30, 2013.

<sup>8</sup> The remainder of this evaluation covers the 195 participants who received loans through May 16, 2012, including 165 funded projects and 30 staged projects that received the first installment of the loan but not the final installment.

<sup>9</sup> The month represents the first payment (30% of total loan amount) to the contractor, rather than the final payment at the completion of the project.

The most common measure financed with a PACE loan for this period were insulation (75%), followed by HVAC equipment (boilers, furnaces, heat pumps, and central A/C) (36%) and air sealing (23%). The number of measures per home ranged from one (29% of projects) to six (1% of projects), with a mean of 2.2 measures per home and a median of 2.

**Figure 4-2. Measures Installed by PACE Participants**

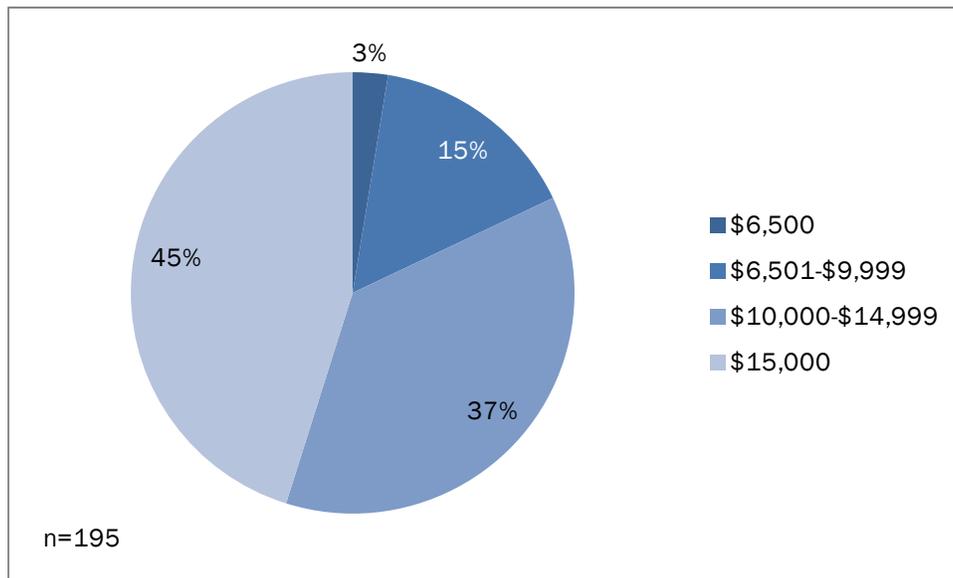


Source: AFC First Tracking Data (as of 5/16/2012).

\*HVAC measures include boilers (36%), furnaces (13%), heat pumps (3%), and split central A/C systems (1%).

Through May 16, 2012, the average loan amount was \$12,898. As shown in Figure 4-3, nearly half of participants (45%) took out the maximum allowable loan of \$15,000, and 82% took out loans between \$10,000 and \$15,000, inclusive. Only 3% took out the minimum of \$6,500.

Figure 4-3. Loan Amounts of PACE Participants



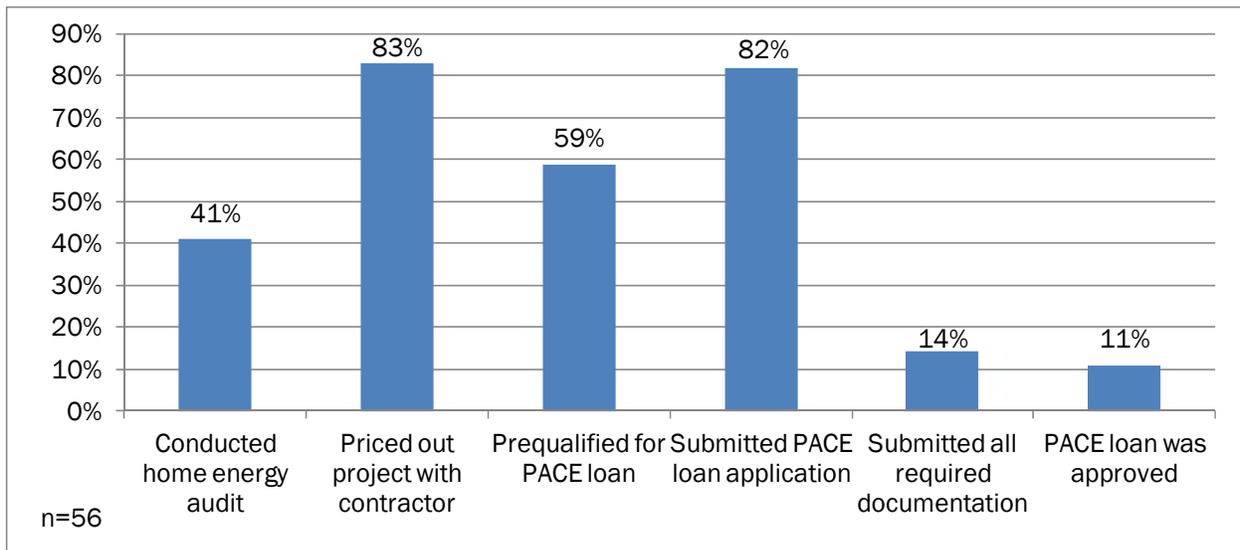
Source: AFC First Tracking Data (as of 5/16/2012).

## Program Drop-outs

As of May 16, 2012, the program had tracked just over 1,000 households in various stages of the loan process. Of these, 19% had closed on their PACE loan, 12% had pending applications, 46% were declined, and 23% had dropped out of the loan application process.

The program drop-outs completed different stages of the loan process: all were either prequalified for a loan (59%) and/or submitted the PACE loan application (82%), and most (83%) had received a quote for a home improvement project from a contractor. However, less than half (41%) had an energy audit conducted, and only 14% and 11%, respectively, had submitted all their paperwork and received approval of their loan.

**Figure 4-4. Milestones Met by Program Drop-outs**



Source: Drop-out survey.

## Characteristics of Participants, Drop-outs, and Non-Participants

Table 4-1 compares building characteristics of participants, non-participants, and drop-outs. Participants tend to live in older homes: more than half of participants' (60%) and drop-outs' (52%) homes were built before 1950, compared to only 32% of non-participants. While the largest share of all three groups uses oil as their primary heating fuel, it is significantly more frequently used by non-participants (64%) and drop-outs (66%) compared to participants (48%), who are more likely to use gas as the primary fuel (21%) compared to drop-outs (9%) and non-participants (7%). Detached single-family homes account for the vast majority (84%) of program participants.

**Table 4-1. Building Characteristics of Maine Residents and Program Participants**

Characteristic	(a) Participants (n=62)	(b) Drop-outs (n=56)	(c) Non-Participants (n=100)
<b><u>Type of Residence</u></b>			
Detached single-family home	84%	79%	93% <sup>a,b</sup>
Apartment/condo in a 2,3, or 4 unit building	11% <sup>c</sup>	18% <sup>c</sup>	2%
Townhouse or duplex which shares adjacent walls	5%	2%	1%
Apartment or condo in a 5 or more unit building	--	--	2%
Mobile home	--	2%	2%
<b><u>Year Built</u></b>			
2002 or later	8%	--	11%
Between 1970 and 2001	23%	32%	34%
Between 1950 and 1969	10%	13%	22%
Before 1950	60% <sup>c</sup>	52% <sup>c</sup>	32%
Don't know	--	4%	1%
<b><u>Primary Heating Fuel</u></b>			
Oil	48%	66% <sup>a</sup>	65% <sup>a</sup>
Gas	21% <sup>b,c</sup>	9%	7%
Propane	16%	11%	10%
Pellet wood	10%	2%	3%
Wood	5%	11%	9%
Other*	--	2%	6%

\*Other heating fuel types include electricity, kerosene, and coal.

<sup>a,b,c</sup>=Letters indicate significance, at the 90% confidence level, relative to the comparison group.

Source: Participant, drop-out, and non-participant surveys

Table 4-2 compares demographics of participants, non-participants, and drop-outs. Compared to non-participants, program participants and drop-outs tend to have more people living in their home, be middle aged, have incomes above \$50,000, and have a college degree. These demographics are consistent with many financing programs' design of targeting middle-income households that can qualify for loans, but may have difficulty affording the cost of the project without financing.

Table 4-2. Demographics of Survey Respondents

Characteristic	(a) Participants (n=62)	(b) Drop-outs (n=56)	(c) Non-Participants (n=100)
<b>Number of People Living in Home</b>			
1	15%	14%	30% <sup>a,b</sup>
2	40%	30%	38%
3	19%	18%	10%
4	15%	23%	17%
5 or more	11%	14%	5%
<b>Age of Respondent</b>			
18-34	11%	11%	5%
35-54	47% <sup>c</sup>	45% <sup>c</sup>	28%
55-64	23%	30%	27%
65 or older	16%	11%	37% <sup>a,b</sup>
Refused	3%	4%	3%
<b>Income</b>			
Less than \$25,000	3%	7%	15% <sup>a</sup>
\$25,000-\$49,999	21%	14%	27% <sup>b</sup>
\$50,000-\$99,999	52% <sup>c</sup>	39% <sup>c</sup>	26%
\$100,000-\$199,999	16%	16%	15%
\$200,000 or more	2%	9% <sup>a</sup>	4%
Don't know	--	--	1%
Refused	4%	14%	12%
<b>Level of Education</b>			
Less than a high school diploma	--	--	1%
Completed high school diploma or equivalent	2%	12% <sup>a</sup>	19% <sup>a</sup>
Some college	11%	11%	12%
Completed a 2 year or technical degree/certification	10%	12%	14%
Completed a 4 year degree	48% <sup>c</sup>	36% <sup>c</sup>	21%
Graduate or professional degree	26%	25%	32%
Refused	3%	4%	1%

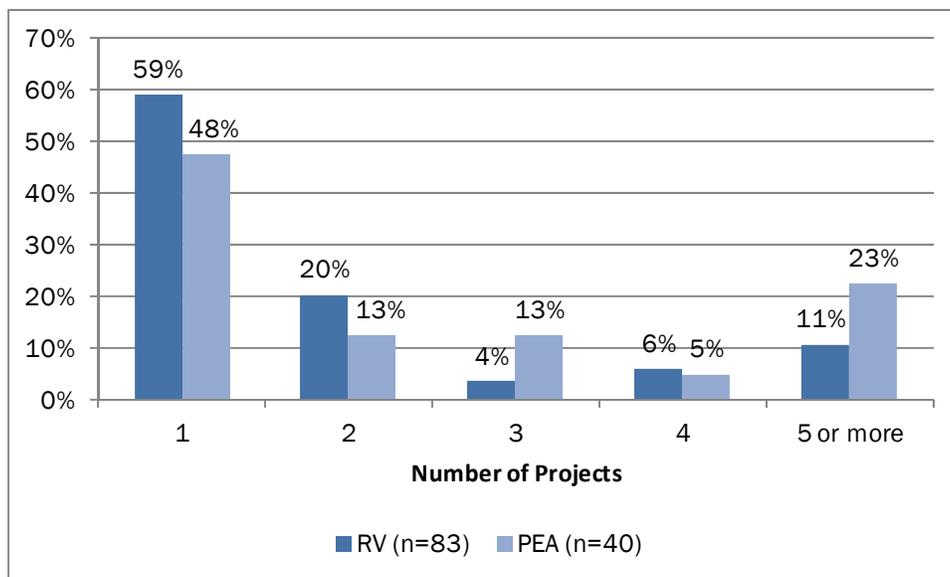
<sup>a,b,c</sup>=Letters indicate significance, at the 90% confidence level, relative to the comparison group.

Source: Participant, drop-out, and non-participant surveys

## Participating Energy Advisors and Registered Vendors

Based on the program tracking database, 101 firms participated in the PACE Loan Program through May 16, 2012, either as a PEA (40) or an RV (83).<sup>10,11</sup> The number of projects completed by RVs ranged from 1 to 18 with a mean of 2.3, while the number of projects completed by firms listed as auditors ranged from 1 to 8 with a mean of 2.6. As shown in Figure 4-5, approximately half of RVs (59%) and PEAs (48%) completed only one project as of May 16, 2012.

Figure 4-5. Distribution of PACE Project Counts, by Contractor Type



Source: AFC First Tracking Data (as of 5/16/2012).

## 4.2 PROGRAM DESIGN AND IMPLEMENTATION

### 4.2.1 PROGRAM IMPLEMENTATION

The PACE Loan Program is delivered by a team, led by the Trust, that includes financial services vendor AFC First, Conservation Services Group (CSG), and a network of PEAs and RVs. The financial side of the PACE Loan Program is provided as a contractual service by AFC First. AFC First's responsibilities include originating, processing, closing, and servicing PACE loans on behalf of Efficiency Maine, including the functions of master servicer and master provider. Specific duties include, but are not limited to: maintaining a call center and online application system; receiving and

<sup>10</sup> This count is based on 195 funded projects as of May 16, 2012 (including 30 projects that have received the first loan disbursement). Twenty-two contractors are both PEAs and RVs.

<sup>11</sup> Note that for 90 of the funded projects, the auditor field in the tracking database was blank. It is unclear if the auditor is the same as the contractor in these cases. For many projects with both contractor and auditor named, they are different companies, but in some cases they are the same.

processing PACE loan applications; performing underwriting analyses and determining loan approval or denial based on underwriting standards established by the Trust; and disbursing loan proceeds and managing loan servicing activities.

The home energy improvements side of the PACE program is delivered through a network of PEAs and RVs. CSG also plays a key role as the reviewer of the proposed work scope and associated energy model for each project – approval by CSG of PEA work scopes and projected savings estimates is required before the loan is finalized. Energy audits and post-installation verification inspections performed for a PACE loan project must be completed by Efficiency Maine designated PEAs. All PEAs must go through specific training and be certified by the Building Performance Institute (BPI). The installation of energy efficiency measures on PACE loan projects must be conducted by a Registered Vendor, who has completed a Registered Vendor agreement with Efficiency Maine and supplied necessary supporting documentation.

## 4.2.2 LOAN TERMS AND ELIGIBILITY CRITERIA

In an effort to mitigate risk and promote cash-flow positive improvements, Efficiency Maine's PACE Loan Program established the following eligibility criteria and loan terms:

- PACE loans are available to owners of residential buildings (with no more than 15% of the area used for commercial purposes) with one to four units that are in municipalities that have passed a PACE ordinance and have signed an administrative contract with Efficiency Maine.<sup>12</sup>
- Participants may borrow between \$6,500 and \$15,000, up to 100% of their home equity.<sup>13</sup> Participants must have a debt to income ratio of no more than 45%. Finally, participants must be up to date on their property mortgage, taxes, and sewer accounts, and must not have any reverse mortgages, unresolved liens, or foreclosures on the property.
- Loan terms may be 5, 10, or 15 years. The PACE loan interest rate is a fixed 4.99% APR and the loan is junior to primary mortgages and existing liens. PACE loans are transferrable with the sale of the home.

Eligibility requirements and loan terms vary somewhat among energy efficiency financing programs due to their differing financing mechanisms, sources of capital, eligible measures, and participant bases. However, the requirements and terms of Efficiency Maine's PACE program are similar to comparable programs.

The decline rate of the Maine PACE Program (46%) is consistent with – although on the higher end compared to – similar financing programs (decline rates are typically in the 20% to 50% range<sup>14</sup>). According to AFC First and Efficiency Maine program staff, declined applications are most often due to either a lack of sufficient home equity or a debt-to-income ratio above 45%. Notably, the most

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<sup>12</sup> As of August 31, 2012, 145 municipalities in Maine have signed a PACE ordinance.

<sup>13</sup> Home equity is based on either a real estate assessment less than two years old or the municipal valuation of the property compared to what is owed on the home.

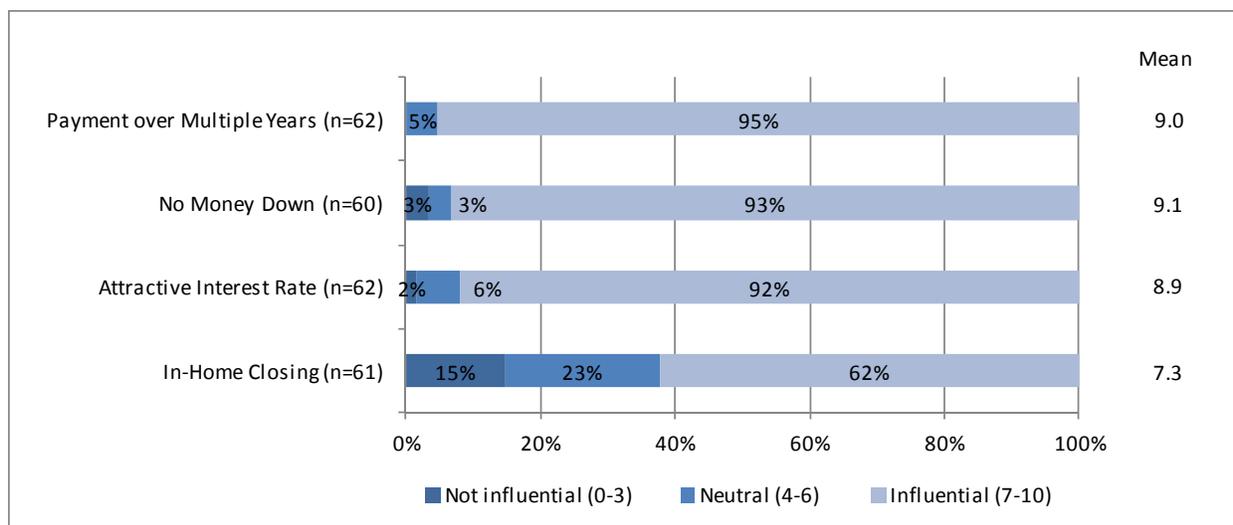
<sup>14</sup> Zimring, M. Goggio Boreson, M. Hoffman, I. Goldman, C. Stuart E. Todd A. et al, 2011. *Delivering Energy Efficiency to Middle Income Single Family Households*. Lawrence Berkeley National Laboratory, Environmental Efficiency Technologies Division. Berkeley, CA.

successful applications are those from customers that have developed a relationship with the PEA or RV: According to AFC First staff, customers who submit an application with a contractor have a 60% close rate compared to only 30% for customers who submit the loan application without identifying a specific contractor.

The program and survey data suggest that while some participants were limited by the loan amount, the range of loans offered under PACE meets the needs of most participants. While 45% of participants borrow the maximum loan amount of \$15,000, only 10% of participants reported not making a recommended improvement or making it outside of the PACE loan because the cost exceeded the maximum loan amount. Expanding Efficiency Maine’s loan portfolio to include PowerSaver and its wider loan ranges should help increase participation by those who seek larger or smaller loan amounts than those offered by the PACE Loan Program.

The participant survey explored the influence of several aspects of the loan on the decision to apply for a PACE loan. Overwhelmingly, participants rated the option of paying over several years (95%), not having to make an up-front payment (93%), and the attractive interest rate (92%) as influential in their decision to apply for the loan. The option to close at home was influential for 62% of participants. Figure 4-6 summarizes these findings.

**Figure 4-6. Influence of Financing Aspects on Decision to Apply for PACE Loan**



Source: Participant Survey

For program success, loan amounts and terms should be designed so that cash flow for participants is generally positive, i.e., the savings on their monthly energy bills exceed the monthly loan payment.<sup>15</sup> Because the Evaluation Team did not have access to savings estimates at the time of the analysis for this Interim Process Report, we could not assess whether the improvements financed by the PACE Loan Program are cash-flow positive.

<sup>15</sup> However, many home energy improvements have non-energy benefits, such as increases in comfort or reliability, which may justify non-positive cash flows for some measures.

## 4.2.3 LOAN APPLICATION PROCESS

AFC First administers the loan application process for both the PACE Loan Program and the PowerSaver Program. While eligibility requirements for the two loans are slightly different, they share one application form, and the application process for the two programs is nearly identical. Figure 4-7 illustrates the loan application process, which is described in more detail below.

- **Customer learns about the program.** Customers learn about Efficiency Maine’s loan programs from a variety of sources including direct marketing, referrals, or advertising on television or in the newspaper. Efficiency Maine handles all of the marketing for the PACE and PowerSaver programs.
- **Customer qualification.** Customers can provide information for the initial loan application online or over the phone. Customers who complete this step over the phone provide information to an Efficiency Maine call center representative who enters the data directly into the online application for submission to AFC First. After the initial loan application is submitted, AFC First reviews it to determine if the customer is prequalified. Although a credit score is only required for the PowerSaver loan and not the PACE loan, AFC First still looks at each applicant’s credit report to ensure that the customer has a good mortgage payment history and to identify any “red flags” that could indicate that the customer is a poor credit risk. For PACE loans, AFC First also verifies that the customer’s residence is located in a town with a PACE ordinance. After prequalifying the customer, AFC First contacts the customer to discuss loan terms, to determine if the customer is working with an Energy Advisor or contractor, and to identify outstanding paperwork. After the customer has correctly completed all of the paperwork, AFC First begins processing the loan. At the point of the title search, AFC First also follows up with the customer to determine the status of the project, and, if needed, helps the customer identify local contractors to help complete the project.
- **Home energy assessment and loan approval.** The homeowner is directed to find a local Participating Energy Advisor if they have not already done so. If the homeowner does not have access to a computer to use the online tool, either AFC First or the Efficiency Maine call center staff can assist the homeowner in identifying local contractors that can help with the project. If applicable, AFC First also notifies the customer’s contractor to let them know that the application has been filed and the participant is “prequalified.” The energy advisor conducts the energy assessment and develops the project work scope. Given that contractors either serve as Energy Advisors or work closely with the Energy Advisor, the energy assessment and work scope are developed in tandem. After getting approval from the participant for the work scope, the contractor then submits the work scope and the accompanying energy model<sup>16</sup> to CSG for review. If the work scope and energy model are approved, CSG sends an approval letter to AFC First. If not approved, CSG contacts the contractor and participant to give them the opportunity to revise the scope of work and comply with program energy savings guidelines and resubmit for approval.
- **Loan closing and project completion.** Once AFC First completes its underwriting and title search, receives the signed contract and specification sheet (to document the equipment

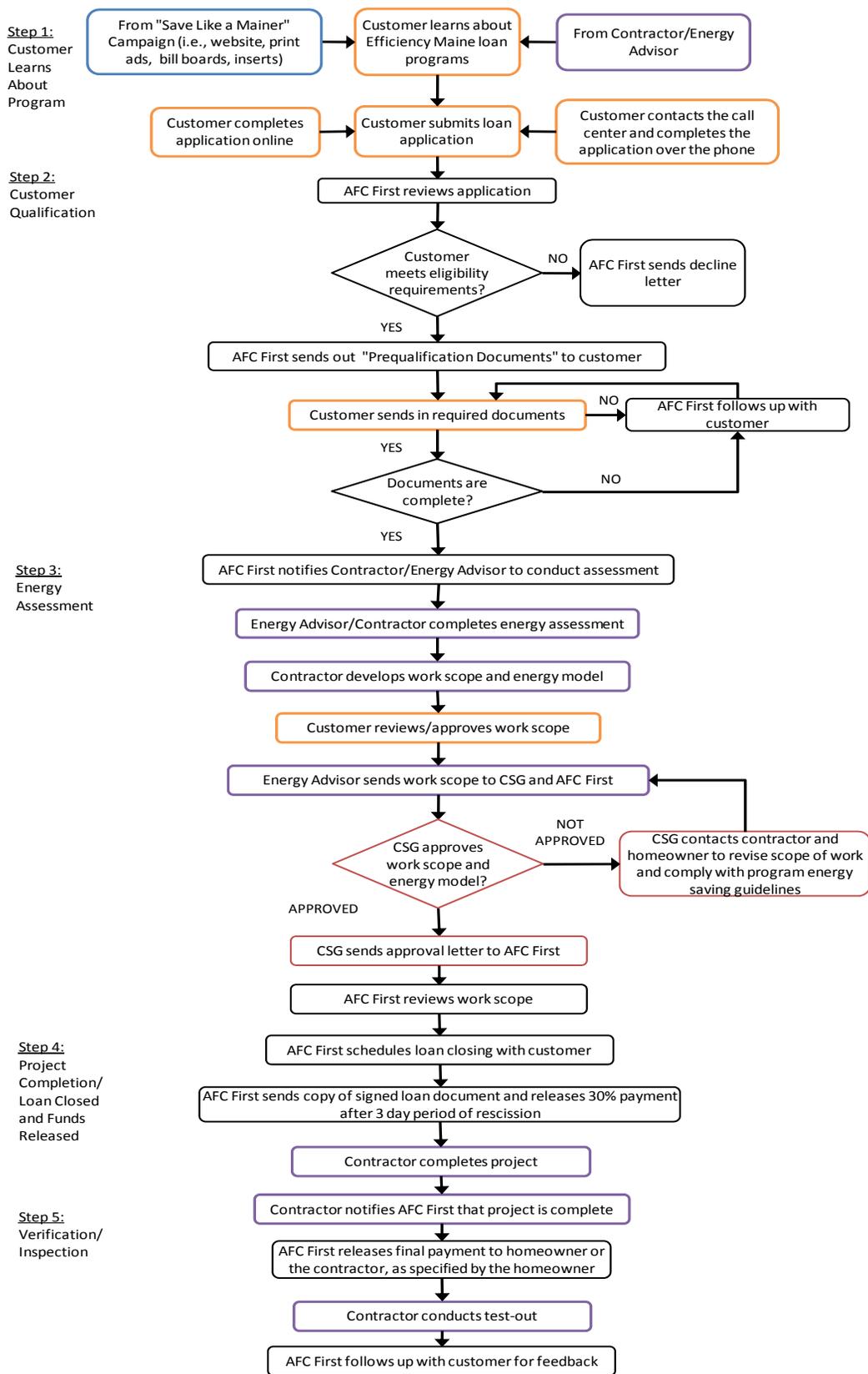
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<sup>16</sup> The program allows Energy Advisors to use any energy modeling software to develop the energy model. For HESP, CSG required contractors to use their online auditing tool, called Real Home Analyzer (RHA). Due to the large overlap of contractors between HESP and PACE, the vast majority of submitted applications use RHA, but energy models using other software, such as REM/Rate and TREAT, are also accepted.

that will be installed), and receives verification that the energy savings projections and work scope have been approved by CSG, they schedule the loan closing with the customer. AFC First then informs the contractor that the customer has closed. After the mandatory three-day waiting period has passed, AFC First releases the first payment of 30% to the contractor. When the project is complete, the contractor notifies AFC First. In general, the contractor receives the final payment upon completion of the project, but in some cases contractors can receive a mid-point payment (e.g., for projects that involve gas conversions) to ensure that equipment is paid for in a timely manner. These adjustments are coordinated with Efficiency Maine and subject to the verbal approval of the homeowner for AFC First to send payment directly to the contractor. The customer is not required to make any notifications about project completion as the communication of project completion can occur between AFC First and the contractor only.

- **Verification/inspection.** Once the project is completed, the contractor schedules the test-out to verify the energy savings. However, the final loan payment may be released to the homeowner or contractor prior to the actual test-out.
- **Customer follow-up.** AFC First follows up with the customer regarding the servicing of the loan.
- **Quality assurance.** CSG selects 15% of completed projects for quality assurance verification of project completion and proper measure installation in keeping with BPI standards and industry best practices. Issues that are identified in the field are relayed to auditors and contractors as a means to make corrections on existing projects and improve the installation on future projects.

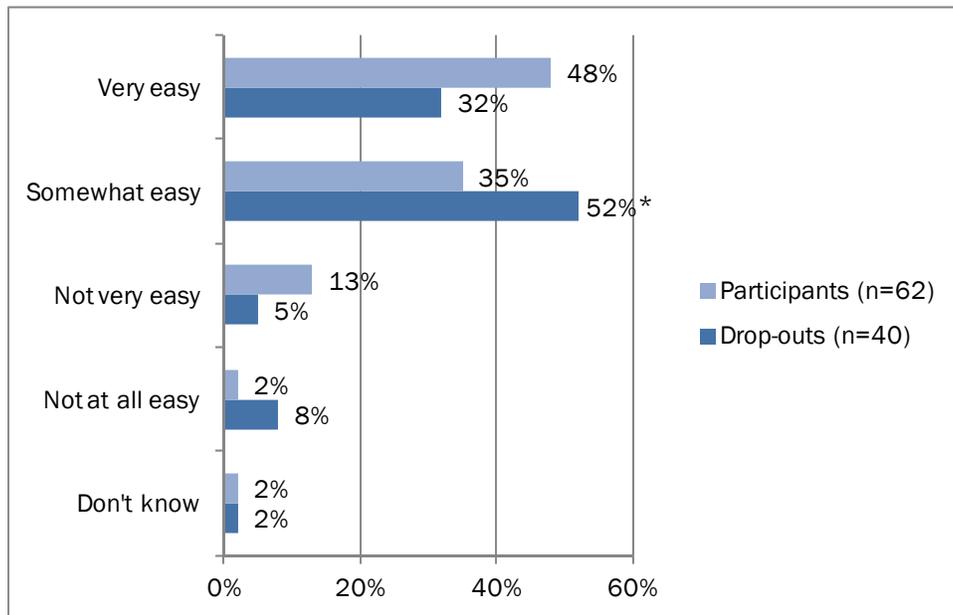
Figure 4-7. Efficiency Maine PACE Loan Application Process



Maine residents can apply for a PACE loan either online or by calling Efficiency Maine. Approximately two-thirds of participants and program drop-outs (69% and 66%, respectively) apply online and one-quarter (23% and 25%, respectively) applies over the phone.<sup>17</sup> Of those who apply over the phone, the vast majority of participants (93%) found the Efficiency Maine representative to be “very helpful,” a greater share than program drop-outs (57%).

Although similar shares of participants (84%) and program drop-outs (85%) find that it is either very easy or somewhat easy to complete the paperwork and provide the documentation required for the PACE loan, a larger share (52%) of program drop-outs report that it was only “somewhat easy,” compared to participants (35%).

**Figure 4-8. Ease of Completing Paperwork and Providing Documentation for PACE Loan**



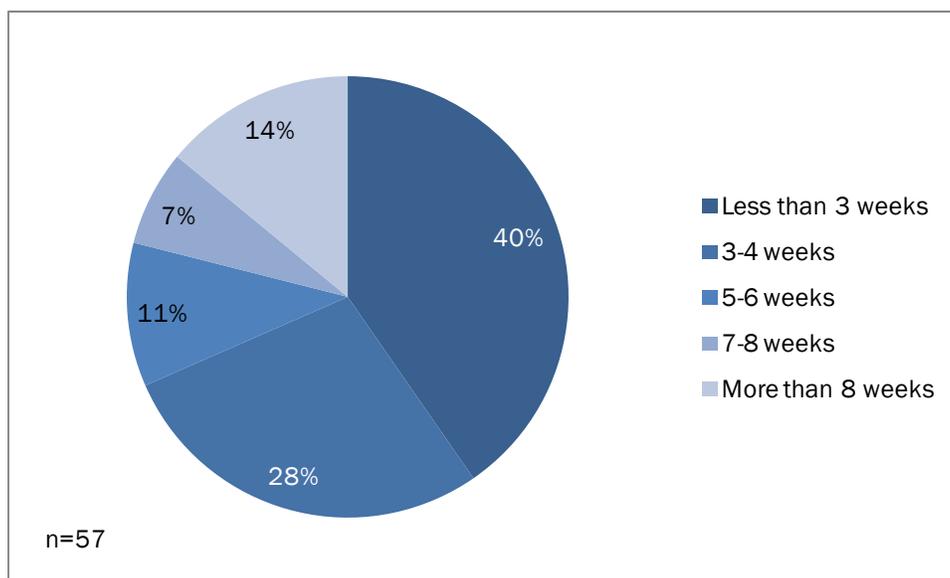
Source: Participant and Drop-Out Surveys

\* Indicates significance, at the 90% confidence level, relative to comparison group.

More than two-thirds of participants (68%) report that it took four weeks or less to close the loan with AFC First once the application had been submitted. The loan took more than eight weeks to close for 14% of participants. The majority of participants are very satisfied (71%) or somewhat satisfied (21%) with the loan processing time; only 5% of participants are “not very satisfied.”

<sup>17</sup> The remainder of respondents did not recall how they applied.

Figure 4-9. Time to Close PACE Loan



Source: Participant Survey

Thirty-eight percent of program drop-outs report that they experienced problems during the loan application process. The most commonly cited loan application problems include the amount of paperwork and the length of the process. Some of the other commonly cited problems include more general problems, such as meeting the loan requirements and issues with the contractors.

More participants (98%) than drop-outs (73%) found the AFC First representative who worked with them to process and close the loan to be helpful.

#### 4.2.4 MARKETING AND OUTREACH

Efficiency Maine markets its loan programs in a variety of ways. Most prominently, the program leverages Efficiency Maine’s “Save Like a Mainer” campaign, a statewide umbrella marketing initiative that includes print advertisements, online marketing, and radio and TV spots. The “Save Like a Mainer” campaign promotes general energy efficiency equipment and actions as well as specific incentives and loan offerings. In addition to this general outreach, the program performs more targeted marketing, including flyers to customers of local oil dealers, tax bill inserts in select PACE municipalities, and postcards to residents. Program staff also attends energy forums and town meetings. Most of the marketing decisions are directed by Efficiency Maine’s staff, while the design of the “Save Like a Mainer” campaign is supported by a marketing team of contractors, including the Cadmus Group, Rinck Advertising, and Marketing Drive.

Maine residents who have not participated in the PACE Loan Program report high awareness of Efficiency Maine and moderate awareness of its loan programs. More than three-quarters (78%) of non-participating Maine residents report that they had heard of Efficiency Maine, while 29% had heard of the PACE program and 31% had heard of the PowerSaver program. Of those familiar with an Efficiency Maine loan program, 51% learned about the program from the newspaper, radio, or TV. Despite being aware of the Efficiency Maine loan programs, 58% state that they are either not very familiar (42%) or not at all familiar (16%) with the programs.

As shown in Table 4-3, participants and program drop-outs most often identify newspapers, radio, and TV as the way they learned about Efficiency Maine’s loan programs. However, large shares from

both groups learned about the programs in other ways, including from contractors and Energy Advisors, from Efficiency Maine’s website, and through word of mouth.

**Table 4-3. Ways Residents Learn about Efficiency Maine Loan Programs (Multiple Response)**

	(a) Participants (n=62)	(b) Drop-outs (n=56)	(c) Non- Participants (n=43)
Newspaper/radio/TV	26%	39%	51% <sup>a</sup>
Contractor/vendor	15% <sup>c</sup>	16% <sup>c</sup>	5%
Efficiency Maine website	13%	11%	--
Friends/family/word of mouth	11%	16%	12%
Energy advisor/auditor	10%	7%	--
Through town or local government	8%	4%	--
Professional contact	8%	--	--
Public presentation in my community	6%	5%	7%
Efficiency Maine mailing/brochure	3%	7%	9%
Efficiency Maine email	--	2%	--
Tax bill insert	--	--	9%
Online	--	12%	--
Other	3%	4%	9%
Don't know	3%	2%	9%

Source: Participant, Non-Participant, and Drop-Out Surveys

<sup>a,b,c</sup>=Letters indicate significance, at the 90% confidence level, relative to the comparison group.

Non-participating Maine residents rely on multiple sources of information about how to reduce their energy consumption and how to find products that are energy efficient. The most commonly identified include the Internet (45%), newspapers (36%), television (25%), magazines/other print media (22%), and word of mouth (16%). These sources are similar to the ways residents learn about the Efficiency Maine loan programs, suggesting that Efficiency Maine is using the right channels for its advertising.

Contractors (including both PEAs and RVs) have mixed opinions about their customers’ awareness of the PACE Loan Program, but most think awareness of the program is fairly widespread. Not surprisingly, some noted that awareness is lower in regions where fewer towns have signed PACE ordinances and higher in places where more towns have ordinances and are participating.

Some contractors mentioned that marketing efforts, especially TV commercials, are helping to boost awareness of the program and generally promote energy efficiency services and products. In general, contractors are satisfied with Efficiency Maine’s marketing efforts. Contractors were very satisfied with the quality of material provided and mentioned using the brochures and sales packages provided by Efficiency Maine. Many contractors were aware of television, radio, and newspaper ads deployed by Efficiency Maine, but others were not aware of any. One contractor noted that word of mouth and tapping into community exchange forums as factors promoting program uptake. Contractor suggestions for improving the marketing efforts included:

- Increasing the number of participating towns by advertising more to council meetings;

- Increasing community outreach, e.g., presentations at local libraries;
- Better coordination between Efficiency Maine and contractors (e.g., providing PEAs and RVs with advanced notice of when and where Efficiency Maine will advertise, to enable side-by-side advertising);
- Providing electronic versions of material so it can be sent to customers with email quotes; and
- Coordination with utilities, particularly as a tool to help some customers pay their bills.

## Promotion by Contractors

With very few exceptions, contractors – including both RVs and PEAs – reported that they always promote the PACE Loan Program to their customers. Many of them also mentioned some of the PACE promotional tools they use, with Efficiency Maine brochures and content on their company websites representing the two most common methods. In addition to their own websites, many RVs and PEAs mentioned that they received a lot of business through the Efficiency Maine website and expressed interest in combining this with other forms of co-promotion.

A few RVs said that they did not advertise the program because they enter the process only after a PEA has completed the home energy assessment (audit). However, most RVs promote the program even when receiving jobs from Participating Energy Advisors.

Contractors view the PACE Loan Program as a selling tool and find that customers, in general, are showing interest. Some contractors noted a few barriers to promoting the program to specific groups:

- People are afraid to take on a higher debt load, especially the older generation;
- Homeowners with lower levels of education appear to be less comfortable with the paperwork and online PACE loan program application process; and
- Consumer interest depends a lot on the financial situation, with middle-income participants being more interested than those with higher income level.

## Contractor Training

Efficiency Maine provides training for participating contractors through regular outreach by program staff, monthly webinars, and informational materials. However, Efficiency Maine does not offer structured training sessions required for PEAs and RVs as it does, for example, for Qualified Partners in its Business Program.<sup>18</sup>

The monthly webinars include, but are not limited to, updating the PEAs and RVs about the status of the program, presenting new program features or changes, and providing tips for promoting the program. Some contractors have noted that the timing of these calls sometimes prevents them from participating. In addition to regular monthly webinars, Efficiency Maine provides materials – such as

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<sup>18</sup> To earn the designation of Qualified Partner and participate in the Business Program, Efficiency Maine requires contractors to attend a one-time four hour training session to learn about the program's rules and processes, and how to best promote the program to customers.

brochures, sales tips, case studies, and an online contractor locator – to help contractors understand and market the program.

One contractor noted that there was confusion among other contractors regarding the program's requirements and processes. In addition, some participants we surveyed expressed dissatisfaction with their contractor's ability to answer questions about the program (see also discussion below). This suggests that at least some contractors might benefit from additional program training.

## 4.2.5 HOME ENERGY AUDIT

### *Participants and Drop-Outs*

To qualify for a PACE loan, the homeowner must have a home energy audit conducted by a PEA. Therefore, by definition, all program participants have received an audit. Based on our survey of program drop-outs, 41% had an audit conducted.<sup>19</sup>

The most common reason participants and drop-outs had the audit performed was because it was required to qualify for a PACE loan (53% and 48%, respectively). Other reasons include learning ways to save money on utility bills, learning how their home uses energy, learning about areas needing improvement and options for upgrades, and other related factors.

The likelihood of having a home energy audit if it had not been part of the PACE loan program was higher among drop-outs than participants. Notably, a significantly greater share of drop-outs, than participants, report that they would have been very likely to have an energy audit absent the program (39% vs. 18%). Nearly two-thirds of participants (65%) state that they were either not very likely or not at all likely to have an energy audit performed if it had not been part of the PACE Loan Program.

The Efficiency Maine website is the most common source for finding an Energy Advisor: 40% of participants and 39% of program drop-outs, who had an audit, found the Energy Advisor this way. An additional 18% of participants and 30% of drop-outs with an audit found the Energy Advisor through family, friends, or word of mouth.

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<sup>19</sup> The remainder of this subsection only includes drop-outs that had an energy audit.

**Table 4-4. How Residents Found Their Energy Advisor**

	(a) Participants (n=62)	(b) Drop-Outs (n=23)
Through Efficiency Maine website	40%	39%
Family/friend/word of mouth	18%	30%
Community event/presentation/home show	12%	4%
Salesperson/contractor referral	10%	4%
Efficiency Maine representative referral	8%	4%
Local contractor	3%	--
"I was the Energy Advisor"	3%	--
Previous relationship	2%	9%
Advertising/marketing	--	--
Don't know	3%	4%
Refused	--	--

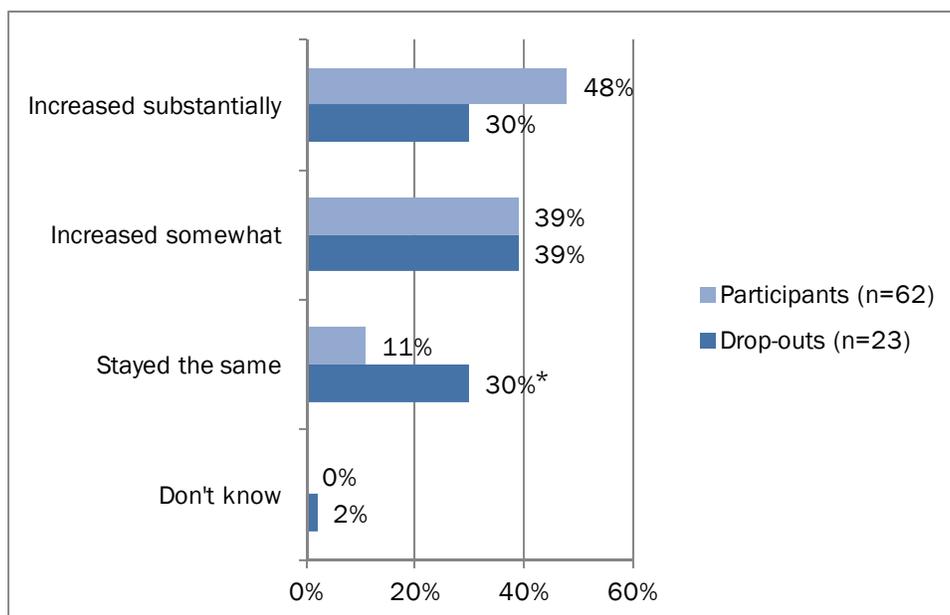
Source: Participant and Drop-out Surveys

<sup>a,b</sup>=Letters indicate significance, at the 90% confidence level, relative to the comparison group.

Respondents selected their Energy Advisors for a variety of reasons. The most common reason among both program participants (37%) and program drop-outs (49%) was that the auditor was highly recommended and had positive references. Other commonly cited reasons for selection include the Energy Advisor's knowledge and expertise, their availability, and previous experience with the Advisor.

As shown in Figure 4-10, home energy audits were associated with increased awareness of home energy efficiency for most participants and drop-outs: 87% of participants and 69% of drop-outs report that their awareness of energy efficiency and ways to make their home more efficient increased either somewhat or substantially as a result of the home energy audit.

**Figure 4-10. Change in Awareness of Home Energy Efficiency as a Result of Home Energy Audit**



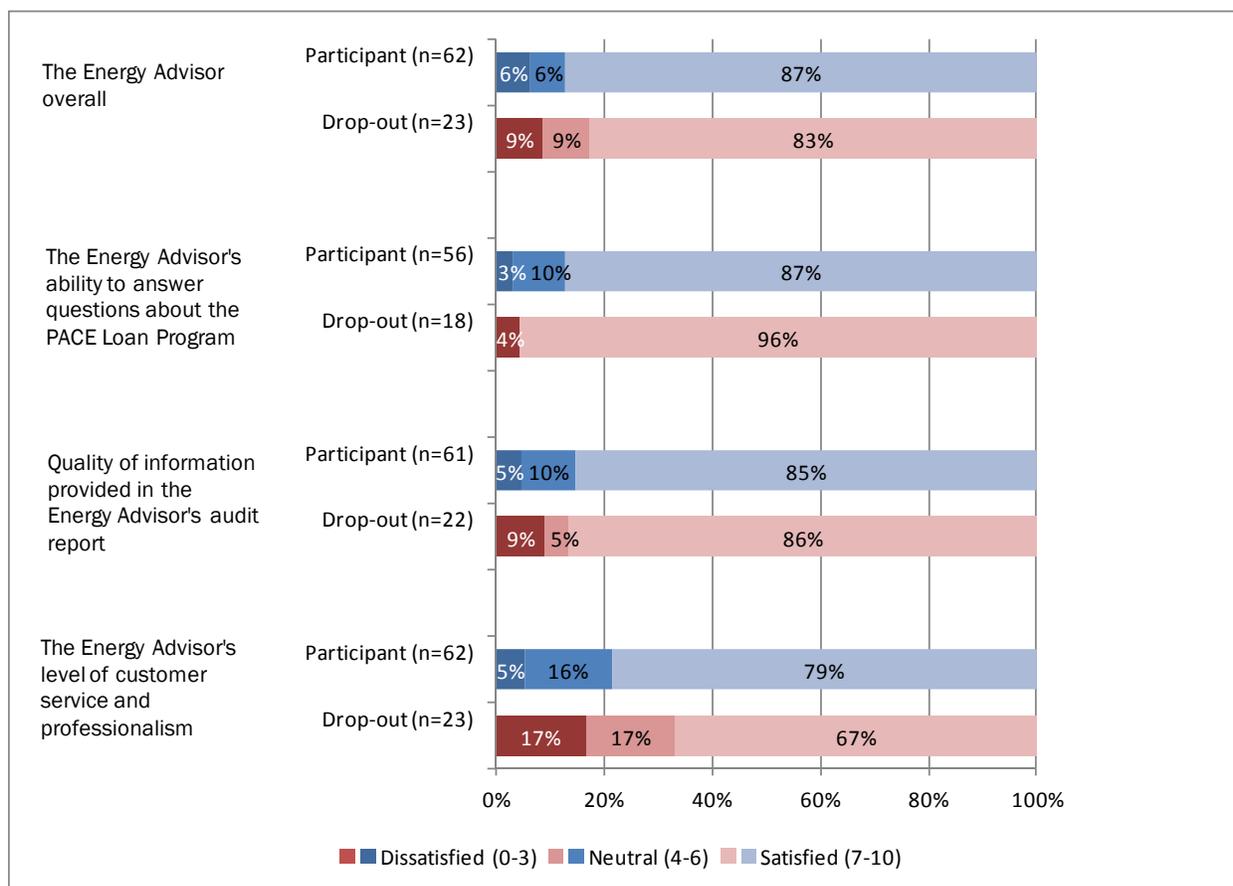
Source: Participant and Drop-out Surveys

\* Indicates significance, at the 90% confidence level, relative to comparison group.

Compared to participants, a significantly greater share of program drop-outs report that their awareness stayed the same. This difference between participants and drop-outs may be due to the additional education and engagement that results from having the improvements made (in the case of participants) as opposed to only receiving a home energy audit report (in the case of drop-outs).

Even though drop-outs are more likely to report that their awareness of home energy efficiency has stayed the same, both groups provide similar satisfaction ratings for the quality of information provided in the Energy Advisor’s report, the Energy Advisor’s level of customer service and professionalism, and the Energy Advisor overall. As shown in Figure 4-11, both participants and drop-outs report high satisfaction with all aspects of their Energy Advisor’s performance. The generally high level of satisfaction with the Energy Advisor reported by program drop-outs suggests that the advisor and their work are not primary reasons for participants to drop out of the PACE loan application process.

**Figure 4-11. Satisfaction with Aspects of Energy Advisors' Performance**



Source: Participant and Drop-out Surveys

\* There were no significant differences, at the 90% confidence level, between the comparison groups.

Among the small share of participants who reported not being satisfied with the information in the audit report, comments included that the report was too basic (only listed the recommended improvements but provided no useful information about whole-house energy savings or any financial savings breakdown) and that the report was inaccurate or recommended improvements to the home that were impossible to make. The few participants not satisfied with their Energy Advisor's ability to answer questions about the PACE Loan Program cited the auditor's newness to the program as the primary reason for their inability to answer questions about the program. Several other respondents noted that they provided a neutral rating because they had never discussed the PACE Loan Program with the Energy Advisor.

## Non-Participants

Almost one in five non-participants (19%) have had a home energy audit conducted within the past five years. Not surprisingly, a significantly larger share of residents with homes built before 1950 have recently had an audit (38%) than those with more recently constructed homes (9%), but there is no difference in the incidence of audits by income level. The largest share (32%) of non-participants who had an audit conducted found their auditor through family, friends, or word of mouth.

Among non-participants who had an audit performed in the past five years, the most cited reasons to do so are to learn how the home uses energy (37%), to learn how to save money on utility bills (26%), and to get more efficient equipment (26%).

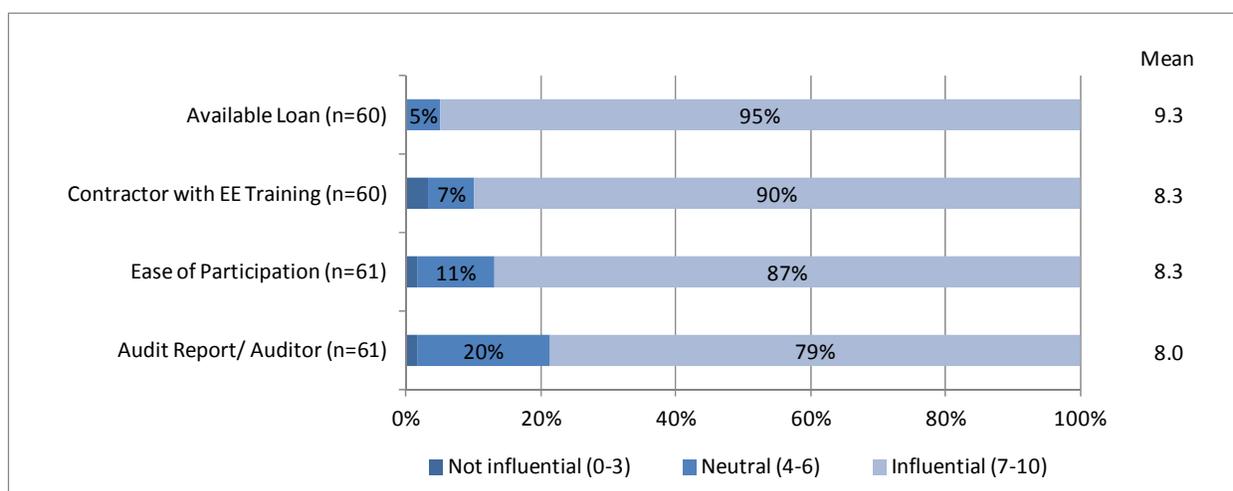
Of non-participants that have not had a recent audit, approximately half are either very interested (14%) or somewhat interested (37%) in having an audit in the future. Among those that are not interested, the primary reason is that the home is efficient enough or that they just finished upgrades.

## 4.2.6 HOME IMPROVEMENTS

### Participants

The various components of the PACE Loan Program generally rate highly in participants' decision to make energy improvements to their home. As shown in Figure 4-12, almost all participants (95%) rated the loan as influential (a rating of 7 to 10 on a scale of 0 to 10), with 65% giving the highest rating of 10. Having access to a contractor trained in energy efficiency and an easy participation process were also important in customers' decision-making.

**Figure 4-12. Influence of Program Components on Decision to Make Improvements**

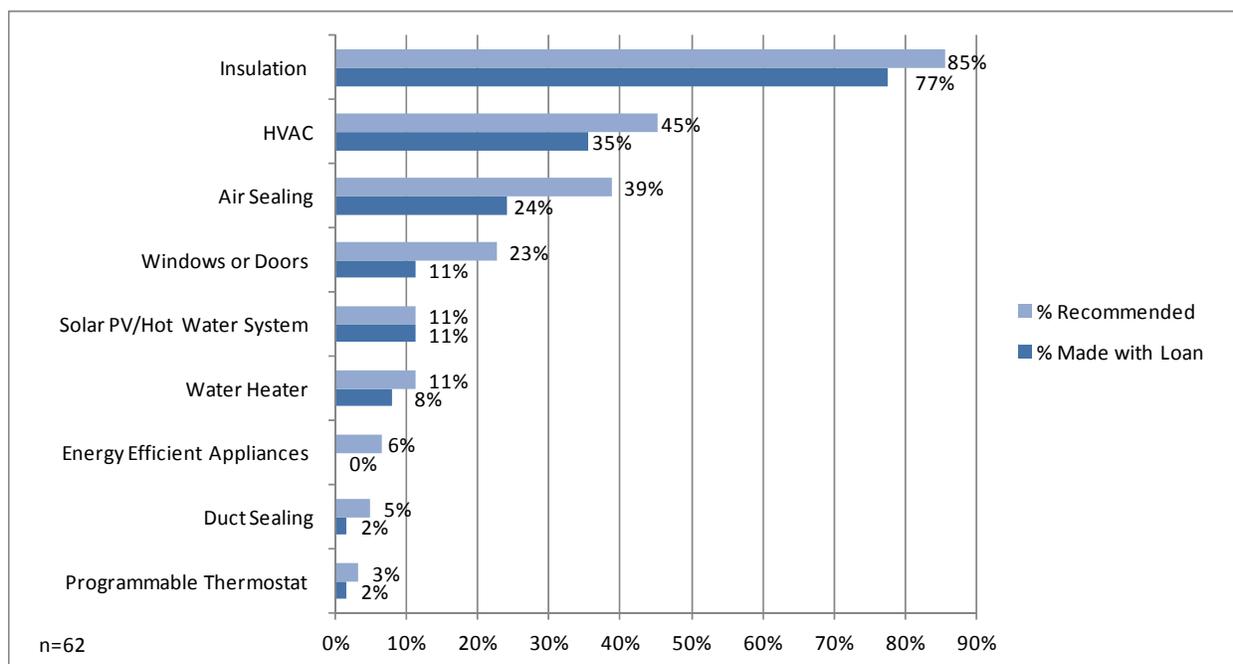


Source: Participant telephone survey

The main reason program participants decide to make energy improvements to their home following the energy audit is to save money on their energy bills (65%). Other common reasons include to increase the comfort in the home (26%), to save energy (19%), or because they realized the necessity of the improvement recommended by the audit (19%).

As illustrated in Figure 4-13, almost all energy audits (85%) include the recommendation to add insulation. PEAs also commonly recommend replacing HVAC equipment (45%) and performing air sealing (39%). Insulation also is the most commonly installed measure with 77% of participants (or 91% of projects where it was recommended), again followed by HVAC equipment (35%) and air sealing (24%).

**Figure 4-13. Share of Participants with Recommended and Installed Measures**



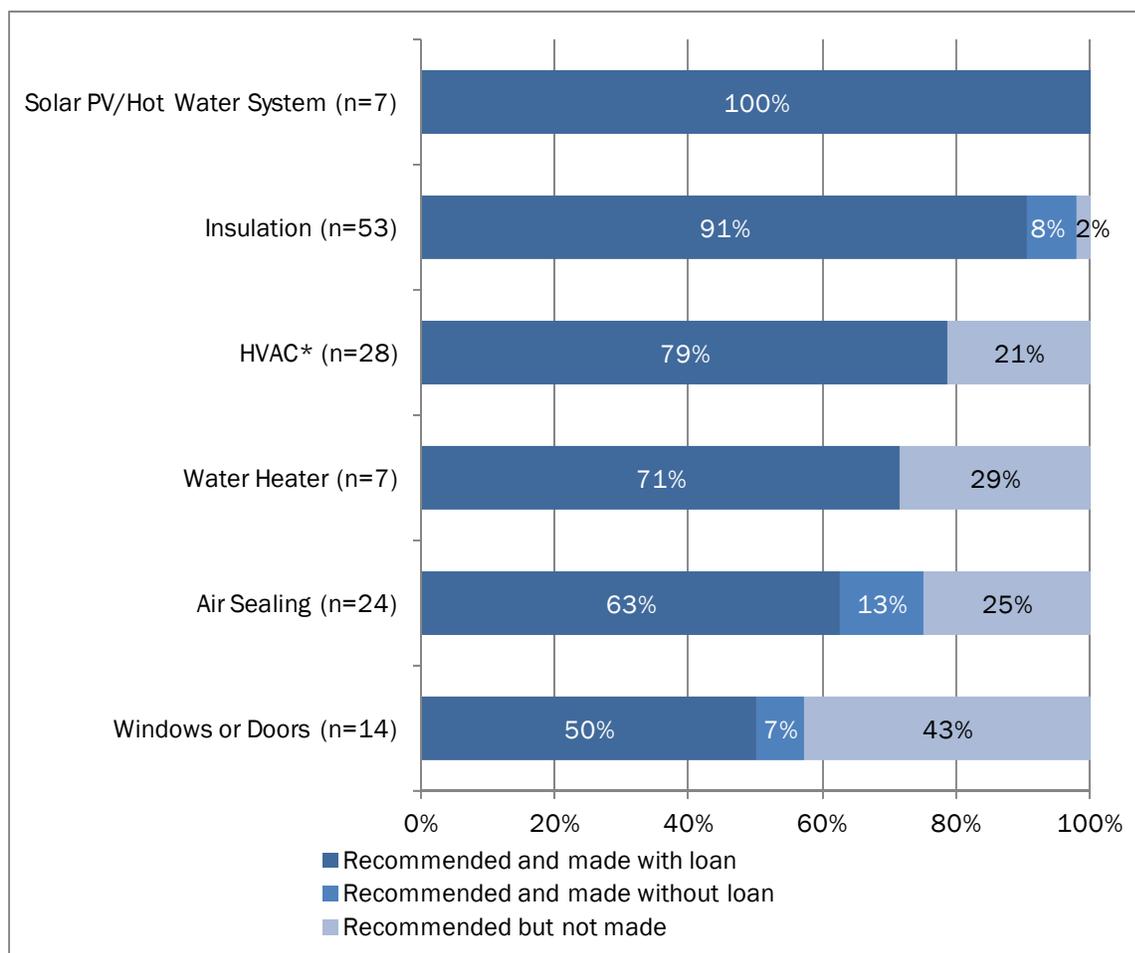
Source: Participant telephone survey

\*HVAC measures include boilers (n=17), furnaces (n=10), and heat pumps (n=1)

Sixty-nine percent of participants said their PEA or the audit report recommended additional improvements that were not included in their PACE loan. Not surprisingly, homes built pre-1950 were more likely to have additional improvements recommended (78%) compared to homes built later (56%). The most common additional recommendations that were not included in the PACE loan include insulation (65%), windows or doors (21%), and air sealing (21%). Of those participants that had additional improvements recommended beyond what was included in the loan, 23% made all and 7% made some of these additional recommended improvements on their own.

Figure 4-14 shows all recommended measures, comparing whether they were: (a) installed with a PACE loan, (b) installed without a loan, or (c) not installed. All participants that received recommendations to install solar systems (PV or hot water) installed these measures with the PACE loan, and virtually all (99%) participants that received recommendations to install insulation made this improvement, either with the loan (91%) or without the loan (8%). Recommended installation of HVAC equipment or water heaters was done with the PACE loan or not at all, while recommended air sealing and installation of energy efficient windows and doors sometimes occurred without the loan, as was the case for insulation.

**Figure 4-14. Installation of Recommended Measures**



Source: Participant telephone survey

\*HVAC measures include boilers (n=17), furnaces (n=10), and heat pumps (n=1)

Participants who installed recommended insulation or energy efficient doors and windows with the PACE loan often received recommendations to install additional insulation (48%) or to replace more doors and windows (29%) beyond what was included in the work funded by the loan. However, the installation of additional recommended insulation and windows and doors is uncommon: of those who received recommendations to install these additional items, only 13% installed additional insulation without the loan, and none installed additional doors or windows.

### **Drop-Outs**

Despite not receiving a PACE loan, about half of program drop-outs (54%) completed energy-related home improvements since they first applied for the PACE loan. These completed improvements included insulation (53%), windows/doors (37%), high efficiency furnaces (23%), and air sealing (20%). Among drop-outs who had an audit, improvements most commonly recommended were insulation (87%), air sealing (39%), and furnaces (35%). The improvements recommended to program drop-outs and the improvements made by them are similar to those of participants, which suggests that the type of improvements needed is likely not a primary factor in a homeowner's decision to participate or drop out of the program.

About half of drop-outs (57%) also said that they took other actions, besides home improvements, to reduce the amount of energy used in their homes since they first applied for the PACE loan. These actions most commonly included installing energy efficient appliances (41%) or lowering thermostat temperatures (24%).

### **Non-Participants**

Non-participating Maine residents indicate that there is demand for types of energy-related home improvements commonly installed through the program. About half of non-participants (54%) have considered but not yet made specific home improvements that would save money on their energy bills. Improvements most commonly identified include heating equipment (33%), windows or doors (33%), and insulation (31%) – similar measures to those recommended to and installed by program participants. In the next year, 17% of these non-participants are very likely and 30% are somewhat likely to make these improvements, and most would likely pay for these improvements through their own savings (68%). Of those that said it was not very likely (24%), or not at all likely (28%) that they would make these improvements in the next year, 82% cite a lack of money as the reason.

About a third (33%) of non-participants would be very interested or somewhat interested in purchasing and installing energy saving home improvements if they had access to a loan that could offer no money down and a competitive interest rate. Most non-participants that are not very interested (26%) or not at all interested (38%) in such a loan do not want to take on more debt (39%) or do not need a loan to make improvements (34%).

## **4.2.7 REGISTERED VENDORS**

For 42% of PACE Loan projects, the PEA that conducted the energy audit and the Registered Vendor that made some or all of the energy improvements to the home were from the same company. In 81% of those projects (34% of all projects) the same individual served as the PEA and the RV for the project, completing both the audit and the improvements.

While participants most often find their PEA through the Efficiency Maine website (40%), they most commonly find their RV to complete the improvements (if from a different company) through more personal methods, either recommendations from family or friends (31%) or through previous experience with the contractor (22%). Participants' main reason for selecting their Registered Vendor varies, with similar shares citing that they had used the contractor before, that the contractor had positive references or was highly recommended, that the contractor had expertise or experience in the desired area, or that the contract was the least expensive. In comparison, non-participants most often look to family/friends/co-workers (56%); contractors with which they have experience (17%); and the Internet (15%) to find contractors for energy-related home improvement projects.

Participants report very high satisfaction with the contractor that completed the energy efficiency improvements to their home: more than 90% of participants provide a “satisfied” rating (a rating of 7 to 10 on a scale of 0 to 10) to the contractor overall, their quality of work, and their level of service and professionalism. Not quite as many (73%) participants provide a “satisfied” rating with the contractor's ability to answer questions about the PACE Loan Program. Several participants noted that the contractor was not familiar with the program prior to the project and had to become a Registered Vendor to complete the work.

## **4.3 BARRIERS TO ENERGY EFFICIENCY AND PROGRAM PARTICIPATION**

The PACE and PowerSaver Programs are designed to overcome two key barriers to making energy efficiency improvements to the home: the first cost barrier (by offering a loan that spreads the costs of improvements over time) and the information barrier (by requiring a home energy audit that identifies opportunities for saving energy). However, other barriers exist that prevent households from achieving desired energy savings and also prevent these households from participating in Efficiency Maine's loan programs. This section addresses both barriers to making energy efficiency home improvements and barriers to participation in Efficiency Maine's loan programs.

### **4.3.1 BARRIERS TO ENERGY EFFICIENT HOME IMPROVEMENTS AND BEHAVIORS**

To identify potential barriers to energy efficiency, our research explored attitudes about energy conservation and energy efficient behavior among participants, drop-outs, and non-participants. The surveys for these three groups asked respondents to rate their agreement with a series of statements on a scale of 0 to 10, where 0 means strongly disagree and 10 means strongly agree.

The first series of statements addressed respondents' conservation attitudes. In general, a higher level of agreement means a more favorable attitude towards energy conservation.

Table 4-5 presents the shares of respondents who agreed with each statement (giving a rating of 7 to 10). Overall, Maine residents report generally high agreement with energy conservation. The vast majority of respondents from all three groups, and virtually all participants, believe that "every home should make a real effort to save energy," and at least two-thirds of respondents from all three groups seek out the most energy efficient product available. Greater shares of respondents that participated in the program or withdrew their application state that energy efficiency is a frequent topic of conversation among friends and family than non-participants, although less than half of all groups agree with this statement.

**Table 4-5. General Energy Conservation Attitude  
(Share of Respondents Agreeing with Statements)**

	(a) Participant (n=62)	(b) Drop-out (n=56)	(c) Non-Participant (n=100)
Every home should make a real effort to save energy.	98% <sup>b,c</sup>	88%	86%
When looking to buy a product that uses energy, my household seeks out the most energy efficient product available.	76%	66%	77%
Energy efficiency is a frequent topic of conversation with my friends and family.	39%	46% <sup>c</sup>	30%

<sup>a,b,c</sup>=Letters indicate significance, at the 90% confidence level, relative to the comparison group.

Source: Participant, Non-Participant, and Drop-out Surveys

In addition to rating their agreement with these statements, non-participants also rated their awareness of ways to save energy in their home. Among non-participating Maine residents, 59% state that they are “very aware” of ways to save energy and 37% are “somewhat aware.” Only 4% state they are “not very aware” or “not at all aware.”

The second series of questions asked about barriers to adopting energy efficient behaviors. For each statement, a higher level of agreement indicates a greater barrier to adopting energy efficient behaviors. Table 4-6 shows the percentages of respondents who agree with each statement (a rating of 7 to 10). Notably, non-participants report significantly higher agreement with knowledge and price barriers than do participants. The most frequently reported barrier among all three surveyed groups (participants, drop-outs and non-participants) is the comfort barrier, which is measured by agreement with the statement that comfort is very important to their household, even if it means spending more on energy. These results suggest that the comfort benefits associated with energy related home improvements and the information provided by the energy audit to help homeowners figure out “where to start” are key messages to highlight in program marketing and outreach efforts.

**Table 4-6. Barriers to Energy Efficient Behavior  
(Share of Respondents Agreeing with Statements)**

	(a) Participant (n=62)	(b) Drop-out (n=56)	(c) Non-Participant (n=100)
Comfort is very important to my household, even if it means spending more on energy. ( <i>Comfort barrier</i> )	47%	39%	54%
It is difficult to find energy efficient products that meet my needs. ( <i>Availability barrier</i> )	21%	12%	15%
I would like to do more to make my home energy efficient, but I don't know where to start. ( <i>Knowledge barrier</i> )	16%	29%	31% <sup>a</sup>
I will only take steps to save energy if it does not require too much effort. ( <i>Inertia barrier</i> )	10%	16%	17%
I would NOT pay more for a product that is energy efficient. ( <i>Price barrier</i> )	6%	14%	21% <sup>a</sup>

<sup>a,b,c</sup>=Letters indicate significance, at the 90% confidence level, relative to the comparison group.

Source: Participant, Non-Participant, and Drop-out Surveys

The survey results indicate some differences in the incidence of barriers to energy efficient behavior based on household characteristics. Notable demographic differences include:

- **Price barrier higher for lower income:** Significantly greater shares of participants and non-participants with incomes under \$50,000 state that they would not pay more for a product that is energy efficient compared to those with incomes above that threshold (20% vs. 2% for participants, 26% vs. 9% for non-participants).
- **Availability barrier higher for higher income:** Twenty-six percent of participants with incomes above \$50,000 report that it is difficult to find energy efficient products that meet their needs, a significantly higher share than lower income participants (7%). This difference may be related to challenges finding energy efficient equipment with specific desired features (“that meet my needs”, rather than not being able to find energy efficient equipment at all).
- **Knowledge barrier higher for lower income:** Forty percent of non-participants with income under \$50,000 would like to do more to make their home more energy efficient, but do not know where to start. This share is significantly higher than the 22% of non-participants with incomes above \$50,000 who agree with that statement.

We also asked non-participants to identify obstacles they face in trying to save energy in their home. As shown in Table 4-7, many of the obstacles to saving energy most commonly cited by non-participants, such as the up-front cost, uncertainty about cost, not knowing what to do, and needing specific improvements, are addressed by Efficiency Maine’s loan programs.

**Table 4-7. Obstacles Faced in Trying to Save Energy in Home (Multiple Response)**

	Non-Participants (n=100)
Up-front cost	26%
Uncertainty about cost	11%
Age or design of home	9%
Lack of time	8%
Cooperation of other family member	6%
Don't know what to do	6%
Need for specific improvements	5%
Comfort over efficiency	5%
Laziness/forgetfulness	4%
Age or design of energy-using equipment	4%
Price of fuel	4%
Weather	3%
Uncertainty about energy savings	1%
Other	3%
No obstacles	11%
Don't know/refused	12%

Source: Non-Participant Survey

### 4.3.2 BARRIERS TO PARTICIPATION IN EFFICIENCY MAINE LOAN PROGRAMS

Only 5% of non-participating Maine residents state that they would be likely to apply for a loan through the PACE or PowerSaver programs within the next year. Of the 95% that are not likely to apply for a loan (37% not very likely, 58% not at all likely), the most commonly identified reasons for not applying include not planning to do any home improvements (22%) and that the home is already efficient (21%). While non-participants are not likely to apply for a PACE or PowerSaver loan within the next year, when asked more generally, 33% of them express an interest in “a loan to purchase and install energy saving home improvements that offered no money down and a competitive interest rate.”

**Table 4-8. Reasons for Not Applying for a PACE or PowerSaver Loan (Multiple Response)**

	Non-Participants (n=95)
Not planning on doing any home improvements	22%
Home is efficient/energy costs are low/made improvements already	21%
Don't want to be in debt or take out loans	16%
Do not need financial assistance with home improvements	16%
Can't afford loan/improvements	14%
Don't know about program	6%
Don't own home/plan to move	5%
Would not qualify/don't have good credit	4%
Can get a better rate/loan elsewhere	4%
Other	2%

Source: Non-Participant Survey

Many interviewed contractors thought that the PACE Loan Program itself had few barriers once customers were approved for the loan. The common sentiment among PEAs and RVs was that the program is well administered and the requirements are easy to navigate. However, many contractors noted challenges for potential customers to meet the PACE loan qualifications as a key barrier. The barriers most commonly identified by contractors include:

- Stringent loan qualification criteria, specifically the debt-to-income ratio;
- The interest rate not being competitive with bank loans (not as low as a home equity line of credit);
- Many towns not participating in the PACE Loan program;
- The cost and hurdle of doing an energy audit on their home;
- Many customers not willing to take on a higher debt load;

- The schedule of payments, which requires the contractor to provide short-term funding during the project and puts a financial strain on the contractor, possibly limiting their ability to deliver services under the PACE Loan Program);<sup>20</sup> and
- The upper limit on loan value (\$15,000).

Other less commonly identified barriers noted by contractors include: slow processing of program applications, onerous paperwork, the minimum loan amount of \$6,500 (in a few cases contractors indicated that customers could have achieved 20% savings with less than that amount, especially those with smaller homes), and the economic recession in general. One contractor noted that several of their customers have been turned down even if pre-qualified (and then must pay the audit cost anyway).<sup>21</sup> Another contractor noted that a PACE loan has more hurdles than a regular home equity loan and has the same or even a higher interest rate. Another pointed out that some customers are skeptical of payback claims with financing programs.

Regarding the hurdles and cost of having an audit, some contractors think the customers do not understand the value of audits: "... a lot of people object to the audit and I think they just don't understand its value. If people understood the value of an audit and how much homes could be improved then [...] there might be more activity." A few contractors suggested that the energy audits could be subsidized to improve program uptake among their customers.

We asked program drop-outs to identify the primary reason they did not complete the PACE loan application process. The most identified reason (20% of drop-outs) was for personal financial reasons, e.g., the respondent did not want to take out a loan or go into additional debt. Other commonly cited reasons included not qualifying for the loan (16%), not wanting to spend the money for the audit (11%), not living in a town where the PACE ordinance has passed (11%), and the interest rate being too high (9%).

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<sup>20</sup> One contractor noted: "PACE pays 30% at the beginning and then the final at the end. So sometimes it's harder for us to carry that balance. If they could split it up a little bit differently, I mean if we've met a certain billable moment, perhaps it would much easier for us, too". Another explained that "when I'm on a bigger project – like say there's a \$15,000 project, the 30% down and then to complete the project that's a really hard thing to accomplish unless you've got a lot of capital to invest upfront. 30% is not quite enough to get the job done and pay everyone till the end."

<sup>21</sup> While the exact circumstances of these reported denials are not clear, the program should take care to 1) maintain a rigorous pre-qualification process and 2) clearly communicate to contractors and participants that approval of a loan is not guaranteed until AFC First can verify the customer-provided information.

## 4.4 SATISFACTION

### Participants

Overall, 97% of participants are satisfied with their participation in the PACE Loan Program, providing a rating of 7 to 10 on a 0 to 10 scale (with 0 meaning extremely dissatisfied and 10 meaning extremely satisfied), with a mean rating of 9.1. Confirming their general satisfaction, 100% of surveyed participants would recommend the PACE Loan Program to their family and friends.

Nonetheless, 16% of participants report that they experienced problems during their participation in the program. The problems include inconsistent program information, issues with the contractor, poor quality of work, and having to pay out of pocket before being reimbursed for the loan.

Many PACE Loan participants report improvements in energy bills (a decrease) and home comfort. Table 4-9 shows that since making the improvements to their home with the PACE Loan, a large majority of participants has found that their energy bills have decreased (69%) and that their home's comfort level has increased (84%). A small fraction found their bills (6%) and comfort level (11%) had stayed the same, and none had found an increase in energy bills or decrease in comfort.

**Table 4-9. Change in Participants' Energy Bills and Comfort Level Since Making Improvements**

Change Since Making Improvements	Energy Bills (n=62)	Comfort Level (n=62)
Decreased	69%	--
Stayed the same	6%	11%
Increased	--	84%
Too early to tell/don't know	24%	3%

Source: Participant Survey

The participant and drop-out surveys provided respondents the opportunity to make recommendations to improve the program. As listed in Table 4-10, both participants and drop-outs most often recommend: improving program communication and providing more consistent information; providing higher loan amounts; and reducing paperwork and program requirements.

**Table 4-10. Recommendations to Improve PACE Loan Program  
(Multiple Response)**

	Participants (n=62)	Drop-outs (n=56)
Improve program communication/more consistent information	26%	20%
Larger loans	11%	18%
Less paperwork/red tape/program requirements	10%	11%
Make audit free or less expensive	--	7%
Eliminate need for towns to qualify for PACE	--	7%
Improve contractor training/other contractor issues	6%	4%
Improve timeliness of project/loan approval	6%	4%
Improve auditor training/other auditor issues	5%	2%
More competitive interest rate	5%	5%
Other	2%	--
No recommendations/Don't know	50%	41%

Source: Participant and Drop-out Surveys

## Contractors

PEAs and RVs interviewed for the evaluation are generally very satisfied with the program administration and think that their customers are satisfied as well. However, contractors are less satisfied with the program's impact on generating new business. Most contractors stated that they are not seeing an increase in their business due to the PACE Loan Program.

*"I'm fairly satisfied. I mean it's probably brought a few jobs in. It's nothing to do cartwheels over."*

*"It's been positive even though it's been minimal so far."*

To explain the limited participation, contractors cited issues with the value proposition of the program. As they see it, for a 2% interest premium over typical mortgage rates, and for the additional costs of an audit (up to \$500), the only thing a homeowner receives in return is a transferable loan and even that benefit may result in a reduction in the value of their home.

The key strengths of the program mentioned by the contractors tend to fall into two groupings: (1) customer education and awareness and (2) the program model. Many contractors noted that the advertising and outreach done around PACE has led to customers who are more informed about and aware of energy efficiency issues. Others pointed out that this program model is a welcome tool in the Maine market place due to its ability to finance improvements that are cash-flow positive where the energy savings pay for the costs of the retrofit.

Contractors suggested several areas for improvement:

- **Program administration:** Although the general impression is that the program is well run and participation is relatively simple, there were some complaints about excessive paperwork, lost paperwork (2 cases) or slow processing of files;
- **Interest rates:** Many suggested that demand under the PACE Loan Program would increase if the interest rates were competitive with rates offered for mortgage lines of credit;
- **Marketing:** Some suggested that marketing efforts are extensive and effective, but that more could be done to coordinate with participating contractors and that more marketing in general would be beneficial; and
- **Evaluation of savings:** One contractor is skeptical about the credibility of savings and suggests third-party verification and independent auditing;

## 4.5 PROGRAM'S INFLUENCE ON MARKET

### Changes in Demand

PACE Loan participants accounted for up to 20% of the interviewed contractors' (PEAs and RVs) business. In general, interviewed contractors think that the PACE Loan Program has generated some interest in, and demand for, energy efficiency retrofits and specific products. However, many interviewed contractors did not see a significant increase in demand for their own services and products from the PACE Loan Program, particularly when compared to the HESP program.

- PEAs generally found that demand for energy audits has increased due to the program requirements. However, several PEAs noted that converting this interest in audits into new PACE loan projects can be difficult.
- Several RVs saw an increase in consumer interest for specific products, including solar, geothermal, efficient windows, or natural gas heating systems.
- Contractors who specialize in solar products thought that the PACE Loan Program has had a much greater impact on the demand for weatherization products (due to their cost-effectiveness) than on solar products where there has been only a limited effect.
- In general, contractors working in regions with many PACE municipalities, especially in regions with larger and more affluent towns, have witnessed the most noticeable increase in demand for their services with PACE.
- Some contractors believe that PACE financing has encouraged deeper retrofits among their customers ("People often call with an interest in windows and attic insulation, and then add other elements such as basement insulation.") largely based on the energy audit results and the need to reach a 20% overall savings to qualify for the PACE loan.
- Some contractors suggested that the increase in the demand for home retrofit projects may have more to do with Efficiency Maine's overall marketing efforts and less to do with the PACE financing offer itself.

Contractors' estimates of the percentage of PACE-funded projects that would have been implemented even without PACE financing are wide-ranging. Interviewed contractors generally believe that the majority of participants who received a PACE loan would not likely have carried out the project without the loan, particularly among participants with lower incomes. However, about a

quarter of interviewed contractors either were unsure if the PACE loan participants represented new demand for their services, or did not see any increase in demand resulting from the PACE Loan Program.

Taking these responses together, it appears that while the PACE loan financing is driving some demand increases for Registered Vendors' products and services, its overall impact on their operations is minimal. However, PEAs benefit from a more notable increase in demand for their services which is generated from the program requirement that participants undertake an energy audit.

## Changes to Business Practices

Interviewed contractors provided a wide range of responses related to the PACE Loan Program's impact on their business practices. The majority reported that the PACE Loan Program has not motivated them to make significant changes to their operations. However, a small number of interviewed contractors did make changes to their business practices in response to the PACE Loan Program, including:

- A few contractors said that increased demand through PACE helped them to retain some employees or hire more;
- Some contractors mentioned PACE's impact on their marketing efforts (for example, linking their website to Efficiency Maine's);
- One contractor entered the residential retrofit market to respond to a predicted increase in demand resulting from the PACE Loan Program; and
- One contractor indicated that they are now offering simplified audits for PACE customers.<sup>22</sup>

## 4.6 COMPARISON OF PACE AND HESP

From December 2009 to September 2011, Efficiency Maine offered HESP, a very popular whole-house energy efficiency rebate program. The program focused on air sealing and insulation measures, but also offered measures such as heating systems, water heaters, heating controls, windows and doors, and renewable energy systems. Any Maine home with heating was eligible, regardless of the owner/occupant's income level. The program offered two tiers of rebates: Tier 1 provided a maximum of \$1,500 per home for projects projected to save at least 25% of annual heating and hot water energy use, and Tier 2 provided a maximum of \$3,000 for projects expected to save 50% or more. Additionally, if the project was completed by December 31, 2010, the participant received an additional \$1,000.

According to the program tracking database, HESP provided rebates to approximately 3,200 projects over the life of the program. Given the success of HESP, Efficiency Maine modeled relevant aspects of the PACE Loan Program after HESP, such as the eligible improvements, the use of PEAs, and the minimum total home energy savings threshold. According to program staff, HESP helped establish the standards, best practices, contractor base, and word of mouth that the PACE Loan Program builds on. The primary, and most fundamental, difference between the programs is the rebate vs.

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<sup>22</sup> In this case, the "simplified audit" is less than what the Energy Advisor typically performs, but still meets the requirements of the PACE Loan Program, including blower door testing.

loan model. In addition, unlike the PACE Loan Program, HESP only required participants to use a Participating Energy Advisor for the audit; it did not require participants to use a Registered Vendor for the installation of the energy improvements. Efficiency Maine has found that the average total cost of a HESP project (\$8,200) was much less than the average PACE loan (\$13,200). HESP and the PACE Loan Program overlapped from April to September 2011, during which time customers could receive both a HESP rebate and a PACE loan for the same project.

Most of the contractors interviewed as part of the PACE evaluation had been active in HESP before PACE. Almost all of these contractors noted that the uptake and customer interest was much higher for the HESP rebates than it has been for the PACE Loans. As one contractor put it:

*“There was just no comparison. The people were really interested in the Home Energy Savings. Since the end of HESP, my business – everybody’s business, as far as I know, has gone way down.”*

Cash rebates, as offered under HESP, are seen as a strong selling argument, while PACE financing is not seen as very different from bank loans. One contractor pointed out that , under PACE, there is no incentive to go over 20% of energy savings, and suggested that offering a joint rebate and loan program could encourage deeper energy savings.

While the PACE Loan Program has experienced lower demand for audits and retrofits than HESP, contractors see PACE as being well run and generating quality work. Notably, PACE has been able to avoid some key challenges that were experienced under HESP in connection with the high customer demand for the program, combined with the fixed program end date and associated deadlines for project completion.

One contractor perhaps best expressed the difference between the two programs, and their impact on the industry, saying that

*“As time goes on and more people experience the positive effect of [the PACE Loan Program], it will grow. But it’s not going to be the lit gasoline that the HESP program turned out to be.”*

## **4.7 OTHER EFFICIENCY MAINE PROGRAMS**

### **Other Loan Programs**

Our research also explored interest in two new programs recently introduced by Efficiency Maine to supplement the PACE Loan Program:

- The PowerSaver Program covers the same home energy improvements as PACE, but offers a wider range of loan amounts, is available statewide, and has slightly different eligibility criteria.
- The Direct Install Program offers a \$300 rebate towards air sealing and insulation work in homes that have received an energy audit.

PACE drop-outs were asked about both programs while non-participants were asked about the Direct Install Program.<sup>23</sup> In both cases, survey respondents were read a description of the program and asked to rate their interest in participating in the future.

Most PACE program drop-outs (77%) state that they are either very or somewhat interested in participating in the PowerSaver program. The level of interest varies with whether or not they had an audit (interest is higher for those who have not had an audit) and whether or not they had completed their projects at the time of the survey (interest is higher for those who had not completed the project). This level of interest suggests an opportunity for marketing the PowerSaver program to PACE drop-outs.

Both drop-outs and non-participants were asked about their interest in the Direct Install Program. A larger share of the drop-outs (39%) than the non-participants (7%) report to be “very interested” in participating in the program, and 67% of non-participants report that they are “not very” or “not at all” interested. The most common reason for non-participants’ lack of interest in participating in the program is not needing an upgrade (57%). Other common reasons for lack of interest include not wanting to go into debt (referencing the potential next step of a loan) and wanting to pay for improvements out of pocket or the homeowner wishing to perform the improvements themselves.

Table 4-11 summarizes these responses.

**Table 4-11. Interest in Efficiency Maine’s PowerSaver and Direct Install Programs**

Level of Interest	PowerSaver	Direct Install Program	
	Drop-outs (n=56)	(a) Drop-outs (n=56)	(b) Non-Participants (n=100)
Very interested	39%	39% <sup>b</sup>	7%
Somewhat interested	38%	32%	25%
Not very interested	11%	12%	28% <sup>a</sup>
Not at all interested	12%	14%	39% <sup>a</sup>
Don’t Know / Refused	-	2%	1%

Source: Drop-out and non-participant surveys.

<sup>a,b,c</sup>=Letters indicate significance, at the 90% confidence level, relative to the comparison group.

Most contractors we interviewed were not aware of the PowerSaver Program at that time, and familiarity with PowerSaver was generally limited, even for those that are aware of it. While some contractors view PowerSaver as more complex and harder to qualify for than the PACE Loan Program, contractors see the PowerSaver Program as filling some gaps in the PACE Program, by offering unsecured loans that are available across all of Maine and have a different range of loan amounts.

<sup>23</sup> Non-participants were also asked about the likelihood that they would apply for a PACE or PowerSaver loan within the next year.

## Other Residential Programs

We also asked non-participants about their awareness of other (non-loan) residential programs offered by Efficiency Maine. Only 36% of non-participants are aware of other energy efficiency programs offered by Efficiency Maine. Not surprisingly, non-participants who reported being very aware of ways to save energy in their homes are more likely to be aware of Efficiency Maine programs (44%) than those who are somewhat, not very, or not at all aware of ways to save energy (24%). Among non-participants who are aware of other programs, the largest share (22%) is aware of the Efficiency Maine lighting program which provides reduced prices on CFLs.

About one-third of participants, one-fifth of drop-outs, and one-tenth of non-participants report that they have received rebates through, or participated in, Efficiency Maine’s non-loan residential programs. Close to 50% of these report having participated in the Appliance Rebate Program.

**Table 4-12. Participation in Other Efficiency Maine Residential Programs**

	(a) Participant	(b) Drop-out	(c) Non-Participant
Participated in any other Efficiency Maine programs	32% (n=62)	21% (n=56)	12% (n=100)
<b>Program*</b>	<b>(n=20)</b>	<b>(n=12)</b>	<b>(n=12)</b>
Appliance Rebate	50%	42%	42%
Renewable Energy / Solar / Wind	20%	25%	8%
Lighting / CFL	20%	17%	17%
HESP	25%	17%	--
Replacement Heating Equipment	15%	8%	17%

\*Note small sample sizes

Source: Participant, Drop-out, and Non-participant surveys

# 5. SUCCESSFUL PRACTICES OF FINANCING PROGRAMS

The Evaluation Team conducted a review of successful practices – both structural and operational - of energy efficiency financing programs.<sup>24</sup> We based our findings on a literature review of financing programs implemented throughout North America, in-depth interviews with program administrators involved with four similar financing programs, and our team’s experience in developing and evaluating innovative financing programs. The full Successful Practices Report was delivered under separate cover.

Table 5-1 summarizes the successful *structural* practices identified through our research. Also shown is a rating of Efficiency Maine’s loan programs against each successful practice. Efficiency Maine’s loan program portfolio is structured to meet many of the identified practices, including those related to sources of capital, eligibility and bridging, and qualifying measures. The program currently does not meet successful practices in its interest rates and, particularly, its program enhancements.

**Table 5-1. Summary of Structural Successful Practices**

Successful Practice	Efficiency Maine Rating	
<b>Sources of Capital</b>		
<b>Enable large scale implementation:</b> If relying on small banks or credit unions, recruit additional loan funder(s) to allow for scaling up of program.	✓	AFC First is a national leader in residential energy-efficiency and renewable lending programs.
<b>Partner with expert underwriter:</b> Partner with an organization with experience in underwriting of energy efficiency retrofits to take advantage of outside expertise and reduce financial risk.		
<b>Combine sources of capital:</b> Utilize a combination of both private capital and either public funding or DSM budgets.	n/a	Efficiency Maine relies on ARRA funding.
<b>Credit Limits</b>		
<b>Correctly size credit caps and amortization periods:</b> Set program credit caps and amortization periods to balance comprehensive retrofits with a “cash flow positive” program.	--	Pending impact evaluation.
<b>Offer tiered interest rates:</b> Offer tiered interest rates to promote and reward deeper energy retrofits.	x	Uniform interest rate of 4.99%.
<b>Program Enhancements</b>		
<b>Offer credit enhancements:</b> Offer credit enhancements such as loan loss reserves or guarantees to attract competitive private capital and reduce strict underwriting criteria and high rejection rates.	n/a	Efficiency Maine does not rely on private capital; therefore, credit enhancements are not needed
<b>Offer interest rate enhancements:</b> Offer below-market interest rates through buy downs or setting up a loan loss reserve.	x	4.99% interest rate is higher than competing mortgage and bank rates.

<sup>24</sup> The reader should note that while these practices have proven successful in other regions, they are not necessarily appropriate in all instances for Efficiency Maine’s PACE Loan Program.

Successful Practice	Efficiency Maine Rating	
<b>Offer a combination of rebates and financing:</b> Offer rebates (either prescriptive or based on estimated savings) to increase participation and to allow the financing component to be cash-flow positive to homeowners.	(✓)	Rebates were initially offered under HESP but are no longer available. The recently introduced Direct Install Program offers rebates for air sealing and insulation.
<b>Eligibility and Bridging</b>		
<b>Offer a portfolio of complementary loans:</b> Offer customers a portfolio of loan options, including smaller unsecured loan to complement secured loans, to lower the overall customer acquisition cost and provide options to a wider pool of applicants who may not meet PACE requirements.	✓	Efficiency Maine introduced the Power Saver program in early 2012.
<b>Qualifying Measures</b>		
<b>Allow for a variety of qualifying measures:</b> Allow qualifying measures to include energy efficiency improvements as well as renewable energy installations to ensure deep and lasting energy savings.	✓	Efficiency Maine offers a wide range of measures, including renewables, appliances, and lighting, in addition to traditional Home Performance measures.
<b>Customer Cash Flow</b>		
<b>Aim for positive cash flow of financed improvements:</b> Emphasize cost-effective improvements by offering longer-term financing or payment limits and preventing payback periods from exceeding the useful life of the improvements.	--	Pending impact evaluation.

Table 5-2 summarizes the successful *operational* practices identified through our research and shows a rating of Efficiency Maine’s loan programs against each successful practice. The table shows that the Efficiency Maine PACE Loan Program meets most of the operational successful practices either fully or partially. Although the program currently invests in contractor training and providing contractors with marketing tools, the program should consider expanding these efforts.

**Table 5-2. Summary of Operational Best Practices**

Successful Practice	Efficiency Maine Rating	
<b>Marketing</b>		
<b>Sell Something People Want:</b> Motivate comprehensive home energy improvements by highlighting the most appealing benefits of the improvements.	✓	Marketing materials highlight common improvements and their benefits, including comfort.
<b>Meet Customer Needs:</b> Identify customer type (proactive vs. reactive) and gear offer to appeal to their different motivations.	✓	Program markets to a diverse statewide population as well as to non-participating contractors.

Successful Practice	Efficiency Maine Rating	
<b>Avoid "Energy Jargon":</b> Use language that is constructive to earn trust and avoid turnoffs.	✓	Website and marketing materials use constructive language.
<b>Engage when most likely to act:</b> Have a program available when customers need it most – usually when they are facing an equipment replacement decision.	✓	Loan program is only suitable for <i>planned</i> equipment replacements. Program promotes replacing equipment prior to failure.
<b>One-Touch is Not Enough:</b> Ensure residents are receiving consistent and/or coordinated messages, especially if there are multiple program messengers.	✓	Efficiency Maine leverages its statewide “Save Like a Mainer” information program to promote the program and energy-saving improvements.
<b>Engage the Wider Community:</b> Coordinate outreach efforts with existing community structures.	✓	Program staff uses town meetings, tax bill stuffers, and other outreach efforts to promote the program.
<b>Loan Application Processing</b>		
<b>Develop a “one-stop-shop” approach:</b> Reduce participation barriers for both customers and contractors by providing an easy one-stop-shop experience.	✓	From the participants’ perspective, AFC First and Efficiency Maine combine to create a “one-stop-shop” approach .
<b>Contractors</b>		
<b>Invest in contractor training and building a strong contractor network:</b> Invest in contractor development and building a strong contractor network to ensure contractors can be successful program “ambassadors.”	✘	Efficiency Maine provides regular conference calls to inform contractors of program updates and provide tips on how to best utilize the program. However, outreach and formalized training fall short of successful practices.
<b>Require contractors to conform to industry standards:</b> Assure quality installations and customer satisfaction by requiring high levels of contractor qualification, e.g., BPI certification.	✓	PEAs are required to be BPI certified.
<b>Provide contractors with tools to market themselves and the program:</b> Provide contractors with marketing materials to give to customers that help explain the program and the benefits of home energy improvements.	(✓)	RVs and PEAs are provided basic materials to market the program, but no co-op advertising.

## 6. FINDINGS AND RECOMMENDATIONS

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### Level of Participation

Participation levels for Efficiency Maine's loan programs are below initial expectations. Through July 2012, 26% of the \$20.4 million BetterBuildings grant was lent or in the process of being lent out in PACE and PowerSaver loans. At current participation levels and trends, the PACE and PowerSaver loans may not utilize the full amount of the BetterBuildings funding by the end of the grant period. Efficiency Maine is pursuing additional strategies to deploy the BetterBuilding funds, including the Residential Direct Install Program.

From its launch in April 2011 to May 2012, 195 participants have received loans through the Efficiency Maine PACE Loan Program. The number of closed loans per month ranges from eight to 25 and has edged upward over time, but not significantly. Three-quarters of projects financed with a PACE loan include insulation, 53% include HVAC equipment, and 23% air sealing. Most homes install multiple measures, with a mean of 2.2 measures per home.

Over 100 contractor firms have participated in the program, either as PEA (40) or an RV (83), with 22 participating in both roles. RVs completed an average of 2.3 projects through May 2012 and PEAs completed an average of 2.6 in this time. However, approximately half of RVs and PEAs completed only one project as of May 2012.

Most of the recommendations in this section center on increasing the level of participation in the PACE and PowerSaver loan programs in support of Efficiency Maine's goal to maximize the delivery of the BetterBuildings grant funds to promote energy efficiency.

### Loan Terms and Eligibility Criteria

The loan terms and eligibility criteria of Efficiency Maine's PACE Loan Program are similar to those of comparable energy efficiency financing programs. Efficiency Maine provides PACE loan terms of 5, 10, or 15 years and a fixed interest rate of 4.99% APR. Participants may borrow between \$6,500 and \$15,000, up to 100% of their home equity. Notably, nearly half of participants borrow the maximum loan amount of \$15,000.

The high share of participants borrowing the maximum loan amount – as well as survey responses indicating that additional improvements were made outside the program because of the loan cap – suggests that some participants would likely seek a larger loan if available. The recent expansion of Efficiency Maine's loan portfolio to include PowerSaver, which offers wider loan ranges, should help to capture these additional savings and increase participation.

Approximately 47% of total applications were declined through August 2012. This rate is consistent with similar financing programs (typical rates range from 20% to 50%), although on the high side. According to Efficiency Maine program staff, declined applications are most often due to either a lack of sufficient home equity or a debt-to-income ratio above 45%.

Many PACE program drop-outs are interested in participating in the Trust's PowerSaver Program or the Direct Install Program. The level of interest varies with whether or not they had an audit (interest is higher for those who have not had an audit), and whether or not they already completed their projects (interest is higher for those who had not completed the project).

## **Recommendations**

- The current 4.99% APR interest rate is higher than competing mortgage rates, reducing the desirability of a PACE loan compared to a standard home equity loan. Efficiency Maine may consider offering interest rate enhancements such as buy downs to increase the attractiveness of PACE loans. This is a practice employed by many successful financing programs.
- Tiered interest rates can help promote and reward deeper energy retrofits, but this enhancement is generally more effective for mature programs seeking to maximize energy savings. (For newer programs, interest rate buy downs are a more effective way to increase program participation.) As the program matures, Efficiency Maine might wish to reassess the desirability of offering a tiered interest rate structure.
- Given the level of interest in the new PowerSaver and Direct Install Programs among drop-outs, Efficiency Maine may wish to follow up with these customers to capture them through these new offerings.

## **Loan Application Process**

Overall, participants report satisfaction with the program's loan application process. In many cases, program drop-outs provide similarly positive responses. Both groups find that it is easy to complete the application paperwork and provide the documentation required for the PACE loan. Of those that applied over the phone, the vast majority of PACE participants found the Efficiency Maine representative to be "very helpful." Similarly, nearly all participants found the AFC First representative who helped them to process and close the loan to be helpful. More than two-thirds of participants closed their loan within four weeks of the initial application, and nearly all are very satisfied or somewhat satisfied with the loan processing time.

More than a third of program drop-outs report that they experienced problems during the loan application process. Issues most commonly identified include the amount of paperwork and the length of the application process.

## **Recommendations**

- Consider implementing a "concierge" type service to assist customers through the loan application process. Some successful programs have used such an approach, which involves assigning an advisor to help the customer understand the program, complete the application, and provide technical guidance when needed.

## **Marketing and Outreach**

Efficiency Maine's broad, statewide energy efficiency marketing and the targeted marketing for the PACE Loan Program have resulted in high awareness of Efficiency Maine and its loan programs among Maine residents. Of non-participants aware of the Efficiency Maine loan portfolio, half learned about the program from newspaper, radio, or TV. Participants also learn about the loan programs through a contractor, Efficiency Maine's website, and word of mouth.

Both PEAs and RVs find that awareness of the program is fairly widespread, particularly among highly populated areas of the state. Contractors also promote the PACE Loan Program to virtually all of their customers.

While the program provides some contractor training for PEAs and RVs, it does not appear to be as structured as training offered for other financing programs, which require either one-time or regular

mandatory training and have detailed training materials. Almost 20% of participants were not satisfied with their PEA's ability to answer questions about the program, with some noting that the PEA seemed inexperienced with the program. This suggests that at least some PEAs might benefit from additional training.

### **Recommendations**

- Efficiency Maine might consider better coordination between its marketing efforts and contractors' marketing, such as cooperative advertising in newspapers.
- Consider developing a more comprehensive training program for PEAs and RVs to provide them with information about Efficiency Maine's loan products and their requirements. Efficiency Maine may consider leveraging similar contractor training activities offered by AFC First.

## **Home Energy Audit**

A home energy audit, completed by a PEA, is a requirement to qualify for a PACE loan. All participants had an audit, as well as 41% of program drop-outs and 19% of non-participants. Many participants and drop-outs had the audit conducted because it is required to qualify for a PACE loan. Nearly two-thirds of participants state that they were either not very likely or not at all likely to have an energy audit performed if it had not been part of the PACE Loan Program.

Participants and program drop-outs report general satisfaction with their PEA overall as well as with the quality of information in the audit report. There was some dissatisfaction with the Advisor's ability to answer questions about the PACE Loan Program.

### **Recommendations**

- The audit required by the program represents a significant up-front cost (up to 10%) to the participant and can be a barrier to participation. Efficiency Maine may consider providing a rebate for all or part of the cost of the audit. If it chooses to subsidize the full cost of the audit, it should be careful to do so only in instances in which participants achieve a certain level of savings.<sup>25</sup>

## **Home Improvements**

The program is achieving a good mix of home improvements, with insulation being the most commonly installed measure. However, 69% of PACE Loan participants report not making some of the improvements their Energy Advisor had recommended. There is evidence that some of these participants would have made additional improvements, if they had not been limited by the maximum loan amount of \$15,000.

Non-participating Maine residents indicate that there is demand for types of energy-related home improvements commonly installed through the PACE Loan Program. Approximately half are very likely to make home energy improvements in the next year, with most expecting to pay for these improvements through their own savings. About a third of non-participants would be interested in

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<sup>25</sup> Past experience with retrofit programs has long demonstrated the importance of participants contributing to the initial audit to at least some extent, in order to have "skin in the game."

purchasing and installing energy saving home improvements if they had access to a loan that could offer no money down and competitive interest rates.

### **Recommendations**

- Although participants typically make most of the improvements recommended by their Energy Advisor, the cap on the PACE loan amount improvements or the difficulty of making additional recommended improvements results in some potential savings left unrealized. Efficiency Maine should continue to promote its suite of financing options to meet all project sizes.
- Efficiency Maine may wish to bundle the loan offerings with rebate payments to ensure that participants follow through with the planned projects and are encouraged to achieve deeper energy savings. Offering a rebate would also remove an important barrier to participation (see discussion below).<sup>26</sup>

## **Barriers to Energy Efficiency and Program Participation**

The PACE and PowerSaver programs help remove two key barriers to saving energy: lack of knowledge (through the home energy audit) and first cost (by spreading the cost of the improvements over time). In addition, the introduction of the PowerSaver loan has addressed barriers to participation among residents in non-PACE municipalities and among those who seek loan amounts outside of the PACE range. However, the price of energy efficient equipment remains a key barrier for many households, particularly lower income ones.

Only 5% of non-participating Maine residents state that they are somewhat likely to apply for a loan through the PACE or PowerSaver programs in the next year (none are very likely, 37% are not very likely, and 58% are not at all likely). Of those that are not likely, the most commonly identified reasons for not applying include not planning on doing any home improvements and that their home is already efficient. Other commonly identified reasons for not participating or for dropping out of the program include unwillingness to take on higher debt loads, the loan qualification criteria, the interest rate being uncompetitive, and the cost of doing an energy audit. However, when asked more generally, a third of non-participants expressed an interest in “a loan to purchase and install energy saving home improvements that offered no money down and a competitive interest rate.”

### **Recommendations**

- To the extent allowed by the terms of the BetterBuildings grant, Efficiency Maine may consider creating enhancements to the PACE and PowerSaver programs to reduce barriers. These could include lowering the loans' interest rates through buy downs, subsidizing some or all of the cost of the energy audit, and providing rebates for some energy efficiency measures. These are practices employed by many successful financing programs.

## **Participant Satisfaction**

Overall, 97% of participants are satisfied with their participation in the PACE Loan Program (a rating of 7 to 10 on a 0 to 10 scale, with 0 meaning extremely dissatisfied and 10 meaning extremely satisfied). Confirming their general satisfaction, all surveyed participants would recommend the PACE Loan Program to their family and friends.

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<sup>26</sup> The Direct Install Program addresses this for insulation and air sealing by offering a rebate.

Sixteen percent of participants report that they experienced problems during their participation in the PACE Loan Program. The problems include issues with the contractor, inconsistent program information, poor quality of work, and having to pay out of pocket before being reimbursed for the loan.

**Recommendations**

- Despite their general high satisfaction with the PACE Loan Program, participants and drop-outs provide a number of recommendations to improve the program. These include improving program communication and providing more consistent information, providing higher loans and lower interest rates, and reducing program requirements and paperwork.

# APPENDIX A: SURVEY DISPOSITIONS AND RESPONSE RATES

Table A-1 presents the final disposition for the participant, drop-out, and non-participant surveys. The response rates were 40% for the participant survey, 29% for the drop-out survey, and 8% for the non-participant survey (computed as the number of completed interviews divided by the number of eligible respondents). The cooperation rates for the three surveys were 75%, 62%, and 19%, respectively (computed as the number of completed interviews divided by the total number of eligible sample units actually contacted).

**Table A-1. Participant Survey Disposition**

<b>Disposition</b>	<b>Participants</b>	<b>Drop-outs</b>	<b>Non-Participants</b>
Completed Interviews (I)	62	56	100
Eligible Non-Interviews			
Refusals (R)	19	33	419
Mid-Interview terminate (R)	2	2	12
Respondent never available (NC)	29	37	141
Language Problem (NC)	0	0	7
Not Eligible (e)			
Fax/Data Line	0	0	131
Duplicate Number	0	1	1
Non-Working	6	5	169
Wrong Number	1	2	9
Business, government office, other organization	0	2	138
No eligible respondent	0	11	15
Unknown Eligibility Non-Interview (U)			
Not Dialed/Worked	0	0	0
No Answer	23	43	627
Answering Machine	22	36	217
Busy	0	0	13
Call Blocking	1	0	8
<b>Total Contacts in Sample</b>	<b>165</b>	<b>228</b>	<b>2007</b>
<b>Response Rate</b>	<b>40%</b>	<b>29%</b>	<b>8%</b>
<b>Cooperation Rate</b>	<b>75%</b>	<b>62%</b>	<b>19%</b>

Source: Opinion Dynamics CATI Call Center.

The survey response rate is the number of completed interviews divided by the total number of potentially eligible respondents in the sample. We calculated the response rate using the standards and formulas set forth by the American Association for Public Opinion Research (AAPOR).<sup>27</sup> For various reasons, we were unable to determine the eligibility of all sample units through the survey process and chose to use AAPOR Response Rate 3 (RR3). RR3 includes an estimate of eligibility for these unknown sample units. The formulas used to calculate RR3 are presented below. The definitions of the letters used in the formulas are displayed in the table above.

$$E = (I + R + NC) / (I + R + NC + e)$$

<sup>27</sup> Standard Definitions: Final Dispositions of Case Codes and Outcome Rates for Surveys, AAPOR, 2009. [http://www.aapor.org/Standard\\_Definitions/1818.htm](http://www.aapor.org/Standard_Definitions/1818.htm)

Where “E” is the percentage of respondents with whom we have made contact that is eligible.

$$RR3 = I / ((I + R + NC) + (E*U))$$

The cooperation rate is the number of completed interviews divided by the total number of eligible sample units actually contacted. In essence, the cooperation rate gives the percentage of participants who completed an interview out of all of the participants with whom we actually spoke. We used AAPOR Cooperation Rate 1 (COOP1), the formula for which is shown below. The definitions of the letters used in the formulas are displayed in the table above.

$$COOP1 = I / (I + R)$$