

Final Report

Process Evaluation of the Savings Within Reach On-Bill Repayment Loan Pilot

March 25, 2016

## **Final Report**

# Process Evaluation of the Savings Within Reach On-Bill Repayment Loan Pilot

March 25, 2016

Funded By:

**Energy Trust of Oregon** 

Prepared By:

Research Into Action, Inc.

# $\textbf{research} \rangle \textbf{into} \rangle \textbf{action}^*$

www.researchintoaction.com

PO Box 12312 Portland, OR 97212

3934 NE Martin Luther King Jr. Blvd., Suite 300 Portland, OR 97212  $\,$ 

Phone: 503.287.9136 Fax: 503.281.7375

Contact:

Jane S. Peters, President

Jane.Peters@researchintoaction.com

# **Table of Contents**

Εx	recutive Summary	l
	Key Findings	
	Conclusions and Recommendations	
1	Introduction	1
•	1.1. Program Description	
	1.1.1. Actors Involved in Program Delivery	
	1.1.2. Participation Process	
	1.2. Research Objectives	
2.	Methodology	5
	2.1. Pilot Documentation, Pilot Data and Industry Literature Review	
	2.1.1. Pilot Data	
	2.1.2. Pilot Documentation and Industry Literature	6
	2.2. Program Administration, Implementation and Delivery Staff Interviews	6
	2.3. Participant and Partial Participant Surveys	7
	2.4. Participating Trade Ally Interviews	8
3.	Key Findings	9
	3.1. SWR OBR Loans Allow Participants to Complete Projects That Would Not Occur Otherwise	9
	3.2. The OBR Loan Product Is Appealing to Moderate Income Households and to Trade Allies	10
	3.3. Loan Uptake Was Slower than Expected	11
	3.4. Difficulty Navigating Pilot Processes Was a Key Driver of Low Uptake	
	3.5. Beyond Pilot Processes, There Are Challenges Inherent in Providing Financing to Moderate-Income Homeowners	
	3.6. The Pilot Has Taken Steps to Address Many of the Issues That Led to Slow Uptake	
4.	Conclusions and Recommendations	21
Αŗ	ppendices	24
Αŗ	ppendix A. Detailed Findings	A-1
•	A.1. Pilot Administration, Implementation, and Delivery Staff Interview Findings	

A.2. Literature	Review Findings	A-5
A.3. Database	Analysis	A-7
A.4. Trade All	y Interview Findings	A-16
A.5. Participar	nt Survey Findings	A-21
Appendix B.	Participant Survey Frequencies	B-1
B.1. Respond	ents	B-1
B.2. Loans		B-1
B.3. Program	Effectiveness	B-8
B.4. Conclusion	on	B-11
B.5. Demogra	phics	B-14
Appendix C.	Summary of Loan Closing Documents	C-1
Appendix D.	Data Collection Instruments	D-1
D.1. Trade All	y In-Depth Interview Guide	D-1
D.2. Participar	nt Survey Guide	D-4
List of Table	S	
Table ES-1: Prima	ary Data Collection Activities	
	rison of Database Exports	
	m Administration, Implementation, and Delivery Staff Interviews	
	Populations and Sample Frames	
	Dispositions	
	t that Found OBR Loan Characteristics Appealing Among Those that	
• •	_oan	
	ns SWR Participants Did Not Use OBR Loans	
•	arison of Database Exports	
•	t Status	
	ge Loan Amounts	
	res Installed by OBR and Non-OBR Participants	
Table A-5: Numbe	er of Measures Installed in OBR and Other SWR Projects	A-11
•	arison of Average Measure Costs for OBR and Non-OBR Projects	
Table A-7: Primar	y Heat Source: Bill Change with OBR	A-12

Table A-8: SWR OBR Participation by Region	<del>،</del> -16
Table A-9: Percent that Found OBR Loan Characteristics Appealing – Among Those that Applied for OBR Loan	22
Table A-10: Percent that Agree with Statements Regarding Experience Applying for an OBR Loan – Among those that Applied for OBR Loan	·-22
Table B-1: OBR Participation	B-1
Table B-2: Reasons for Installing Upgrade	B-1
Table B-3: Installed Measure –Among Incomplete Participants	B-2
Table B-4: Reasons for Not Installing Measure – Incomplete Participants that Did Not Install Measure	B-2
Table B-5: How Completed Project Differed from Considered Project When Application was submitted – Among Incompletes that Did Install Measure	B-2
Table B-6: Received Energy Trust Incentive – Among Incomplete Participants that Installed a Measure	B-3
Table B-7: How Important were Energy Trust Incentives on a Scale from 1 'Not at All Importa to 5 'Very Important' – Among those that Reported Receiving an Incentive	
Table B-8: Aware of OBR Loans - Among Non-OBR Participants	B-3
Table B-9: How Customers Learned about OBR – Among Those Aware of OBR	B-3
Table B-10: What Contactors Say about OBR – Among Those that Heard about OBR from Contractors	B-4
Table B-11: Applied for SWR OBR Ioan – Among Non-OBR Participants and Incompletes Aware of OBR Ioans	B-4
Table B-12: Percent that Found OBR Loan Characteristics Appealing – Among Those that Applied for OBR Loan	B-5
Table B-13: What Else was Appealing about Loan – Among those that Applied for OBR Loan	B-5
Table B-14: What was Most Important in Decision to Apply for a Loan – Among those that Applied for OBR Loan	B-5
Table B-15: Percent that Agree with Statements Regarding Experience Applying for an OBR Loan– Among those that Applied for OBR Loan	B-6
Table B-16: Importance of OBR in Decision to Make Energy Upgrades – Among OBR Participants	B-6
Table B-17: How Project would have Differed without Loan – Among OBR Participants	B-6
Table B-18: How Participants would have Paid for Upgrades without Loan – Among OBR Participants that Still would have Done Project without OBR Loan	B-7
Table B-19: Why Customer chose not to Use OBR Loans – Among Incompletes and Non-OB Participants Aware of OBR Loans	
Table B-20: Payment Methods – Among Incompletes and Non-OBR Participants that Installed Measures	

Table B-21: Contractor Provided Estimate – Among OBR Participants and Incompletes	B-8
Table B-22: Bill Change Estimate – Among those that were provided an Estimate	. B-8
Table B-23: Influence of Bill Change Estimate – Among those that were provided an Estimate	. B-8
Table B-24: Why Rated Influence of Utility Bill Change Estimate as 4 or 5 in Decision to do Upgrade	. B-9
Table B-25: Why Rated Influence of Utility Bill Change Estimate as 1, 2 or 3 in Decision to do Upgrade	
Table B-26: Change in Bill since Completing Project – Among OBR Participants	B-9
Table B-27: Participants would Change their Project, Knowing what they Know Now - Among Past OBR Participants	
Table B-28: Changes Participants would Have Made to Project, Knowing What they Know Now – Among Past OBR Participants that would have Made Changes	3-10
Table B-29: What Participants would have Like to have known - Among Past OBR Participants	3-10
Table B-30: Other Offerings Customers would like to see	B-11
Table B-31: Would Consider OBR for Future Energy Upgrades	B-11
Table B-32: Why Customers Would Consider an OBR loan in the Future – Among those that would consider an OBR loan in the Future	
Table B-33: Why Customers Would NOT Consider an OBR Loan in the Future - Among thos that would NOT Consider an OBR loan in the Future	
Table B-34: What Would Make OBR More Appealing	3-12
Table B-35: Experience with Energy Trust	B-13
Table B-36: Housing Type	3-14
Table B-37: Ages in Household	B-14
Table B-38: Income	B-14
Table B-39: Home Ownership	B-15
Table B-40: Square Footage	B-15
Table C-1: SWR OBR Loan Closing Documents	. C-1
List of Figures	
Figure 1-1: Program Participation Flowchart	3
Figure 3-1: SWR OBR Loan Uptake over Time	12
Figure 3-2: Proportion of SWR Projects Using OBR Loans	13
Figure 3-3: Trade Allies Submitting SWR OBR Applications over Time	14

#### **Process Evaluation of the Savings Within Reach On-Bill Repayment Loan Pilot**

Figure 3-4: Awareness of OBR Loans among SWR Participants Not Using Loans	15
Figure 3-5: SWR OBR Participant Ratings of Loan Process Elements	17
Figure 3-6: SWR OBR Applications and Complete Projects over Time, by Utility	20
Figure A-1: Uptake of SWR and OBR Offerings over Time	A-9
Figure A-2: Anticipated Change in Heating Bill by Measure Installed	A-13
Figure A-3: Participation by Utility	A-14
Figure A-4: SWR OBR Applications and Complete Projects over Time, by Utility	A-15
Figure A-5: Boxplots Demonstrating Loan Amount Range by Utility and Primary Heat Source	A-15

# **Executive Summary**

This evaluation presents findings from a process evaluation of Energy Trust of Oregon's (Energy Trust's) Savings Within Reach (SWR) On-Bill Repayment (OBR) pilot. In April of 2014, Energy Trust added OBR loans to its SWR offering, which provides enhanced incentives for moderate-income households that install select energy efficiency measures. By making loans available to this population, Energy Trust sought to enable participants who could not otherwise pay the upfront costs to install energy efficiency measures, or allow existing participants to complete more comprehensive projects.

The SWR OBR pilot offers qualified participants loans at an interest rate of 5.99% to pay the costs of energy efficiency improvements after subtracting SWR incentives. Loans up to \$2,000 have a five-year term, while participants pay back loans between \$2,001 and the pilot's \$5,000 loan cap over ten years. Participants repay their loans as a line item on the monthly bill from the utility that provides their home's primary heating fuel. To increase the accessibility of the loans to moderate-income homeowners, the pilot uses an applicant's utility bill repayment history as a credit enhancement, providing greater flexibility in the use of traditional metrics like debt-to-income ratios and credit scores. Energy Trust subsidizes the cost of the loan application fee (\$150) and the loan origination fee (\$150); participants can apply for the loan and, if approved, install measures with no out of pocket costs.

This evaluation addressed a detailed list of research objectives probing the effectiveness of the pilot in facilitating projects that would not otherwise have occurred, the experience of pilot participants with the loan product and process, and overarching questions of drivers and barriers of financing uptake and the implications of pilot accomplishments for program design. Because the pilot experienced low uptake throughout the evaluation period, understanding the reasons for this limited uptake became a central focus of the research efforts.

Five data sources inform this evaluation: a review of pilot documents and industry literature; analysis of pilot measure installation and project tracking data; interviews with individuals involved in pilot administration, management, and delivery (pilot staff); interviews with trade allies; and surveys of SWR participants, including those using OBR loans, those not using OBR loans, and those who applied for, but did not receive, OBR loans; and interviews with trade allies offering SWR OBR loans. Table ES-1 summarizes the primary data collection efforts that contributed to this evaluation.

**Table ES-1: Primary Data Collection Activities** 

POPULATION	DATA COLLECTION METHOD	POPULATION SIZE	NUMBER OF RESPONDENTS
Pilot staff*	In-depth interviews	12	12
Trade allies	In-depth interviews	12**	9
SWR OBR participants	Survey	51	24
SWR OBR applicants***	Survey	32	16
SWR participants not using OBR loans	Survey	588	31

<sup>\*</sup> Includes staff of Energy Trust, CLEAResult, Craft3, Portland General Electric, Pacific Power, and NW Natural.

### **Key Findings**

Together, the data sources that inform this evaluation suggest six key findings regarding the accomplishments of the SWR OBR pilot. Pilot staff are aware of many of these findings and have taken steps to address some of the process challenges the pilot has faced. While it is too early to fully assess the influence of the changes pilot staff have made, recent data collection suggests an increase in both pilot uptake and satisfaction.

- SWR OBR loans allow participants to complete projects that would not otherwise occur. Pilot staff and trade allies reported the perception that many SWR OBR participants would not be able to complete their projects without the loan, and participant survey data support their assessment. Majorities of participants reported access to the loan was important in their decision to make an upgrade (71%), and they would not have completed a similarly comprehensive project if the loan had not been available (79%). Most OBR applicants who did not receive loans (67%) did not complete projects because they could not afford the upfront cost.
- The OBR loan product is appealing to moderate income households and to trade allies. More than 90% of SWR OBR participants and applicants reported they would consider an OBR loan for future upgrades. Participant and applicants found the ability to repay loans on their utility bills, the lack of fees or closing costs, and the fact that the loan did not require collateral as particularly appealing aspects of the loan product. Few SWR participants who did not use loans (17%) used some other financing mechanism to pay for their projects.
- > **Loan uptake was slower than expected.** Energy Trust designed the SWR OBR loan offering with capacity to make approximately 300 loans over an 18-month period. The pilot ultimately made 51 loans between May of 2014 and the end of 2015. Pilot activity was greatest in the second half of 2014, shortly after the pilot's launch. Activity in both the OBR pilot and the larger SWR program increased notably in the fourth quarter of 2015.

<sup>\*\*</sup> Trade allies that had submitted SWR OBR applications between April 2014 and August 2015.

<sup>\*\*\*</sup> Participants with status of "Abandoned" and "Did Not Qualify."

- Participants' and trade allies' difficulty navigating pilot processes was a key driver of low uptake. Trade allies in particular described the loan process as difficult; their challenges with the process made them less likely to recommend OBR loans and thus limited uptake. Pilot staff and trade allies reported that the need for participants to complete and return loan closing documents was the most challenging part of the process. Trade allies reported some participants needed a great deal of support in the lending process, but communication challenges made it difficult to provide that support. Trade allies reported they, and their customers, were not always aware of the status of a participant's loan application, including which documents the lender had received and which were missing. Indicating that the pilot addressed some of these challenges through its continuous improvement efforts, participant satisfaction with the lender increased over time.
- Beyond pilot processes, there are challenges inherent in providing financing to moderate-income homeowners. These challenges include the relatively small, targeted nature of the moderate-income homeowner population. In addition, moderate-income homeowners can be difficult to identify. Moderate-income homeowners may not reach out for other income-qualified services, and a majority of the interviewed trade allies (five of eight) reported it is difficult to ask a customer about their income, expressing concern about offending customers with questions that are too personal. Finally, some moderate-income homeowners are reluctant to take on debt and others may identify a way to pay for a project before they contact a contractor.
- The pilot has taken steps to address many of the issues that led to slow uptake. To increase uptake of SWR incentives and OBR loans, the pilot staff increased the maximum income threshold, increasing the number of households eligible for SWR. In addition, NW Natural required that, as of March 2016, trade allies must be eligible to offer SWR OBR loans in order to be part of NW Natural's preferred contractor network. To facilitate program processes, Craft3 began offering participants an option to sign loan documents electronically, and program staff described efforts to establish a project tracking portal to improve communication and identify participants that get stuck in the process. As noted above, loan uptake increased in the fourth quarter of 2015 and participant and trade ally data indicate an improvement in the ease of program processes resulting from these efforts and other steps Energy Trust and its partners have taken as part of their continuous improvement efforts.

#### Conclusions and Recommendations

From these key findings, we draw three conclusions and make associated recommendations.

**Conclusion 1:** Over the evaluation period, the organizations implementing the pilot recognized the challenges that were slowing loan uptake and took steps to resolve them.

Staff within all of the organizations implementing the pilot took steps to reduce the complexity of program processes and increase program uptake. Efforts to facilitate program processes ranged from a general focus on improving communication and customer service, to broader

changes like Craft3's adoption of electronic loan document signing capabilities. Efforts to increase uptake included expanding the income eligibility criteria and NW Natural's requirement that its preferred trade allies become eligible to offer SWR OBR loans. Evaluation data show that these efforts are having some effect; loan uptake and contractor participation increased in the last quarter of 2015 and participant and contractor data suggest that processes improved over time. However, these are early findings; many of the most significant changes had not yet fully taken effect at the time of this evaluation.

- Recommendation 1: Continue to monitor loan uptake, contractor engagement, and participant satisfaction to gauge the effectiveness of the steps taken. It is important for Energy Trust to ensure that the steps it has taken and plans to take are effective, particularly as participation increases.
- Process. Energy Trust and Craft3 could review the loan processes that programs offering loans to moderate-income households for energy efficiency upgrades in other parts of the country use to identify any feasible opportunities to simplify the SWR OBR process. For example, the Solar and Energy Loan Fund in Florida and California's Residential Energy Efficiency Loan Assistance Program, which is one of several financing pilots under development in the state, both explicitly seek to reach moderate income households, although they are open to others. Further research may identify additional programs with experience applicable to SWR OBR.
- Recommendation 3: Specifically review the role the Uniform Commercial Code-1 (UCC-1) filing has in delays and incomplete participation, as well as its actual value to the lender.¹ Assess whether the value of UCC-1 offsets its liability to the program and what alternatives exist to ensure that all parties are notified in the event of a home sale.

**Conclusion 2:** Trade allies can play a valuable role in supporting participants through the loan process.

Trade allies work closely with participants to scope and complete the project, and benefit when participants complete the loan process quickly. Therefore, it appears that trade allies are well positioned to assist participants with the loan process. However, the pilot's current process, in which participants work directly with the lender to complete the loan process, may limit trade allies' perception of their ability to support participants through the process. While the few trade allies that have completed the largest volume of SWR OBR projects have found ways to assist participants with the loan process, others lamented the complexity of the process while reporting little opportunity to help participants.

Recommendation 4: Expand trade ally training to walk trade allies through the loan requirements and processes and encourage them to offer to assist participants. A more detailed understanding of the loan process will help trade allies better prepare

As discussed below (Section 1.1.2), SWR OBR loans include a Uniform Commercial Code-1 (UCC-1) filing. While this filing places a lien on the energy efficient equipment a participant installs, its primary purpose in the SWR OBR program is to alert all parties involved, including Craft3, if the borrower sells their home.

participants to complete the process when they are discussing the loan initially. It will also prepare trade allies to take a more active role in the process, allowing them to explain requirements to participants and address participants' concerns. Encouraging trade ally sales and administrative staff to attend training, in addition to field staff, will also help trade allies better serve participants.

Recommendation 5: Develop a tool to improve tracking and communication of project status. An effective project tracking tool will help trade allies and others involved in delivering the program identify projects that have gotten stuck at some point in the process and follow-up with those participants to address any concerns that are preventing the participants from moving forward.

**Conclusion 3:** There are drawbacks to a reliance on trade allies to inform potential participants of the availability of SWR OBR loans.

The SWR OBR pilot faces two challenges that stem from a reliance on trade allies to inform participants about the loan offering. First, some trade allies fear their customers will find questions about their income too personal and so have difficulty promoting both SWR incentives and OBR loans. Trade allies reported looking for cues that a customer might be eligible for SWR, but this approach may lead to missed opportunities to promote the program to some eligible customers.

Second, moderate-income customers that have identified a project they would like to complete may not contact a contractor if they do not believe they can afford it, and thus lose the opportunity to be informed of the pilot from a contractor. Participant survey data provide some evidence this is occurring. SWR participants that were aware of loans, but did not use them, most often reported they had the cash to pay for their project; relatively few reported using some other financing mechanism. These findings suggest that potential participants who could benefit from an SWR OBR loan may not be aware the offering is available.

Recommendation 6: Directly inform potential participants about the availability of SWR OBR loans. Energy Trust could do this through targeted approaches like mailings, utility bill inserts, and social media. This type of outreach might bring participants into the program who do not otherwise believe they could afford an upgrade, and facilitate trade allies' conversations with participants' by allowing the trade allies to reference a message with which the participant may already be familiar.



### **MEMO**

**Date:** May 5, 2016

To: Board of Directors

From: Mark Wyman, Program Manager, Residential

Andrew Shepard, Sr. Project Manager, Residential Sarah Castor, Evaluation Sr. Project Manager

**Subject:** Staff response to the Savings Within Reach On-Bill Repayment Pilot Evaluation

In launching the Savings Within Reach On-Bill Repayment (SWR OBR) Pilot in 2014, Energy Trust's goal was to expand participation by moderate income customers who faced capital constraints when considering an energy efficiency upgrade.

The results of the evaluation show that the loan product has enabled energy efficiency projects that would not otherwise have occurred. Energy Trust and CLEAResult staff have been conscientious about making changes to processes throughout the pilot to improve customer and trade ally experience. Most participants reported that they were satisfied with their experience with the lender and more than 90% would consider SWR OBR for future energy efficiency projects.

Energy Trust plans to continue to support SWR OBR loans. Residential program staff plan to monitor loan uptake and explore opportunities for expanding participation. Staff are also interested in, and will explore the opportunity for, a web portal or other mechanism to enhance communications between Energy Trust, the lender and trade allies.

## 1. Introduction

Since 2010, Energy Trust of Oregon (Energy Trust) has offered the Savings Within Reach (SWR) offering to provide enhanced incentives to help moderate-income participants increase the energy efficiency of their homes. In 2014, Energy Trust added a financing component to the offering as a pilot, providing participants loans to cover the portion of energy upgrade costs not covered by incentives, so that participants would have no out-of-pocket expenses. Participants' loan payments appear as a line item on the utility bill for the fuel they use to heat their home. This report presents findings from a process evaluation of the on-bill repayment (OBR) pilot component of SWR.

### 1.1. Program Description

Energy Trust developed the SWR OBR pilot to complement the existing SWR incentives for moderate-income households, anticipating that, by eliminating upfront costs, homeowners who would not otherwise be able to do so could make energy efficiency upgrades. Energy Trust initially defined moderate-income as households with incomes between 200% and 265% of the federal poverty level. As of September 1, 2015, Energy Trust increased the upper bound of income eligibility to 120% of statewide median income. Qualified SWR participants who own their homes are eligible to receive an on-bill repayment loan to cover the costs of energy-efficiency improvements after subtracting SWR incentives. Qualified improvements include ceiling, wall, and floor insulation, (ducted) heat pumps, ductless heat pumps, heat pump commissioning, and gas furnaces.

In designing the SWR OBR loans, Energy Trust sought to create a loan product that would be accessible to SWR participants and would be more attractive than other financing options available. Participants can receive loans of up to \$5,000 at an interest rate of 5.99% to help cover the costs of energy-efficiency improvements. Loans up to \$2,000 have a five-year term, while participants pay back loans of \$2,001 to \$5,000 over ten years. Participants repay their loans as a line item on the monthly bill from the utility that provides their home's primary heating fuel source.<sup>2</sup>

Energy Trust subsidizes the cost of the loan application fee (\$150) and the loan origination fee (\$150), enabling participants to make energy upgrades with no up-front cost. Participants are not subject to any penalties for early repayment, but must make any additional principal payments directly to Craft3, the program's lending partner, rather than through their utility bill payment.

-

The pilot launched before all of the utility participation agreements were in place. Participants who completed SWR OBR projects before their utility's participation agreement was in place repaid their loans directly to Craft3 until the agreement was finalized. When a utility completed a participation agreement, its customers that already had SWR OBR loans began making payments on their utility bills.

#### 1.1.1. Actors Involved in Program Delivery

In addition to Energy Trust, four key actors are involved in program delivery:

- Trade ally contractors complete upgrade work and serve as the program's primary marketing vehicle. Energy Trust offers a training course that trade allies must attend to become eligible to offer SWR incentives. Once they are eligible to offer SWR incentives, trade allies must attend a second pilot-provided training to become eligible to offer SWR OBR loans.
- CLEAResult assisted Energy Trust with the pilot's development and manages the day-to-day implementation of the pilot, including contractor training and qualification, and processing applications and incentives.
- Craft3 reviews loan applications for credit-worthiness and provides a portion of the loan capital, supported by Energy Trust's credit enhancements, including a loan loss reserve and subordinate capital.
- Participating utilities (Portland General Electric [PGE], Pacific Power, and NW Natural) collect monthly loan payments from participants and send them to Craft3.

#### 1.1.2. Participation Process

The SWR OBR participation process differs from the standard SWR participation process in that CLEAResult must pre-approve the upgrade's scope of work and Craft3 must approve the participant for financing before upgrades are installed. The flowchart provided in Figure 1-1 outlines the process.

Trade allies assist customers in this process. The pilot provides trade allies with a Bill Impact Estimator tool to use when scoping the project and discussing the loan offering. The tool provides an estimate of the energy savings a project is likely to achieve, the monthly loan payment amount, and the net impact the customer will likely see on the monthly energy bill. Once customers have agreed on a scope of work, trade allies complete and customers sign the SWR Incentive Application, detailing the upgrade scope of work and providing income verification. CLEAResult reviews the form to verify the upgrade and income meet program requirements, and then lets the trade ally know if the applicant qualifies.

Prior to installing measures, participants must also complete the Craft3 loan application, be approved for financing, and complete and return the documents required to close their loans. Craft3 evaluates participants' eligibility for financing using a combination of the participant's utility bill payment history and credit scores. The pilot does not require participants to use their homes as collateral for the loans, although Craft3 files a Uniform Commercial Code-1 (UCC-1) lien as part of the lending process. This lien covers the equipment installed, and Craft3 files it to ensure that all parties are informed of the loan if the borrower sells their home. If the customer's loan application is approved, the customer signs the loan documents and work can begin. Once the project is completed, the trade ally submits the final invoice to CLEAResult, which provides it to Craft3 and Energy Trust. Craft3 communicates with the utility to begin the on-bill repayment process.

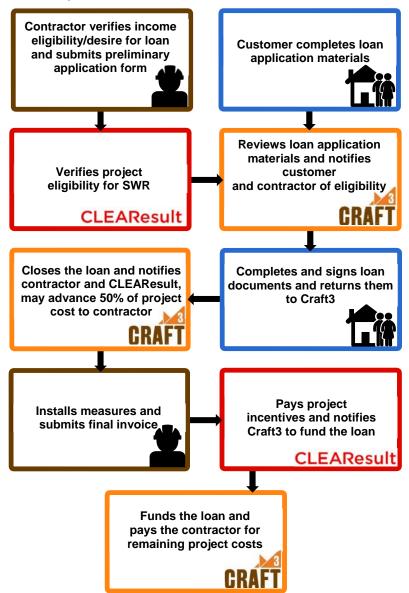


Figure 1-1: Program Participation Flowchart

### 1.2. Research Objectives

This evaluation sought to address 11 research objectives, falling into three broad categories:

- > Program Effectiveness
  - Is the financing product attracting projects or savings that would not otherwise occur? Is it causing projects to happen sooner than would have occurred without financing?
  - What is the net impact (loan payment minus energy cost savings) on energy bills for customers? What are customers' perceptions of the impact on their energy bills?
  - How do the pilot project costs by measure type differ from non-pilot SWR projects?

• What is the rate of default or arrearage for this financing pilot and how does it compare to others?

#### ) Participant Experience

- To what extent do customers understand the financing offer and process as explained by trade allies?
- Are customers obtaining from the pilot terms that are more favorable compared with other types of financing available to them?
- How did the Bill Impact Estimator influence customer decision-making (understanding, usefulness, influence)? To what extent are participants willing to move forward with projects with a neutral or negative bill impact?
- Are customers satisfied with the financing offer and their experiences with the process (consider requirements and UCC lien)? Are participating trade allies satisfied with the offer and process?
- What proportion of applicants are denied financing and what are the most common reasons for denial?

#### ) Overarching

- What factors, if any, limit the appeal and uptake of OBR among eligible customers?
- What are the implications of the pilot accomplishments for SWR program design? Should the pilot become a standard offering, be changed, or discontinued?

While data collected for this evaluation address each of these researchable issues, the pilot experienced lower-than-expected uptake throughout the evaluation period and understanding the reasons for this limited uptake became a central focus of the research efforts. The body of this report focuses on the causes of, and opportunities to address, the pilot's low uptake. Appendix A provides additional findings relevant to the wider range of research objectives.<sup>3</sup>

As data were collected through 2015, the evaluation team provided Energy Trust with quarterly memos detailing research findings to date. Appendix A, which follows a format similar to the memos, provided the complete research findings.

# Methodology

Four data sources inform this evaluation: a review of pilot documents and industry literature; interviews with individuals involved in pilot administration, management, and delivery; surveys of SWR participants, including those using OBR loans, those not using OBR loans, and those who applied for but did not receive OBR loans; and interviews with trade ally contractors offering SWR OBR loans. This section provides additional details on each data collection activity.

# 2.1. Pilot Documentation, Pilot Data and Industry Literature Review

Three types of secondary data informed this evaluation: pilot tracking data, pilot documentation, and energy-efficiency industry literature.

#### 2.1.1. Pilot Data

We analyzed the two mechanisms that track the SWR OBR pilot program:

- Project Tracking measure database, which provides data on the individual measures installed as part of all SWR projects. The export analyzed for this evaluation contains data on all SWR OBR projects recognized as of December 31, 2015, as well as SWR projects not using OBR loans with recognized dates from April 1, 2014 to December 31, 2015. Energy Trust and CLEAResult maintain this database.
- Project tracker spreadsheet, which contains only data on the SWR OBR projects. CLEAResult maintains this database, which tracks the 99 SWR projects that applied for OBR loans between March 2014 and January 2016.

The project tracker spreadsheet includes project-level data such as installation costs, loan amounts, payments, and estimated bill impacts. The project tracker documents completed projects as well as abandoned projects, projects in progress, and those that did not qualify for a loan. In contrast, the measure database includes only completed projects, and includes all SWR projects, not just those using OBR loans (Table 2-1).

OBR projects in the measure database have recognized dates from May 8, 2014 to present. Recognized dates are distinct from installed dates, and reflect the date a record was added to Energy Trust's database. Energy Trust completed agreements with all the participating utilities to service loans on-bill in September 2014. Prior to that time, participants repaid loans directly to Craft3.

**Table 2-1: Comparison of Database Exports** 

CONTENT TYPE	MEASURE DATABASE	PROJECT TRACKER
Number of Projects	650	99
Includes incomplete projects	No	Yes
Includes SWR projects not using OBR loans	Yes	No

The measure database includes records for 862 installed measures across 650 individual projects. Fifty-one of the 650 projects used OBR loans; the other 599 did not.<sup>5</sup> The project tracker spreadsheet is consistent with the measure database in its listing of the 51 complete SWR OBR projects that were recognized as of December 31, 2015. The project tracker spreadsheet also lists two SWR OBR projects as complete that were received in late December 2015 and not recorded in the measure database as of December 31.

#### 2.1.2. Pilot Documentation and Industry Literature

In order to ensure we had a complete understanding of the SWR OBR pilot, we reviewed relevant pilot documentation. This documentation included SWR OBR marketing materials, loan application and closing documents, and documentation related to proposed program policies and changes. In addition to program documents, we reviewed broader energy efficiency industry literature related to OBR programs. In order to place the experience of the SWR OBR program in context, this review focused on the outcomes of OBR programs, in particular their rates of uptake and loan default. A complete reference list is included at the end of this report.

# 2.2. Program Administration, Implementation and Delivery Staff Interviews

To further build our understanding of the SWR OBR pilot and stay abreast of changes to the pilot, we conducted in-depth interviews with staff involved with the pilot at Energy Trust, CLEAResult, Craft3, and participating utilities. These interviews addressed details of pilot design and delivery, respondents' thoughts on pilot outcomes, and any planned or desired changes to pilot offerings. We interviewed Energy Trust, CLEAResult, and Craft3 staff twice: first in April 2015, shortly after evaluation activities began, and again in November 2015. We interviewed utility staff only once, in April 2015. Table 2-2 lists the organizations represented in each round of interviews.

Our analyses excluded 251 line items from the measure database because they were not directly related to the installation of physical measures. These line items were related to loans, fees, and promotional incentives. Additionally, 178 Blower Door Tests were completed (10 for OBR and 168 for Non-OBR) that were not included in the analysis because they do not directly result in energy savings.

Table 2-2: Program Administration, Implementation, and Delivery Staff Interviews

ORGANIZATION		INDIVIDUALS INTERVIEWED		
		April 2015	November 2015	
Energy Trust		3	2	
CLEAResult		2	2	
Craft3		2	1	
Participating Utilities	PGE	1		
	Pacific Power	3		
	NW Natural	1		

### 2.3. Participant and Partial Participant Surveys

We conducted telephone surveys with three groups of participants and partial participants:

- > **SWR OBR participants:** Individuals who participated in the SWR program and received an OBR loan to pay for their projects. These surveys sought to understand participants' motivations for pursuing a loan and their experiences with the pilot.
- SWR OBR Applicants: Individuals who applied for an SWR OBR loan, but did not ultimately receive a loan. These surveys sought to understand these contacts' motivations for pursuing a loan, their reasons for not moving forward with a loan, and what types of projects, if any, they did in the absence of the loan.
- Non-OBR SWR participants: Individuals who participated in the SWR pilot and worked with a contractor eligible to offer SWR OBR loans, but did not apply for or receive a loan. These surveys sought to understand the factors that led these participants to not pursue an SWR OBR loan.

In interviewing SWR OBR participants, we limited our sample to those who had completed their projects after September 1, 2014, when all of the utility participation agreements were in place. Participants who completed projects before their utility's participation agreement was in place were not able to make their initial loan payments through their utility bills. As a result, their experiences with the pilot may not accurately reflect that of subsequent participants who were able to repay their loans on their utility bills from the first payment. Eleven of the 51 SWR OBR projects recognized by December 31, 2015 were completed prior to September 1, 2014, and thus were not included in our sample frame. We also excluded from our sample frame a small number of the records in Energy Trust's database that did not include a phone number.

To obtain our sample of SWR participants not using OBR loans, we randomly selected a sample frame of 90 participants from the 308 records in Energy Trust's database for which phone

Because some utilities completed their participation agreements sooner than others, some participants were able to repay loans on their utility bills prior to September 1, 2014. In order to simplify sampling, we used September 1, 2014 as a cut-off because, as of that date, all participation agreements were in place.

numbers were available. Table 2-3 summarizes the population sizes, sampling frames, and completed surveys for all three surveyed groups.

**Table 2-3: Survey Populations and Sample Frames** 

GROUP	POPULATION SIZE	SAMPLE FRAME	COMPLETE SURVEYS
SWR OBR Participants	51	37 <sup>a,b</sup>	24
SWR OBR Applicants	33°	28 <sup>b</sup>	16
SWR Participants not using OBR loans	588 <sup>d</sup>	90 <sup>e</sup>	31

- <sup>a</sup> Excludes projects completed prior to 9/1/2014.
- <sup>b</sup> Excludes records for which no phone number was available.
- c Includes one participant with status listed as "Active" in the tracker. The participant confirmed her project was incomplete.
- <sup>d</sup> Twelve households completed multiple projects, for a total of 599 non-OBR projects in the database.
- <sup>e</sup> Sample frame randomly selected from among 308 records with phone numbers available.

We contacted all the SWR OBR participants and applicants in our sample frame and were able to complete surveys with majorities of both groups. In coordination with Energy Trust, we set a quota of 30 complete surveys with SWR participants not using OBR loans. Table 2-4 provides the disposition of our survey efforts.

**Table 2-4: Survey Dispositions** 

DISPOSITION	SWR OBR PARTICIPANTS	SWR OBR APPLICANTS	NON-OBR SWR PARTICIPANTS
Complete surveys	24	16	31
Bad/wrong numbers	5	8	2
Refusals	2	2	1
Contact not reached	6	2	40
Not attempted before quota filled	N/A	N/A	16
Total	37	28	90

### 2.4. Participating Trade Ally Interviews

Trade ally contractors are the primary vehicle by which homeowners learn about the SWR OBR loan offering. Given this central role in pilot delivery, we conducted interviews with trade allies to understand their experiences with the loan offering and obtain any feedback that the trade allies or their customers had about the offering. We interviewed trade allies in the late summer and fall of 2015. At that time, 13 trade allies had submitted at least one SWR OBR loan application and 12 had completed at least one project. We reached out to all of the trade allies that had completed at least one project using a SWR OBR loan and ultimately completed interviews with 9 of the 12. Two trade allies were responsible for considerably more SWR OBR applications than any other individual trade ally. We completed interviews with both of these trade allies.

# 3. Key Findings

This chapter presents key findings drawn from each of the data collection activities that inform this evaluation. These findings address the value of SWR OBR loans to participants, loan uptake, the participation process, and recent changes to pilot processes. This chapter focuses on the findings that are most relevant to an understanding of pilot outcomes to date and the potential for future pilot success. Additional, detailed findings from each data collection activity are available in Appendix A.

In support of Energy Trust's continuous improvement efforts, this evaluation provided quarterly reports presenting findings as the team collected data throughout 2015. As a result, pilot staff are aware of many of the findings described below. While the interim quarterly reporting identified substantial process challenges, the pilot has adapted and recent data collection suggests an increase in both pilot uptake and satisfaction. This section presents a retrospective summary of the year of evaluation findings, documenting both the challenges the pilot faced and the steps Energy Trust and its partners took to address those challenges.

# 3.1. SWR OBR Loans Allow Participants to Complete Projects That Would Not Occur Otherwise

Energy Trust of Oregon developed the OBR pilot with the intention of providing resources to moderate-income residents for upgrading their homes' efficiency. Pilot staff and trade ally interview findings, as well as participant survey data, suggest that SWR OBR loans allowed participants who would not otherwise have been able to do so to make energy upgrades.

Pilot staff and trade allies reported that many participants using SWR OBR loans would not be able to complete projects without the loans. According to one Energy Trust staff member, the pilot is "helping households that wouldn't otherwise have the ability to commission upgrades. We're making those upgrades possible where they weren't before. So, that is a success, even if just a handful of households." Trade allies also stated that the loans provide access to financing for customers who would not be able to afford the upgrades on their own. The majority of interviewed trade allies (six of eight) reported that most or all of the customers that took on the OBR loans would not have been able to do the project otherwise. One contractor said, "All of them wouldn't have been able to do it [without the loan]. I think the ones that have gone through, wouldn't have had any other options."

Participant survey data support pilot staff members' and trade allies' assessment of the importance of the loan to the participants that used it. The majority of participants (71%) reported that the access to OBR was "very important" in their decision to do an upgrade. Without the loan, more than three-fourths (79%) of participants reported they would have reduced the scope of their project, delayed their project, or not been able to do a project at all. The experience of participants who applied for a loan but did not ultimately receive one further supports the importance of the loan to participants. Two-thirds of OBR applicants not receiving a loan did not

install measures, all of whom reported that, without a loan, they did not have the funds to pursue an upgrade.

Trade allies also stated that the SWR OBR loans provide access to financing for customers who do not qualify for more traditional financing options the trade allies offer. The SWR OBR loans include a review of an applicant's utility bill repayment history as a credit enhancement, allowing the lender to approve financing for borrowers who might not qualify based on traditional financial metrics like credit scores and debt-to-income ratios alone. Industry literature supports the assertion that this approach can expand access to financing. NYSERDA found that offering an option for loan underwriting that took a potential borrower's utility bill repayment history into account increased loan approvals by approximately 10%.<sup>7</sup>

# 3.2. The OBR Loan Product Is Appealing to Moderate Income Households and to Trade Allies

The great majority of SWR OBR participants (92%) and applicants who did not receive loans (93%) reported they would consider an OBR loan for future upgrades. SWR OBR participants and applicants reported that the ability to make loan payments on their utility bills, the lack of fees or closing costs, and lack of a requirement for collateral were all appealing aspects of the loans (Table 3-1). Open-ended responses elaborated on the convenience of on-bill repayment, with participants and applicants most often (33%) mentioning the convenience of the SWR OBR loan as an appealing factor. According to one SWR OBR participant, "I only had to make one payment, which is great because trying to remember all the other bills is hard. Now it's paid on time and I don't have to worry about it." Trade allies also most frequently (four of eight) mentioned convenience as a benefit SWR OBR loans offer for their customers.

Table 3-1: Percent that Found OBR Loan Characteristics Appealing Among Those that Applied for OBR Loan

LOAN CHARACTERISTIC	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 12)	TOTAL (N = 36)
Ability to make loan payments on utility bill	83%	83%	83%
Lack of fees or closing costs	92%	67%	83%
Loan did not require collateral	79%	83%	81%
Loan qualification requirements	65%	50%	60%
Interest rate	50%	58%	53%

Source: Q11, ratings of 4 or 5 on a scale from 1 "not at all appealing" to 5 "very appealing"

.

Zimring et al., "Financing Energy Improvements on Utility Bills: Market Updates and Key Program Design Considerations for Policymakers and Administrators."

SWR OBR participants and applicants found the loan offering's interest rate less appealing. Consistent with these ratings, participants (5 of 8) and applicants (4 of 9) who suggested ways the loan offering could be more appealing most often suggested offering a lower interest rate. Nonetheless, survey findings suggest that few SWR participants rejected OBR loans in favor of other financing products. SWR participants that did not use OBR loans were considerably more likely to report paying for their projects out-of-pocket (19 of 29, 66%), than using some other financing mechanism (5 of 29, 17%). Consistent with these findings, eight SWR OBR participants noted, in open-ended responses, that the SWR OBR loan was more affordable than the other financing options available to them. Two trade allies also mentioned lower interest rates, lower payments, and lower qualification barriers as aspects of the OBR loan product that appeal to customers and distinguish it from other loan products.

The interviewed trade allies stated that offering the SWR OBR loan product was beneficial for their customers, and thus beneficial for their business. All of the interviewed trade allies cited the ability to provide a needed service to their customers as a key motivator for their decision to offer SWR OBR loans. One of the interviewed trade allies described SWR OBR loans as "another great resource available to help community members." Two trade allies also mentioned that offering SWR OBR loans benefitted their business by distinguishing them from other contractors. According to one, "We felt it was important to be able to offer something a little bit different to set us apart from other contractors and help people who otherwise wouldn't be able to afford a heat pump system."

### 3.3. Loan Uptake Was Slower than Expected

Despite the value contractors and participants saw in SWR OBR loans, uptake of the loan offering was lower than Energy Trust expected. Energy Trust designed the SWR OBR pilot with capacity to make approximately 300 loans over the course of 18 months. The pilot ultimately made 51 loans between May of 2014 and the end of 2015. As Figure 3-1 suggests, pilot activity was greatest shortly after the loan offering became available. Activity was relatively low over the first three quarters of 2015 before increasing notably in the fourth quarter. Section 3.6 discusses likely contributors to this jump in activity at the end of 2015.

-

Other financing mechanisms include loans other than SWR OBR loans, credit cards, and contractor payment plans.

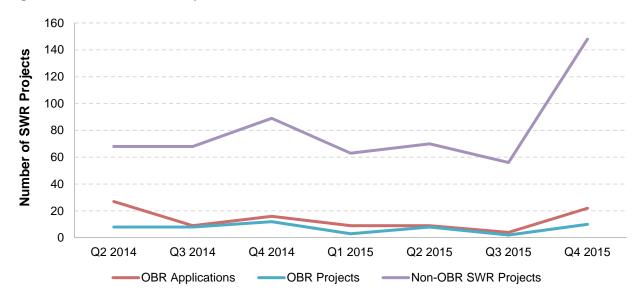


Figure 3-1: SWR OBR Loan Uptake over Time

Between May 2014 and the end of 2015, 8% of SWR participants used OBR loans. This level of uptake is somewhat lower than is typical for energy efficiency financing programs. Program administrators participating in the SEE Action Residential Retrofit Working Group reported that between 10% and 20% of participants typically use program-supported financing. Eighteen percent of residential participants in Better Buildings Neighborhood Program-funded programs that offered loans used them, although there was a great deal of variation between grantees (program administrators). For a majority (52%) of grantees that reported data on loan uptake, less than 10% of residential participants used loans, a finding consistent with the OBR pilot. 11

The proportion of SWR projects using loans was highest when the loan offering first became available and generally trended downward through the end of 2014 and most of 2015 (Figure 3-2). The proportion of projects using loans increased somewhat in the last two months of 2015, but an increase in the number of loans made in that quarter was offset by an even larger increase in the number of SWR projects overall.

-

State and Local Energy Efficiency Action Network Residential Retrofit Working Group, "Roadmap for the Home Energy Upgrade Market."

To reach its lending capacity, the SWR OBR offering would have had to significantly exceed these typical uptake rates. Given the number of non-OBR SWR projects that occured between May 2014 and the end of 2015, making 300 loans over that period would require an uptake rate of approximately 35%.

<sup>11</sup> Research Into Action, Inc., "Process Evaluation of the Better Buildings Neighborhood Program: Final Evaluation Volume 4."



Figure 3-2: Proportion of SWR Projects Using OBR Loans

The SWR OBR pilot's default rate was lower than is typical for unsecured consumer lending generally, and was consistent with the experience of other on-bill financing programs.<sup>12</sup> As of the end of November 2015, one loan had defaulted among the 47 projects complete at that time, for a default rate of 2.1%. This is consistent with the 2.15% default rate of NYSERDA's on-bill repayment loan offering, which also uses utility bill repayment history as a credit enhancement to increase access for moderate-income borrowers.<sup>13</sup> A SEE Action report that reviewed 20 residential on-bill financing programs found that the programs' default rates ranged from zero to three percent, with a median value of 0.08%.<sup>14</sup> Thus, the SWR OBR program is on the higher end of the range of programs SEE Action reviewed.

It is important to note that two factors limit the relevance of comparisons between the SWR OBR pilot's default rate and that of other on-bill financing programs. First, the pilot has made a relatively small volume of loans; as the pilot makes more loans, measurements of the default rate will become more reliable. Second, it is relatively early in the lifecycle of the loans. Borrowers have had relatively little experience making payments, and, in the few months since they began paying their loans, relatively few borrowers are likely to have experienced changes in their financial circumstances that would impact their ability to pay. As more SWR OBR loans are made and borrowers gain more experience paying off the loans, the default rate will become a more meaningful metric.

research into action"

<sup>12</sup> Zimring et al., "Financing Energy Improvements on Utility Bills: Market Updates and Key Program Design Considerations for Policymakers and Administrators."

Deason, "The Impact of On-Bill Programs on Loan Performance: Evidence from the Green Jobs, Green New York Program."

<sup>14</sup> Zimring et al., "Financing Energy Improvements on Utility Bills: Market Updates and Key Program Design Considerations for Policymakers and Administrators."

# 3.4. Difficulty Navigating Pilot Processes Was a Key Driver of Low Uptake

Trade allies, in particular, described the loan process as difficult; their challenges with the process made them less likely to recommend OBR loans and thus limited uptake. More than half of the interviewed trade allies (five of nine) reported they were not likely to continue to recommend SWR OBR loans, or had already stopped recommending them, because of the difficulty of the process. Trade allies reported that customer dissatisfaction with the loan process had the potential to damage their own reputations. For example, one trade ally said, "I'd rather direct [my customers] to a finance process that doesn't make them mad at me."

Pilot tracking data support trade allies' reports that they had stopped recommending SWR OBR loans. The number of trade allies submitting applications each quarter declined through the first half of 2015 even as new trade allies submitted applications each quarter (Figure 3-3). Six trade allies who had previously submitted applications, including three who had submitted multiple applications, did not do so in the second half of 2015. Four additional trade allies that had been active early in the SWR OBR pilot went more than six months without submitting applications before returning to the pilot late in 2015. That these trade allies returned to the pilot is a positive indication that changes in the loan process, described further in section 3.6, have helped to ease the process.

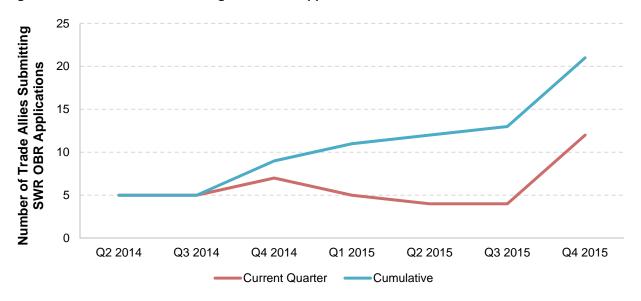


Figure 3-3: Trade Allies Submitting SWR OBR Applications over Time

Because trade allies are the primary delivery channel for SWR OBR loans, this loss of trade ally support could have had a substantial impact on loan awareness and uptake. Among the surveyed SWR participants who did not use OBR loans, those whose projects were installed in 2014 were more than twice as likely to be aware that loans were available than those whose projects were installed in 2015 (Figure 3-4).

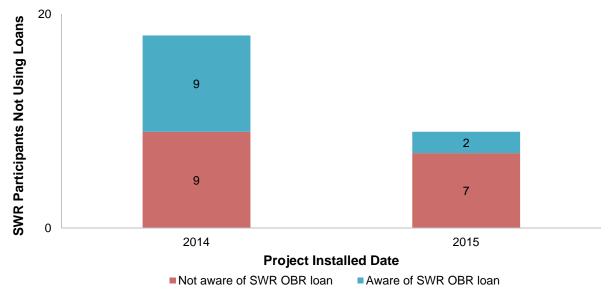


Figure 3-4: Awareness of OBR Loans among SWR Participants Not Using Loans (n=27)\*

The SWR OBR loan process occurs in two steps. First, a participant submits a loan application, which Craft3 reviews in conjunction with the participant's utility bill repayment history to determine their eligibility for the loan. Second, once Craft3 has determined that a participant qualifies for an SWR OBR loan, the participant must complete and return a packet of loan closing documents that Craft3 provides. Both pilot staff and contractors noted that contractors would like the initial loan approval to take place more quickly, although pilot staff stated that incorporating utility bill repayment history into underwriting decisions limited their ability to speed this process. Pilot staff reported that accessing a customer's utility bill payment history takes longer than accessing more traditional financial metrics like credit scores. As a result, while the pilot can approve SWR OBR loans in 24 hours, it cannot offer the type of nearly immediate underwriting decisions that one trade ally described receiving from other financing products they offer.

While the need to consider underwriting criteria in the underwriting process contributes to delays in the loan process, pilot staff and trade ally data suggest that the second step of the loan process – the need for the customer to complete and return loan closing documents – poses the greatest challenge for participants and contractors. As detailed in Appendix C, SWR OBR participants received a packet of 19 loan closing documents, 15 of which required participants to take some action. In total, participants had to provide 17 signatures, one set of initials, electronic contact information, if applicable, and a copy of their government-issued identification. Craft3 followed-up with participants to address any documents that were not properly completed and signed, but staff noted that contacting participants could be challenging. Approximately one-fourth (5 of 19) of the abandoned SWR OBR projects in the pilot tracking data represented participants who were unresponsive to the pilot's efforts to contact them.

Pilot staff and trade allies reported that some participants required a great deal of support in completing the loan closing documents. Craft3 encouraged participants in the Portland area to

<sup>\*</sup> Excludes 4 respondents who did not provide data on their awareness of the OBR loan offering.

come to its offices to complete the loan closing in person to ensure there were no errors. Trade allies also reported supporting participants in the loan closing, with one citing an example in which they had provided a translator to assist a customer who did not speak English because one was not available through the pilot. Another trade ally reported making staff available to assist customers with the documents and inviting participants to come to the contractor's office to use resources like computers, printers, and photocopy machines that they may not have at home.

Some trade allies reported that providing this level of support was inconvenient. According to one, "We had to make additional trips [compared to other financing offerings] to the customer because of the additional forms that need a signature or because [the customer] couldn't communicate." Trade allies also noted that, because participants work directly with Craft3 to apply for, and close, the loan, it could be difficult for the trade allies to assist their customers' with the lending process and track their progress. One trade ally noted that, while they were better able to walk customers through other financing programs, with SWR OBR loans they were "completely out of the picture once the customer is turned over to Craft3."

Trade allies reported that challenges in communicating with Craft3 compounded the difficulty of walking customers through the lending process. Two-thirds of the interviewed trade allies (six of nine) expressed frustration with their efforts to communicate with Craft3. Trade allies described situations in which Craft3 stated they had not received documents participants had returned, or had not effectively alerted participants and contractors that the documents a participant submitted were incomplete. Trade allies noted that, in some cases, participants had abandoned their SWR OBR projects due to complexity and communication challenges with the lending process. As detailed in section 3.6, Craft3 has made efforts to streamline the lending process, and one trade ally interviewed late in the evaluation period reported that the communication problems they had experienced early in the pilot had largely been resolved.

The surveyed participants generally expressed a more positive view of the loan process than did trade allies. Most of the surveyed participants gave high ratings to the elements of the lending process included in the survey (Figure 3-5). Nonetheless, notable minorities were less satisfied with each of the elements about which they were asked. In all, a majority of participants (13 of 24, 52%) gave a lower rating (providing a rating of three or less on a five point scale) to at least one element of the lending process. The greatest number of respondents indicated that the loan application itself was challenging, followed by the overall application process. Two of the surveyed incomplete participants reported they had chosen not to use the SWR OBR loan because the application process was too slow.

Pilot staff suggested that the UCC-1 filing Craft3 placed on participants' homes was one element of the loan process in particular that had potential to raise concerns for participants. Four participants and one incomplete participant expressed concern about the UCC-1 filing required for the SWR OBR loan. One of the participants expressed concern that the lien had negatively impacted their credit rating, and the incomplete participant cited the lien as one of the reasons they had decided not to move forward with the loan.

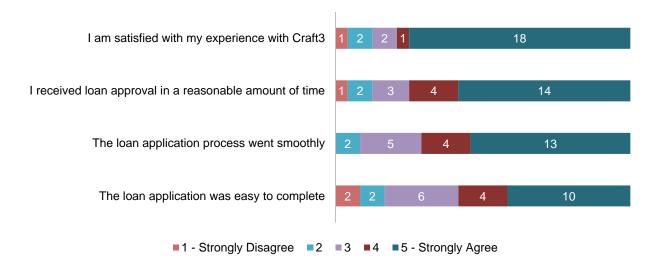


Figure 3-5: SWR OBR Participant Ratings of Loan Process Elements (n=24)

SWR OBR participants gave the highest ratings to their satisfaction with Craft3, although overall the ratings expressed moderate satisfaction. Notably, participants' and incomplete participants' satisfaction with Craft3 increased over time. Approximately 60% of the surveyed participants and incomplete participants (10 of 17, 59%) whose projects were installed in 2014 reported high satisfaction with Craft3 (rating four or five on a five-point scale). Among participants and incomplete participants whose projects were installed in 2015, more than 85% (14 of 16, 88%) reported high satisfaction with Craft3.<sup>15</sup>

# 3.5. Beyond Pilot Processes, There Are Challenges Inherent in Providing Financing to Moderate-Income Homeowners

While challenges with the loan process were an important driver of the low uptake the SWR OBR pilot experienced, pilot staff, trade ally, and participant data suggest additional challenges in delivering financing to a moderate-income population. First, pilot staff noted moderate-income homeowners are a relatively small group and can be difficult to identify. Under the income qualification requirements in effect prior to September 1, 2015, the SWR target population accounted for approximately 8% of owner-occupied single-family households in Oregon. The more inclusive guidelines in effect after September 1, 2015 increased the SWR target population to 18% of owner-occupied single-family households.<sup>16</sup>

In addition to representing a relatively small proportion of the population, homeowners qualifying as moderate-income can be difficult to identify. While an opportunity exists to inform

These figures exclude five incomplete participants whose projects were installed in 2014 and one whose project was installed in 2015 who were unable to provide ratings of their satisfaction with Craft3.

Based on 2010-2014 American Community Survey 5-year data. Figures include owner-occupied single family homes using electricity or natural gas as a primary heating fuel.

low income populations about available energy efficiency offerings when they pursue other social services, moderate-income populations are less likely to pursue social services. Instead, trade allies inform homeowners about SWR incentives and OBR loans. While trade allies described a variety of strategies they used to discuss the offerings, most (five of eight) of the interviewed trade allies reported it is difficult to ask a customer about their income. These trade allies were concerned that customers would perceive their questions as too personal and become offended.

Some trade allies reported listening for indications that a customer might find it difficult to pay for their project before bringing up the SWR OBR loans. Others reported providing information on SWR to all of their customers and asking only whether they qualified, rather than asking for more detailed information about the customer's income. According to this trade ally, "The way I present it to them is, 'I don't want to know what you're income is. I just want you to give me a yes or no, do you fall within these guidelines for your household.""

Pilot staff speculated that customers may not contact a trade ally until they have identified a way to pay for their project, and survey findings support this assertion. SWR participants who were aware of the offering but chose not to use an OBR loan most often reported they did not need the loan; they had funds available to pay for their projects (Table 3-2). In total, approximately two-thirds (19 of 31) of the surveyed SWR participants that did not use OBR loans reported paying for their projects out of pocket. It was considerably less common for SWR participants to use a financing option (including credit cards and contractor payment plans) other than the OBR loan.

Table 3-2: Reasons SWR Participants Did Not Use OBR Loans (n=31)

REASON FOR NOT USING SWR OBR LOAN	COUNT	PERCENT
Not aware of loan	16	52%
Did not need loan (had cash to pay for upgrade)	6	19%
Did not want to take on debt	5	16%
Interest rate too high	1	3%
Don't know/refused	3	10%

# 3.6. The Pilot Has Taken Steps to Address Many of the Issues That Led to Slow Uptake

Pilot staff recognized many of the challenges that the SWR OBR pilot faced and have taken steps to address those challenges. Staff at all of the organizations involved in pilot delivery described efforts to streamline processes, improve customer service, and increase outreach, training, and support for trade allies. As noted above, participant and trade ally data suggest these efforts have brought about improvements. Participant satisfaction with Craft3 increased over time, and trade allies who had been inactive for long periods returned to the pilot and reported that many of the communication challenges they had faced had been resolved.

In addition to these general efforts to streamline processes, pilot staff reported four larger changes designed to increase uptake and facilitate the loan process:

- > **Expanded income threshold:** As noted, beginning September 1, 2015, Energy Trust expanded the pilot's income qualification threshold. The expanded threshold more than doubled the estimated number of households that qualify for the pilot, from approximately 55,000 (8% of owner-occupied, single family households in Oregon) to approximately 125,000 (18% of owner-occupied single family households in Oregon).<sup>17</sup>
- NW Natural trade ally network requirements: Beginning in March, 2016, NW Natural will require that trade allies in its preferred contractor network are eligible to offer SWR OBR loans.
- Electronic loan document signing: Craft3 planned to offer by the end of 2015 an option for SWR OBR participants to sign loan documents electronically. In addition to eliminating the need for participants to print and return hard-copy documents, the system would include verification features to ensure that all of the documents were complete prior to submittal.
- Project tracking portal: Energy Trust staff are investigating options for a portal that would enable all of the organizations involved in delivering the pilot, as well as trade allies and participants, to monitor the status of projects as they move through the SWR OBR process.

Pilot tracking data suggests that two of these efforts – the expanded income threshold and change to NW Natural's trade ally network requirements – have begun to influence uptake of SWR OBR loans. As noted in Figure 3-1, there was a notable increase in uptake of SWR projects at the end of 2015; the number of SWR projects completed in the fourth quarter (148) was more than double the average uptake of the previous six quarters (69 projects per quarter). The number of SWR OBR projects also rose in the fourth quarter of 2015, although not as sharply as SWR uptake in general.

While much of this increase in uptake likely reflects the change in the pilot's income threshold, there is also evidence that the upcoming changes to NW Natural's trade ally network requirements influenced uptake. Twelve trade allies submitted applications for SWR OBR projects for the first time in the fourth quarter of 2015, nearly doubling (from 13 to 25) the number of trade allies participating in the pilot. In addition, the number of SWR OBR applications submitted for NW Natural customers increased sharply in the fourth quarter of 2015 (Figure 3-6).

Based on American Community Survey five-year estimates for 2010-2014. These figures include all Oregon households that use electricity or natural gas as their primary heating fuel; they are not limited to IOU customers served by Energy Trust. The previous income threshold was 265% of the federal poverty level. The new threshold is 120% of state median income, which is consistent with the moderate income used for affordable housing in Oregon.

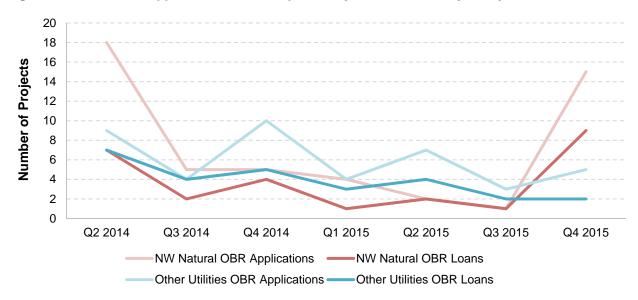


Figure 3-6: SWR OBR Applications and Complete Projects over Time, by Utility

# 4. Conclusions and Recommendations

As detailed in the previous chapter, six key findings emerged across the multiple data sources on which this evaluation draws:

- > SWR OBR loans allow participants to complete projects that would not occur otherwise.
- The SWR OBR loan product is appealing to moderate income households and trade allies.
- > Loan uptake was slower than expected.
- Difficulty navigating program processes was a key driver of low uptake.
- Beyond program processes, there are challenges inherent in providing financing to moderate-income homeowners.
- The pilot has taken steps to address many of the issues that led to slow uptake.

From these key findings, we draw three conclusions and make associated recommendations.

**Conclusion 1:** Over the evaluation period, the organizations implementing the pilot recognized the challenges that were slowing loan uptake and took steps to resolve them.

Staff within all of the organizations implementing the pilot took steps to reduce the complexity of program processes and increase program uptake. Efforts to facilitate program processes ranged from a general focus on improving communication and customer service, to broader changes like Craft3's adoption of electronic loan document signing capabilities. Efforts to increase uptake included expanding the income eligibility criteria and NW Natural's requirement that its preferred trade allies become eligible to offer SWR OBR loans. Evaluation data show that these efforts are having some effect; loan uptake and contractor participation increased in the last quarter of 2015 and participant and contractor data suggest that processes improved over time. However, these are early findings; many of the most significant changes had not yet fully taken effect at the time of this evaluation.

- Recommendation 1: Continue to monitor loan uptake, contractor engagement, and participant satisfaction to gauge the effectiveness of the steps taken. It is important for Energy Trust to ensure that the steps it has taken and plans to take are effective, particularly as participation increases.
- Recommendation 2: Investigate additional opportunities to simplify the loan process. Energy Trust and Craft3 could review the loan processes that programs offering loans to moderate-income households for energy efficiency upgrades in other parts of the country use to identify any feasible opportunities to simplify the SWR OBR process. For example, the Solar and Energy Loan Fund in Florida and California's Residential Energy Efficiency Loan Assistance Program, which is one of several financing pilots under development in the state, both explicitly seek to reach moderate income households,

- although they are open to others. Further research may identify additional programs with experience applicable to SWR OBR.
- Recommendation 3: Specifically review the role the UCC-1 filing has in delays and incomplete participation, as well as its actual value to the lender. Assess whether the value of UCC-1 offsets its liability to the program and what alternatives exist to ensure that all parties are notified in the event of a home sale.

**Conclusion 2:** Trade allies can play a valuable role in supporting participants through the loan process.

Trade allies work closely with participants to scope and complete the project, and benefit when participants complete the loan process quickly. Therefore, it appears that trade allies are well positioned to assist participants with the loan process. However, the pilot's current process, in which participants work directly with the lender to complete the loan process, may limit trade allies' perception of their ability to support participants through the process. While the few trade allies that have completed the largest volume of SWR OBR projects have found ways to assist participants with the loan process, others lamented the complexity of the process while reporting little opportunity to help participants.

- Recommendation 4: Expand trade ally training to walk trade allies through the loan requirements and processes and encourage them to offer to assist participants. A more detailed understanding of the loan process will help trade allies better prepare participants to complete the process when they are discussing the loan initially. It will also prepare trade allies to take a more active role in the process, allowing them to explain requirements to participants and address participants' concerns. Encouraging trade ally sales and administrative staff to attend training, in addition to field staff, will also help trade allies better serve participants.
- Recommendation 5: Develop a tool to improve tracking and communication of project status. An effective project tracking tool will help trade allies and others involved in delivering the program identify projects that have gotten stuck at some point in the process and follow-up with those participants to address any concerns that are preventing the participants from moving forward.

**Conclusion 3:** There are drawbacks to a reliance on trade allies to inform potential participants of the availability of SWR OBR loans.

The SWR OBR pilot faces two challenges that stem from a reliance on trade allies to inform participants about the loan offering. First, some trade allies fear their customers will find questions about their income too personal and so have difficulty promoting both SWR incentives and OBR loans. Trade allies reported looking for cues that a customer might be eligible for SWR, but this approach may lead to missed opportunities to promote the program to some eligible customers.

Second, moderate-income customers that have identified a project they would like to complete may not contact a contractor if they do not believe they can afford it, and thus lose the opportunity to be informed of the pilot from a contractor. Participant survey data provide some

evidence this is occurring. SWR participants that were aware of loans, but did not use them, most often reported they had the cash to pay for their project; relatively few reported using some other financing mechanism. These findings suggest that potential participants who could benefit from an SWR OBR loan may not be aware the offering is available.

Recommendation 6: Directly inform potential participants about the availability of SWR OBR loans. Energy Trust could do this through targeted approaches like mailings, utility bill inserts, and social media. This type of outreach might bring participants into the program who do not otherwise believe they could afford an upgrade, and facilitate trade allies' conversations with participants' by allowing the trade allies to reference a message with which the participant may already be familiar.

## **Appendices**

Appendix A: Detailed Findings

Appendix B: Participant Survey Frequencies

Appendix C: Summary of Loan Closing Documents

Appendix D: Data Collection Instruments

research into action APPENDICES

## Appendix A. Detailed Findings

## A.1. Pilot Administration, Implementation, and Delivery Staff Interview Findings

Pilot Delivery and Coordination (Spring 2015) Interviews confirmed that all of the organizations involved in implementing the pilot are in regular communication with each other, and findings suggest that this communication is meeting the pilot's needs. The primary challenges pilot staff described in coordination between the various organizations involved in pilot delivery were related to developing and launching the pilot.

As a result of the processes they developed through participation in other on-bill repayment pilots, staff at Craft3 and the participating utilities largely reported that they had the infrastructure in place to offer Savings Within Reach (SWR) On-Bill Repayment (OBR) loans. Nonetheless, staff reported that finalizing contracts between Energy Trust and the participating utilities took longer than expected, and the pilot ultimately launched before all utility contracts were signed.

Interview respondents cited two issues that emerged in contract negotiations with utilities. First, respondents noted that it had been challenging to define the proper amount to compensate utilities for the time they spend processing loans and to support systems that would facilitate the process. Second, utility respondents noted that the lack of a mandate to participate in the SWR OBR pilot increased the regulatory risk participation posed to utilities and made it more difficult to gain internal buy-in.

Utility staff members also noted that participation in the SWR OBR pilot represented a long-term commitment for their organizations. One respondent stated, "Even if Energy Trust gets out of the pilot, we are still on the hook for ten years processing these loans." Another respondent noted that this commitment applied even if the number of participants remained too low to achieve economies of scale in loan processing. Despite these concerns, utility staff reported that participating in the pilot made access to on-bill loans more equitable and was a natural extension of their existing on-bill lending efforts. According to one respondent, "How could we say no when we're already doing this for other customers?"

Staff reported that Cascade Natural Gas, the one Oregon investor-owned utility not offering SWR OBR loans, is not participating in other on-bill repayment programs and thus does not have the existing infrastructure to support on-bill loans. Pilot staff stated that Cascade did not anticipate there would be enough SWR OBR participants to justify developing the infrastructure to support on-bill loans.

#### A.1.1. Assessment of Pilot Processes

Pilot staff described two aspects of the pilot processes that posed opportunities for improvement: the project and loan application and approval process, and project-level tracking.

#### A.1.1.1. Loan Application and Approval

#### Spring 2015 Findings

As described above, participants in the SWR OBR pilot must receive approval of their scope of work from Energy Trust, receive credit approval from Craft3, and return the forms to close their loan before installing measures. Staff reported that this process typically takes approximately one week, although it may take longer if the pilot identifies any problems with the submitted documents

Respondents stated that participants completing and returning the loan closing documents in particular can be a source of delays. In order to close a loan, Craft3 provides participants with 19 different documents, some of which are informational and some of which the participant must complete and return. Craft3 follows-up with participants to address any documents that are not properly completed and signed, but staff noted that contacting participants can be challenging. To ensure participants complete the documents correctly, Craft3 encourages participants in the Portland area to visit their office and complete the loan closing in-person. One respondent also reported that some contractors encourage participants to complete the documents at the contractor's office, where the participant can use resources they may not have at home like computers and printers.

Pilot staff reported that the time required to approve an SWR OBR project and close the loan created challenges for some contractors. Respondents across the organizations implementing the pilot cited emergency equipment replacement as particularly difficult for the SWR OBR process to accommodate. For example, one respondent described a case in which a contractor had completed an emergency upgrade before the loan was closed, but then faced delays in payment because the participant was slow to return their loan closure documents. In addition to difficulty accommodating emergency equipment replacement, one respondent noted that the time required for project approval conflicted with many contractors' business practice of seeking to close a sale within three days.

#### November 2015 Update

In follow-up interviews, pilot staff acknowledged challenges with the loan process and described steps they had taken to address them. Pilot staff expressed concern that the loan process and time required to complete the process could make SWR OBR loans less appealing than other financing options trade allies can offer. According to one respondent, "No one wants to invest a lot of resources into something until the demand is there, but it is hard to get traction and demand until you have a product and customer experience that is competitive and on par with what contractors would be able to offer their customers through other channels." Staff noted that some financial institutions have recently been actively seeking to expand their lending businesses through partnerships with home improvement, and particularly HVAC, contractors.

Pilot staff reported a desire to further streamline the loan process, and potentially increase the role of trade allies in assisting participants with the process. According to one staff member, "Every time you stop the process and request follow-up from the customer, it's at least another

day, or it falls apart right away." Staff noted that the contractors who have been most successful in the pilot are those who closely track their customers' progress through the lending process and offer assistance.

One step that pilot staff anticipate will streamline the loan process is the capacity to accept electronic signatures on loan closing documents. This option will eliminate the need for participants to print, sign, and return hard copies of loan documents. Staff also anticipated that it would reduce errors in the documents the pilot receives because the electronic signing platform will validate submissions to ensure that all of the required fields are complete. While staff noted that this capacity is common in the lending industry, this will be Craft3's first use of electronic signing with the loan products it offers.

#### A.1.1.2. Project-level Tracking

#### Spring 2015 Findings

Multiple respondents noted that, without a centralized system to track the status of individual projects, tracking can be cumbersome and can lead to breakdowns in communication. Pilot staff reported that they currently rely on email to communicate the status of an application among the various actors involved in SWR OBR projects. Respondents stated that this system creates the potential for miscommunication and errors, as staff members must manually forward messages to the appropriate people. This can make it especially difficult for contractors to track the status of their customers' applications. For example, one respondent stated that, in some cases, staff may forget to forward notification that a customer's loan has been approved to the contractor.

Respondents stated that it would be particularly important to develop a more centralized project tracking system if uptake of on-bill loans expands significantly. For example, one staff member stated, "Now, the volume is manageable for one person to support, but...that manual process isn't scalable," noting that, as project volume increased, manually tracking projects could require staff resources that might be better spent in other ways. Respondents cited the Energy Savvy-provided system Clean Energy Works uses as an example of the type of centralized tracking system that would be helpful for SWR OBR loans.

#### November 2015 Update

In follow-up interviews late in 2015, staff reported they were considering options for some type of project tracking tool that would allow them to identify which projects were not moving forward and where they were getting stuck. Staff members at all of the organizations involved in delivering the pilot noted a need for this type of system. Respondents noted that, in some cases, without the sender's knowledge, emails had not been delivered, and reiterated that the pilot needed a more systematic tracking and communication system.

#### A.1.2. Pilot Outcomes

Pilot staff commented on pilot outcomes in two areas: the loan approval rate and the uptake of SWR OBR loans.

#### A.1.2.1. Approval Rate

Pilot staff reported that flexible underwriting criteria have allowed the pilot to maintain a high loan approval rate. Craft3 staff reported that, for participants with good utility bill payment histories, the underwriting criteria for SWR OBR loans were more lenient regarding traditional financial metrics like credit scores and past bankruptcies than other, similar loan products. Craft3 staff also stated that they review any loan applications that narrowly miss the underwriting requirements "to see if there is any way we can justify approval." Craft3 staff reported that the anticipation that energy cost savings would partially offset loan payments, the payment's inclusion on the utility bill, and the organization's mission to reach underserved communities motivated this flexibility.

Staff reported that the pilot sought an approval rate of 90%. At the end of 2016, it was close to meeting that goal with 10 participants denied loans among 99 applications submitted (implying an approval rate of just under 90%). In addition to the flexibility of the underwriting requirements, one respondent suggested that contractors may contribute to the pilot's high approval rate by presenting the loan offering only to customers they believe will qualify.

#### A.1.2.2. Loan Uptake

#### Spring 2015 Findings

With 53 loans made (of the 99 applied for) as of the end of 2015, uptake of the SWR OBR offering has been lower than Energy Trust's initial projection of 300 projects over the course of approximately 18 months. Respondents were divided in their assessment of this level of uptake, with some stating it was less than expected and others reporting they were not surprised. Respondents from utilities and Craft3, which stand to achieve the greatest gains from economies of scale, expressed the greatest concern over the uptake of SWR OBR loans. According to one respondent, 50 projects "isn't enough; it doesn't make it worth any of our time."

Respondents suggested a variety of factors that may have contributed to the lower than expected uptake. Respondents most often noted that the SWR pilot's target audience of moderate income households was relatively narrow and difficult to reach. Respondents stated that it can be difficult to identify potential participants for the SWR pilot. While low income households may reach out for other social services, creating an opportunity to inform them of efficiency pilots targeting low income populations, moderate income populations are less likely to pursue social services. Instead, staff noted that most participants learn about the pilot from contractors, who inform their customers of the pilot based on the contractors' judgment that a particular customer might qualify. Respondents cited both characteristics of moderate income households and characteristics of the pilot as factors that may prevent more SWR participants from using loans. Staff noted that moderate-income households have pressing priorities other than energy efficiency improvements, and stated that many SWR participants may have identified a way to

research into action"

Twelve applicants were listed with a status of "do not qualify" in the project tracking spreadsheet, but two of those applicants did not qualify because characteristics of their homes made them ineligible for SWR. The rest were denied loans.

pay for their projects before contacting a contractor. Aspects of the pilot processes respondents cited that might limit uptake include the complexity and amount of paperwork required, the need to place a lien on the home, and potential project restrictions resulting from the qualified measure list and \$5,000 loan cap that might limit uptake.

Other potential contributors to the lower than expected uptake of SWR OBR loans that participants cited include delays in the launch of the loan offering, and a need for a more intensive marketing effort. One respondent noted that it may be challenging for contractors to integrate the loan offering into their business models and promote it since it does not apply to all of their customers.

#### November 2015 Update

In contrast to interviews in the spring, in which some respondents reported they were not surprised by the level of loan uptake, in November staff members from all of the organizations reported uptake had been lower than expected. Staff described two primary steps the pilot had taken to increase uptake. First, in September 2015 Energy Trust broadened the pilot's income threshold to increase the population of participants eligible for SWR. In addition to increasing the number of eligible households, respondents stated that the new income threshold, which is consistent with a definition that housing programs use in Oregon, is more reflective of the cost of living. Second, staff reported that NW Natural had announced that, as of March 2016, contractors would have to be eligible to offer SWR OBR loans in order to be part of NW Natural's preferred contractor network.

As a result of these changes, pilot staff stated that they anticipated loan uptake would continue to increase. Staff noted that it can take time for trade allies to adopt new offerings, and for knowledge of those offerings to spread throughout trade ally organizations. In addition, staff anticipated that, as Energy Trust makes more loan offerings available in addition to the SWR OBR offering, it will become more routine for contractors to discuss energy efficiency financing options with their customers.<sup>19</sup>

Staff members suggested additional steps they would like the pilot to take to increase loan volume. Some pilot staff members expressed a desire for trade allies to more actively promote the SWR OBR loans. Respondents noted that regularly engaging with trade allies about the offering could help keep SWR OBR loans at the top of trade allies' minds and encourage them to offer the loans to more customers. Some pilot staff members suggested that Energy Trust should increase the maximum loan amount for SWR OBR loans above its current cap at \$5,000.

## A.2. Literature Review Findings

This section presents a review of industry literature addressing outcomes of on-bill repayment programs, including rates of defaults and arrearages. This review helps to assess how the

-

During the evaluation period, Energy Trust launched a loan offering for participants in Southwest Washington, a loan offering for Portland General Electric customers installing heat pumps, and staff reported plans to launch a loan offering to support heating fuel conversions from heating oil to efficient gas heating systems for NW Natural customers.

outcomes of the Savings Within Reach (SWR) on-bill repayment (OBR) pilot compare to those of other on-bill repayment programs across the country. A key source for this review is the State and Local Energy Efficiency Action (SEE Action) Network's report *Financing Energy Improvements on Utility Bills: Market Updates and Key Program Design Considerations for Policymakers and Administrators.* The authors of the report reviewed 30 on-bill financing programs across the country and developed detailed case studies on 13 programs.<sup>20</sup>

An important finding from the SEE Action report was that on-bill repayment programs had low default rates, ranging from 0% to 3%, for both residential and non-residential programs. These low default rates were consistent across programs, and it was not clear that they were influenced by the consequences a program imposed for failure to make loan payments. In some programs, participants faced the threat of utility service disconnection if they failed to make loan payments, while others, similar to the SWR OBR offering, remove delinquent loans from the utility bill and pursue payment independently.

A study comparing default rates of an on-bill loan program to a very similar, off-bill loan program in New York found that, consistent with the SEE Action report, both loan offerings had low default rates. However, the study came to the somewhat counterintuitive finding that default rates were higher for the on-bill loan (2.15% for on-bill loans, as opposed to 1.56% for off-bill loans).<sup>21</sup> The author suggests this difference may be a result of the loan's status as subordinate to utility service charges. Under this arrangement, a borrower who falls behind on their utility bill payments would have to become current on all of their utility service charges before any payments they make would be directed to loan payments. As a result, the study notes, it can be difficult for a borrower who falls behind to catch up on their loan payments.<sup>22</sup>

The type of underwriting criteria a program used did not appear to be associated with default rates, although one program examined in the SEE Action report that relied exclusively on traditional underwriting criteria, like credit scores and debt-to-income ratios, had a much higher rate of rejected financing applications than programs that used alternative underwriting criteria, like energy bill repayment history.<sup>23</sup> The New York study also found that loans made based on mortgage and utility-bill payment history performed similarly to loans made using traditional underwriting criteria.<sup>24</sup>

If the industry can demonstrate that on-bill repayment loans result in a lower default rate, this has the potential to motivate lenders to expand access to those loans. Small and mid-sized lenders that attended a meeting convened by the American Council for an Energy Efficient Economy (ACEEE) stated that the "purported ability [of on-bill repayment loans] to act as a credit

Zimring et al., "Financing Energy Improvements on Utility Bills: Market Updates and Key Program Design Considerations for Policymakers and Administrators," -.

research into action"

<sup>20</sup> Zimring et al., "Financing Energy Improvements on Utility Bills: Market Updates and Key Program Design Considerations for Policymakers and Administrators."

Deason, "The Impact of On-Bill Programs on Loan Performance: Evidence from the Green Jobs, Green New York Program."

<sup>22</sup> Ibid.

Deason, "The Impact of On-Bill Programs on Loan Performance: Evidence from the Green Jobs, Green New York Program."

enhancement and lower default rates" could motivate them to relax their underwriting criteria for those loans.<sup>25</sup>

Regarding uptake of energy-efficiency loans, the program administrators participating in the SEE Action Residential Retrofit Working Group reported that between 10% and 20% of participants typically use program-supported financing. Findings from the evaluation of the federal Better Buildings Neighborhood Program, which provided funding to 41 grantees to support efficiency programs across the country, were consistent with this range. Across the grantees, 18% of residential participants in programs that offered loans used them, although there was a great deal of variation in loan uptake between grantees. This level of uptake is somewhat higher than that of the SWR OBR loan; between May of 2014 and December of 2015, 9% of SWR projects (51 of 534) received loans.

## A.3. Database Analysis

We analyzed the two mechanisms that track the SWR OBR pilot:

- Project tracker spreadsheet, which contains only data on the SWR OBR projects. CLEAResult maintains this spreadsheet.
- Project Tracking measure database, which provides data on the individual measures installed as part of all SWR projects. Energy Trust and CLEAResult maintain this database.

The project tracker spreadsheet includes project-level data such as installation costs, loan amounts, payments, and estimated bill impacts for the 99 SWR projects that applied for OBR loans between March 2014 and January 2016. The project tracker documents completed projects as well as abandoned projects, projects in progress, and those that did not qualify for a loan. As summarized in Table A-1, the measure database includes only completed projects.

**Table A-1: Comparison of Database Exports** 

CONTENT TYPE	MEASURE DATABASE	PROJECT TRACKER
Number of Projects	650	99
Includes incomplete projects	No	Yes
Includes SWR projects not using OBR loans	Yes	No

The measure database export we examined contains data on all SWR OBR projects recognized as of December 31, 2015, as well as SWR projects not using OBR loans with recognized dates

\_

Bell and Ferrante, "Engaging Small to Mid-Size Lenders in the Market for Energy Efficiency Investment: Lessons Learned from the ACEEE Small Lender Energy Efficiency Convening (SLEEC)."

State and Local Energy Efficiency Action Network Residential Retrofit Working Group, "Roadmap for the Home Energy Upgrade Market."

<sup>27</sup> Research Into Action, Inc., "Process Evaluation of the Better Buildings Neighborhood Program: Final Evaluation Volume 4."

from April 1, 2014 to December 31, 2015.<sup>28</sup> The database includes records for 862 installed measures across 650 individual projects. Fifty-one of the 650 projects used OBR loans; the other 599 did not.<sup>29</sup> The project tracker spreadsheet is consistent with the measure database in its listing of the 51 complete SWR OBR projects that were recognized as of December 31, 2015. The project tracker spreadsheet also lists two SWR OBR projects as complete that were received in late December 2015 and not recorded in the measure database as of December 31.

The remainder of this section presents the findings from our analysis regarding utility and project profiles, utility bill impact, project costs, trade allies, and loans.

#### A.3.1. Project Profile

Over half of the projects (53 of 99) listed in the project tracker spreadsheet were complete (Table A-2). The project tracker spreadsheet notes that six of the 19 applicants with a project status of abandoned went forward with a SWR project without the OBR loan, although the spreadsheet indicates that one did so after reducing the scope of their project. A majority of the rest of the participants who abandoned their projects requested to withdraw their loan applications (8 applicants); others had been unresponsive to Craft3 and Energy Trust after the initial application (5 applicants). One trade ally accounted for the majority (11 of 19) of abandoned projects.

Table A-2: Project Status

PROJECT STATUS	NUMBER	PERCENT
Abandoned	19	19%
Active	14	14%
Complete	53	54%
Do not qualify	13	13%
Total	99	100%

Most of the projects listed as "Do Not Qualify" in the Project Tracker (11 of 13) failed to meet the pilot's loan underwriting requirements due to unacceptable utility bill histories or low credit scores. The two remaining projects that did not qualify were ineligible to participate in SWR for diverse reasons.<sup>30</sup>

OBR projects in the measure database have recognized dates from May 8, 2014 to present. Energy Trust completed agreements with all the participating utilities to service loans on-bill in September 2014. Prior to that time, participants repaid loans directly to Craft3.

Our analyses excluded 251 line items from the measure database because they were not directly related to the installation of physical measures. These line items were related to loans, fees, and promotions. Additionally, 178 Blower Door Tests were completed (10 for OBR and 168 for Non-OBR) that were not included in the analysis because they do not directly result in energy savings.

The other reasons included residing in a non-qualified condominium and a land ownership issue.

The greatest uptake of SWR OBR loans occurred shortly after the offering became available, with 27% (27 of 99) of the applications to date received in the second quarter (Q2) of 2014. These early applicants failed to complete their projects at a somewhat higher rate than those that applied later – half (8 of 19) of the abandoned projects and approximately one-fourth (4 of 13) of the applications that did not qualify for financing were among the applications submitted in Q2 2014. Figure A-1 illustrates the uptake of SWR OBR loans from Q2 2014 to Q3 2015, as well as non-OBR SWR projects beginning in the fourth quarter (Q4) of 2014.

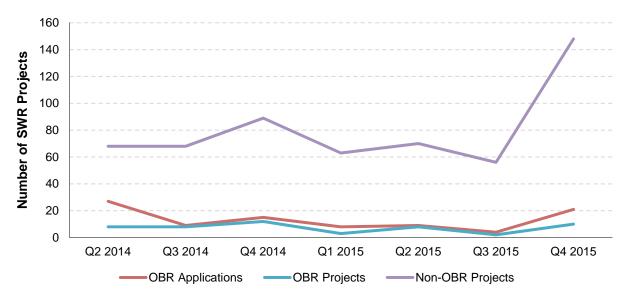


Figure A-1: Uptake of SWR and OBR Offerings over Time

One trade ally, in particular, contributed to the high volume of SWR OBR applications the pilot received in Q2 2014. This trade ally submitted 17 of the 27 OBR applications that quarter, including all eight of the abandoned applications. Only 6 of the 17 applications this trade ally submitted in Q2 2014 represent complete projects. This trade ally's activity has decreased substantially in subsequent quarters, with three SWR OBR applications submitted in Q4 2014 and only two applications submitted in all of 2015. Nonetheless, due to their early activity, this trade ally remains one of the pilot's highest volume trade allies.

#### A.3.2. Trade Allies

As of the end of January 2016, 25 trade allies had submitted at least one application for a project using an SWR OBR loan and 18 had completed at least one project. This reflects a notable increase in trade ally participation, with nearly half (12 of 25) of the trade allies submitting applications for SWR OBR projects doing so for the first time between October 2015 and January 2016. This increase in participation is likely a result of NW Natural's requirement that, as of March 2016, all contractors in their preferred trade ally network must be eligible to offer SWR OBR loans. As noted below, the proportion of SWR OBR projects occurring in NW Natural territory also increased in the third quarter of 2015.

The two trade allies that submitted the most SWR OBR projects, an insulation contractor and an HVAC contractor, were responsible for approximately 40% of the loan applications (41 of 99) and the completed projects (21 of 53). Both of these trade allies are highly active in the SWR pilot, and SWR OBR projects made up approximately 6% and 18%, respectively, of the total number of SWR projects each completed. As described above, one of these trade allies submitted the large majority (17 of 23) of their SWR OBR projects in the second quarter of 2014, soon after the offering became available, and has been much less active with OBR projects since. OBR projects made up a larger proportion of other trade allies' SWR projects, although these trade allies completed a lower volume of SWR projects overall. Five of these "less active" trade allies used OBR loans for at least half of their SWR projects, including one that had done only one SWR project and used an OBR loan.

#### A.3.3. Loans

SWR OBR loans ranged from \$652 for a weatherization project to the maximum of \$5,000 for projects in all categories. The average loan was \$3,586 (Table A-3), although loan sizes varied by the type of measures installed, ranging from an average of \$2,325 for weatherization measures to \$4,733 for heat pumps. In eight cases, participants completed projects that exceeded the \$5,000 loan cap. These participants borrowed the full \$5,000 available to them and were responsible for the additional project costs, which ranged from \$629 to \$1,797 after applying their SWR incentives. OBR participants were slightly less likely than other SWR participants to complete projects costing more than \$5,000, with 16% of OBR participants doing so and 18% of non-OBR SWR participants doing so. Thirteen participants' project costs after applying SWR incentives appear to have exceeded their loan amounts, although their loans did not reach the \$5,000 cap. The database does not indicate whether these participants chose to pay part of their project costs out of pocket or whether they received incentives or funds from sources not tracked in the database that would cover the remaining costs.

Table A-3: Average Loan Amounts

MEASURE CATEGORY	AVERAGE LOAN AMOUNT	LOAN RANGE
Heat Pump	\$4,733	\$4,318 to \$5,000
Ductless Heat Pump	\$3,893	\$2,414 to \$5,000
Furnace	\$3,894	\$2,000 to \$5,000
Shell Measures	\$2,325	\$652 to \$5,000
Tota	al \$3,586	\$652 to \$5,000

## A.3.4. Project Costs

Research Into Action analyzed project costs in the measure database for the overall SWR program as well as the OBR pilot. To ensure we could accurately compare project costs for the OBR pilot to costs for the non-OBR portion of SWR, we determined averages only for measures present in both the OBR and non-OBR pilot data.

Completed OBR projects had a higher average cost (\$4,465) than non-OBR SWR projects (\$4,204), although OBR projects were roughly equally likely as other SWR projects to exceed the \$5,000 loan cap (17% of OBR projects, 18% of non-OBR projects). Our analysis suggests that the higher costs of OBR project are generally the result of a greater prevalence of high cost measures in OBR projects than in non-OBR projects. Ductless heat pumps (DHPs), a relatively expensive measure, were the most common measure OBR participants installed, and OBR participants were somewhat more likely to install DHPs than non-OBR participants (Table A-4). OBR participants also installed the most costly insulation measures - wall and floor insulation - more frequently than non-OBR participants.

Table A-4: Measures Installed by OBR and Non-OBR Participants

		OBR (N=51)		NON-OBR (N=59		599)	
MEA	ASURE	Count	Percent	Average Cost	Count	Percent	Average Cost
	Ductless heat pump	23	45%	\$5,014	189	32%	\$4,753
ures	Gas furnace	12	24%	\$4,293	108	18%	\$5,039
HVAC Measures	Commissioning	2	4%	\$250	48	8%	\$459
Ş	Heat pump upgrade	1	2%	\$5,979	29	5%	\$6,199
× A H	Heat pump replacement	1	2%	\$5,068	27	5%	\$7,364
	Duct insulation	0	0%		48	8%	\$647
Shell Measures	Floor insulation	11	22%	\$1,961	104	17%	\$2,258
eası	Ceiling insulation	8	16%	\$1,446	161	27%	\$1,468
∑ E	Wall insulation	6	12%	\$2,201	56	9%	\$1,843
She	Air sealing	3	6%	\$372	25	4%	\$361

The higher average costs for OBR projects than non-OBR projects does not reflect an increase in the number of measures OBR participants installed. The OBR projects did not encompass more measures than non-OBR participants; as Table A-5 shows, they were more likely to include only one measure.

Table A-5: Number of Measures Installed in OBR and Other SWR Projects

	OBR (N=41)	NON-OBR (N=247)
Average measures per project	1.51	1.61
% of projects with single measure	73%	60%

The measure database also does not suggest that OBR measure costs are systematically inflated relative to the costs for comparable measures in non-OBR projects. Six measure types were

included in at least three OBR projects.<sup>31</sup> As shown in Table A-6, OBR participants paid more, on average, than other SWR participants for three of those six measures, but these price differences were relatively small. Only one measure was more than 10% more expensive, on average, for OBR participants than for other SWR participants. OBR participants paid less, on average, than other SWR participants for the remaining three measure types, including two for which they paid more than 10% less than other SWR participants.

Table A-6: Comparison of Average Measure Costs for OBR and Non-OBR Projects

		AVERAGE COST	
MEASURE*	OBR	Non-OBR	% Difference
Wall insulation	\$2,201	\$1,843	16%
Ductless heat pump	\$5,014	\$4,753	5%
Air sealing	\$372	\$361	3%
Ceiling insulation	\$1,446	\$1,468	-2%
Floor insulation	\$1,961	\$2,258	-15%
Gas furnace	\$4,293	\$5,039	-17%

<sup>\*</sup> Includes only measures with at least three SWR OBR installations.

#### A.3.5. Primary Heat Source Bill Impact

Based on the project tracker spreadsheet, all but one of the 53 completed projects were expected to result in an increase in the participant's utility bill (documented by the Bill Impact Estimator).<sup>32</sup> The bill increases ranged from \$0.24 to \$84.23 with an average change of \$21.50 (Table A-7).

Table A-7: Primary Heat Source: Bill Change with OBR

PROJECT TYPE	NUMBER OF PROJECTS	AVERAGE BILL CHANGE	RANGE
	Primary H	leat Source	
Electric	27	\$16.86	\$-1.36 to \$46.17
Gas	26	\$26.32	\$0.24 to \$84.23
			Continued
	Measu	ire Type	
Ductless Heat Pump	23	\$15.82	-\$1.36 to \$31.58
Furnace	14	\$33.96	\$13.55 to \$84.23

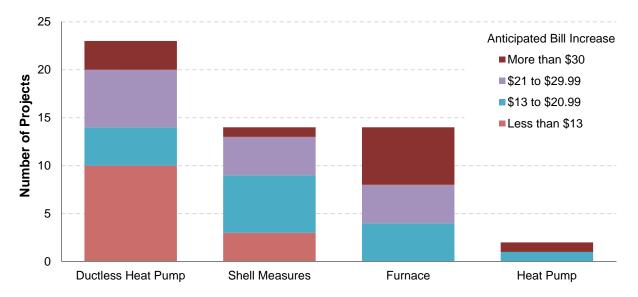
Due to the importance of project-specific elements – including characteristics of the building, its location, and the specific equipment a participant selects – in determining measure cost, we do not include measures installed by fewer than three participants in this analysis.

The one monthly bill deduction was \$1.36.

PROJECT TYPE	NUMBER OF PROJECTS	AVERAGE BILL CHANGE	RANGE
Shell Measures	14	\$17.21	\$0.24 to \$30.95
Heat Pump	2	\$29.61	\$13.04 to \$46.17
Overall Change	53	\$21.50	-\$1.36 to \$84.23

As Table A-7 suggests, furnace and heat pump installations typically resulted in the largest predicted increases in participants' utility bills. All of the furnace installations listed in the database increased participants' energy bills by at least \$13 (Figure A-2). The bill impacts of ductless heat pump installations were more varied, with nearly equal numbers of customers installing ductless heat pumps expected to experience bill increases of less than \$13 and more than \$21.

Figure A-2: Anticipated Change in Heating Bill by Measure Installed



#### A.3.6. Utility Profile

The numbers of customers applying for SWR OBR loans they would repay on their PGE, Pacific Power, and NW Natural bills are shown in Figure A-3.

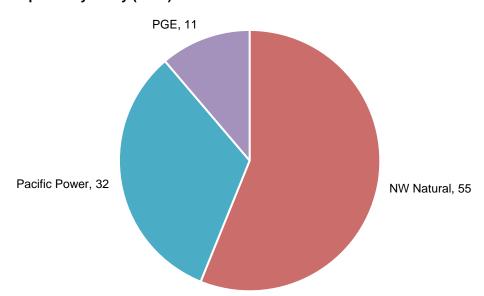


Figure A-3: Participation by Utility (n=98)

The relatively small number of participants repaying their loans on their PGE bills likely reflects the prominence of gas heat among participants in PGE territory. Among participants with complete SWR OBR projects, more than two-thirds (20 of 27) of those in PGE territory use gas as their primary heating fuel and would thus repay their loans on their NW Natural bills. Fewer than 10% of Pacific Power customers with complete SWR OBR projects (2 of 22) use gas as their primary heating fuel.

NW Natural's requirement that members of its preferred contractor network become qualified to offer SWR OBR loans appears to have contributed to the increase in loan uptake in the fourth quarter of 2015. Both the number of applications and the number of complete SWR OBR projects from NW Natural customers increased sharply relative to the previous quarter (Figure A-4). Applications from customers of the other utilities increased less dramatically, and the number of complete projects was flat.

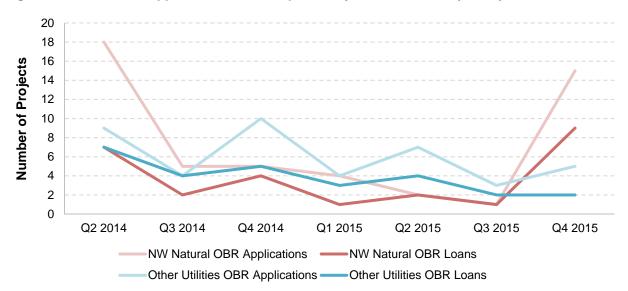


Figure A-4: SWR OBR Applications and Complete Projects over Time, by Utility

The average loan size for completed projects varied by utility, from \$2,793 in NW Natural territory to \$4,027 in Pacific Power territory. This variation likely reflects differences in the cost of gas heating systems relative to efficient electric heating systems. The average loan size for completed projects varied by fuel type, with customers heating with gas borrowing an average of \$2,793, while customers heating with electricity borrowed an average of \$3,941. Figure A-5 shows boxplots showing variation in loan size by both utility and heating system type.

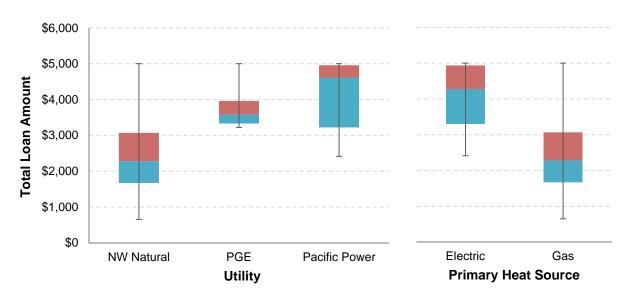


Figure A-5: Boxplots Demonstrating Loan Amount Range by Utility and Primary Heat Source

More than one-third of all SWR OBR applicants came from the Portland metro area. The largest number of complete SWR OBR projects occurred in the Portland area, followed by the Willamette Valley and Southern Oregon (Table A-8).

Table A-8: SWR OBR Participation by Region

REGION	SWR OBR APPLICATIONS	COMPLETE SWR OBR PROJECTS
Willamette Valley	28	17
Portland Metro	43	18
Southern Oregon	21	13
Central Oregon	4	3
Coast	3	2
Total	99	53

## A.4. Trade Ally Interview Findings

While all of the interviewed trade allies see the pilot as a potential benefit to their business, many suggested that an onerous pilot process makes them reluctant to recommend SWR OBR loans to their customers. More than half of the interviewed trade allies (five of nine) reported that they are not likely to continue to recommend OBR loans, or have already stopped recommending them, due to the difficulty of the loan process. According to one of these trade allies, "almost every [OBR loan project] we've done has been very intensive and takes a lot of extra time and energy." Another trade ally explained that they had offered the loan product three times, but because of their negative experience with the lender, they "will not offer it ever again." Most of these trade allies completed relatively few (two or three) OBR projects before deciding they would no longer offer the loans, although one trade ally, who had also completed a higher volume of standard SWR projects, completed six OBR projects.

## A.4.1. Trade Ally Assessment of the OBR Loan Process

Trade allies most commonly mentioned poor communication from the lender and the amount of paperwork required of customers as negative aspects of the pilot processes. Some trade allies also mentioned extended approval time and not being paid in a timely manner as negative aspects of the pilot process. The sections below explain these issues in greater depth.

#### A.4.1.1. Communication with Lender

According to trade allies, lack of effective communication from the lender, Craft3, throughout the loan process led to customer and trade ally dissatisfaction. Trade allies expressed concerns about insufficient communication and support from the lender, which not only reflects poorly on the lender and the pilot, but also on the trade allies themselves.

Most of the interviewed trade allies (six of nine) expressed frustration with a lack of communication and transparency from the OBR lender. Trade allies reported that customer

documents had been lost, or customers had returned documents incomplete and Craft3 had not alerted the customer or the trade ally, leading to delays in the loan process. One trade ally cited an example in which "a customer had to send in paperwork three times to Craft3 and they kept losing the paperwork. It prolonged the process for three months and the customer had no heat, so it made it very, very difficult for them."

Trade allies reported that, in addition to causing customer and contractor dissatisfaction, these types of communication problems had motivated some customers to drop their SWR OBR projects. According to one trade ally, "It hasn't been easy, we had one project terminated because we went through and did the whole thing and sent the paperwork to Craft3 and didn't hear anything. There was some back and forth and we found out they had the wrong application. The customer finally cancelled it all."

Trade allies reported that the SWR OBR pilot required a lot of handholding, and expressed a desire for more customer support from the lender throughout the process. Some trade allies noted that, because the SWR OBR loan process requires the participant to work directly with the lender to complete the loan documents, it was difficult for the trade allies to assist participants with the process. One trade ally reported that with other financing programs, they were better able to walk customers through the process, but with SWR OBR loans, they are "completely out of the picture once the customer is turned over to Craft3."

In light of these challenges, some trade allies step in to help customers with the loan process, although they reported it is inconvenient to do so. One trade ally cited an example in which they had provided their own translator to assist a customer that did not speak English because the lender did not have a translator. According to this trade ally, "We had to make additional trips (compared to other financing programs) because of the additional forms that need a signature or because they couldn't communicate. We had to stop everything and have the people come here, which is a huge inconvenience, because they (Craft3) didn't have a translator."

One interviewed trade ally reported that although there were some communication problems in the beginning, they had been mostly resolved. Another interviewed trade ally did not report dissatisfaction with the loan process. This trade ally indicated that they provide customers with a great deal of support, saying, "We try to do what we can to cater to our customers' need." This trade ally reported that they have staff available to assist customers with the application in their office. Additionally, some of their 'tech savvy' customers complete the application online and do not report any issues.

Trade allies noted that, in addition to reducing customer satisfaction with the pilot and the lender, a poor customer experience also reflects poorly on them, and therefore makes them less interested in participating in the pilot. After frustrations with lack of communication and support from Craft3, one trade ally explained that although they followed up with the lender and supported the customer as best they could, the customer still "blamed [the trade ally] for the lack of follow through." Another trade ally described a bad experience that made them hesitant to continue to offer the product saying, "I'd rather direct [my customers] to a finance process that doesn't make them mad at me."

#### A.4.1.2. Amount of Paperwork

Part of the need for strong communication channels stems from the difficulties in completing the paperwork required to participate in the pilot. Many trade allies (five of nine) expressed concerns about amount of paperwork required of customers. According to one trade ally, "There are forty pages of paperwork, which through any loan process I have gone through or any of our other financial institutions it's only been a couple pages." Some trade allies noted that the documentation requirements were particularly difficult given the demographic the SWR OBR loans target. The trade ally quoted above continued, "Forty pages is extravagant, especially considering the type of people that this is trying to reach. They may not have computers or printers."

#### A.4.1.3. Process Delays

Over half (five of nine) of the trade allies reported that elements of the loan process had caused delays in their projects. These delays resulted from the length of time it takes to close a customer's loan and the requirement that customers sign a final document authorizing the contractor to be paid. Trade allies stated that, compared to previous experiences with financing, the delay in approval is much greater for SWR OBR loans. "With our other bank, it takes ten minutes, we send it, and within about 90 seconds we have the approval back and all the loan documents. With Craft3, they say 'yes we'll approve them,' but that is all preliminary. Nothing is approved until everything is hard copied."

Compounding their challenges with the length of the loan process, trade allies expressed frustration that they cannot start work until the paperwork is final. As an example, one trade ally reported waiting five months to receive final approval on one project. According to this trade ally, "We're not supposed start the work until all the paperwork is done. But when you have a single mother with three kids in winter with no heat because their furnace has failed, we're not going to wait five months to get her heat." Another trade ally suggested "the fact that we have to wait until the loan is closed to get paid deterred contractors from recommending [SWR OBR loans]."

The need for participants to approve the upgrades completed before funds are released to the trade ally also has the potential to create challenges for the trade ally. One trade ally provided an example of a project in which "The customer had wanted duct cleaning and that was not a part of the OBR pilot. In the end, the customer refused to sign the final document that everything was OK...until we did free duct cleaning. She was holding us hostage."

## A.4.2. Trade Ally Assessment of OBR Loan Product

Despite their frustration with the SWR OBR loan process, trade allies see great potential in offering a loan product for SWR participants. Trade allies stated that the loans provide access to financing for customers who would not qualify for the traditional financing options the trade

research into action"

We have reviewed 18 of the 20 documents borrowers are required to review and/or complete in order to close their SWR OBR loans. Those documents combine to a total of 34 pages.

allies offer and would not be able to afford the upgrades on their own. Trade allies also reported that customers find the convenience of the on-bill payments appealing. However, trade allies find some of the elements of the loan product, such as the limit and the measures covered, less appealing.

#### A.4.2.1. Business Motivation

The interviewed trade allies stated that offering the SWR OBR loan product was beneficial for their customers and beneficial for their business. All of the interviewed trade allies cited the ability to provide a needed service to their customers as a key motivator for their decision to offer SWR OBR loans. Trade allies described SWR OBR loans as "another great resource available to help community members." Two trade allies also mentioned that offering SWR OBR loans benefitted their business by distinguishing them from other contractors. According to one, "We felt it was important to be able to offer something a little bit different to set us apart from other contractors and help people who otherwise wouldn't be able to afford a heat pump system."

#### A.4.2.2. Loan Attributes

Trade allies mentioned many positive attributes of the loan product that make it appealing to customers. Most frequently (four of eight) trade allies mentioned convenience as a benefit. As one trade ally reported, "they enjoy the idea of having it taken directly off their utility bill. They do not have to think about it; do not have to write a separate check." Some trade allies (two of seven) also mentioned lower interest rates, lower payments, and lower qualification barriers as aspects of the OBR loan product that appeal to customers and distinguish it from other loan products. Most of the trade allies (six of eight) reported that customers found the loan product easy to understand. Those questions customers had were often related to the limitations of the loan, qualification requirements, and length of time it takes to be approved.

In addition to the potential benefit to their business and positive attributes of the loan product, trade allies also mentioned aspects of the product that customers found less appealing. The most common among these was the limited range of qualifying measures and the \$5,000 limit to the loan. Some measures trade allies mentioned they would like to qualify included furnaces, heat pump water heaters, standard efficiency heat pumps, and other measures supported by Energy Trust through other programs. Interview findings suggest these limitations of the loan product have deterred some trade allies from recommending SWR OBR loans. According to one trade ally, "The product is pretty limited only being a \$5,000 cap and only being SWR services that it doesn't apply to most of our customers with those strict guidelines. So we typically wouldn't go down this road unless we know we need to go down the road."

## A.4.3. Financing for Moderate-Income Customers

Trade allies stated that there is a need for loan products like SWR OBR loans for moderate-income individuals. Trade allies reported frequently discussing payment options with their customers and expressed that the OBR offering provides moderate-income individuals with

a valuable alternative to traditional financing. One challenge, however, is the ability to identify the moderate-income population.

#### A.4.3.1. Importance of Finance Options

Providing financing to customers is an important tool for contractors and can be very influential for certain types of customers. Contractors reported that the ability to access financing, particularly the SWR OBR loans, has enabled projects that would not otherwise occur. The majority of interviewed trade allies (six of eight) reported that most or all of the customers that took on the OBR loans would not have been able to do the project otherwise and few (2 of 7) reported instances of customers choosing to pay any portion of the project cost out of pocket. One contractor said, "All of them wouldn't have been able to do it [without the loan]. I think the ones that have gone through, wouldn't have had any other options."

#### A.4.3.2. Presentation of Finance Options

Trade allies present OBR loans as one option for paying for efficiency upgrades. A majority of interviewed trade allies (five of eight) routinely discusses financing or payment options with their customers. Three of these trade allies reported that they usually start their sales calls with this discussion. In addition to SWR OBR loans, all interviewed trade allies have other financing options available to offer their customers. These include more traditional bank financing and equity lines of credit. As mentioned in the section above, the majority of trade allies found that the aspects of the OBR loan product, such as the convenience of repaying the loan on the utility bill, the interest rate, and the inclusive qualification requirements, to be superior to the other financing options they offered.

When discussing payment options with customers, interview findings suggest that estimating the utility bill impacts can be an important tool for influencing customers to consider an OBR loan. More than half (five of eight) of the interviewed trade allies confirmed that their field contractors routinely use the bill impact estimator in their financial discussions with customers. Most of remaining trade allies could not confirm that the estimator was used routinely, as the individual respondents oversaw the financing process, but did not conduct field visits. Among those that routinely use the bill impact estimator, the majority found it to be very influential. According to one trade ally, "[The bill impact estimator] definitely helps customers to see those numbers on paper and show them that their bill could go down with the new equipment, or it might go up \$5/month. Once people see those numbers on paper, they are like yeah let's go for it." None of the interviewed trade allies were able to comment on the accuracy of the bill impact estimator, as they are not typically aware of customers' energy costs following an upgrade.

#### A.4.3.3. Reaching the Right Population

While their customers who used SWR OBR loans largely would have been unable to complete their projects otherwise, trade allies reported it could be a challenge to identify which customers might qualify for SWR. Many (five of eight) of the trade allies expressed concern about directly asking customers about their income, in order to avoid asking questions that are too personal and potentially offensive. Some trade allies address this by being attentive and listening for clues

about a customers' income in their broader interactions. One trade ally reported that identifying customers that might qualify "is really hard, you don't want to offend them. I do listen to see if they think it would be a bit of a struggle. Or if they tell me they only have one income." Because this strategy has the potential to miss some customers that qualify, another trade ally reported showing the SWR income guidelines to all of their customers. This trade ally stated that they emphasize that they do not need to know a customer's income, only whether or not they qualify, saying "The way I present it to them is, 'I don't want to know what you're income is. I just want you to give me a yes or no, do you fall within these guidelines for your household.""

#### A.4.4. Conclusion

Trade allies appreciate the value of the loan product and feel it is an important product to be able to offer their moderate-income customers. However, process improvements are needed in order for trade allies to continue offering SWR OBR loans. While not all trade allies have had negative experiences with the OBR loan process, the majority reported that process issues led them to decide not to recommend the product, despite their view that it is potentially very valuable.

## A.5. Participant Survey Findings

#### A.5.1. Participant Surveys

We surveyed participants in the Energy Trust Savings Within Reach program including OBR participants, incomplete participants, and non-OBR participants. The results presented below represent data collected from June 19<sup>th</sup>, 2015 through January 31<sup>st</sup>, 2016. The remainder of this section describes current trends and findings.<sup>34</sup>

## A.5.2. Awareness and Knowledge of SWR OBR Offering

The most common reasons non-OBR participants did not participate was because they were unaware of the OBR option (65%),<sup>35</sup> or did not want to take on debt (16%).<sup>36</sup> Because respondents most often (74%) learned about OBR loans from a contractor, this indicates an opportunity for contractors to inform some customers they may assume would not be interested. The ability to repay their OBR loans on utility bills was the feature of the loan that respondents most often (46%) recalled their contractors telling them about.

<sup>34</sup> See Appendix B for full set of frequencies.

<sup>35</sup> Includes those that did not answer or answered "Don't know"

<sup>30</sup> Combined questions related to awareness and reasons why respondents would not consider an OBR loan in the future.

#### A.5.3. Assessment of OBR Loan Product

Respondents reported the lack of collateral required, ability to make loan payments on their utility bill and lack of fees and closing costs were highly appealing aspects of the SWR OBR loan (see Table A-9). When asked what was most appealing about the loan, the most common response (33%) was the ability to make loan payments on their utility bill. The interest rate and flexible qualification requirements<sup>37</sup> were the least appealing.

Table A-9: Percent that Found OBR Loan Characteristics Appealing (4 or 5 on a Scale from 1 'Not at All Appealing' to 5 'Very Appealing') – Among Those that Applied for OBR Loan

LOAN CHARACTERISTIC	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 12)	TOTAL (N = 36)
Ability to make loan payments on utility bill	83%	83%	83%
Lack of fees or closing costs	92%	67%	83%
Loan did not require collateral	79%	83%	81%
Loan qualification requirements (n = 25)*	65%	50%	60%
Interest rate	50%	58%	53%

Source: Q11

#### A.5.4. Assessment of Participation Process

Participants were largely satisfied with most aspects of the participation processes. The majority agreed that loan approval time was reasonable, and they were satisfied with their experience with the lender (Craft3) (see Table A-10). Our satisfaction questions did not specifically probe participants' experience with the loan closing documents, and participants' lower satisfaction ratings for the lender may reflect challenges with this process.

Table A-10: Percent that Agree with Statements Regarding Experience Applying for an OBR Loan (4 or 5 on a Scale from 1 - 'Strongly Disagree' to 5 - 'Strongly Agree') – Among those that Applied for OBR Loan

LOAN PROCESS SATISFACTION ITEM	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 12)	TOTAL (N = 36)
I received loan approval in a reasonable amount of time	75%	58%	69%
The loan application process went smoothly	71%	58%	67%
I am satisfied with my experience with Craft3	79%	42%	67%
The loan application was easy to complete	58%	67%	61%
Repaying the loan is easy (n = 22)*	67%	N/A	N/A

Question added 6/30/2015

<sup>\*</sup> Asked of 'past' participants.

Not asked of all respondents, question added 6/30/2015.

#### A.5.5. Role of Financing in Upgrade Decisions

In general, the loan was important in participants' decisions to move forward with their upgrades. The majority (88%) of participants reported the loan was important in their decision to do an energy efficiency upgrade. A slightly lower majority (84%) of respondents reported incentives were important in their decision to do an energy efficiency upgrade. However, without the loan, five OBR participants would have done the exact same project. Among incomplete OBR participants, over half (60%) did not move forward with the project without financing or had to wait to do their project.

The majority of both complete participants and incomplete participants (85%) reported that contractors provided them with a bill change estimate. The majority of both complete participants and incomplete participants (70%) reported the estimate was influential in their decision to make energy efficiency upgrades (4 or 5 on a 1 to 5 scale). Incomplete OBR participants reported that the contractor estimated their utility bill would increase (60%) more often than those that completed their loan (35%). Among OBR participants, the majority (71%) reported the actual change in their bill to be about as expected, or lower than expected.

#### A.5.6. Experience with OBR Loan

The majority of respondents were interested in an upgrade to replace an appliance (60%) and reduce energy costs (43%). Overall participants seem satisfied with their loan. Only one participant reported that, knowing what they know now, they would not have done their upgrade. This respondent also reported that the change in their bill has been much higher than expected.

Participants and incomplete participants are likely to consider an OBR loan in the future (92%) because it is easy and convenient. Consistent with the aversion to taking on debt many non-OBR participants reported as a reason for not pursuing a loan, non-OBR participants are less likely than participants to report they would consider a loan in the future (45%). Some non-participants elaborated that they would consider a loan only as a last resort and others reported they would not consider a loan because they do not want to take on debt.

# Appendix B. Participant Survey Frequencies

This section includes the results from all questions included in the participant survey fielded from June 19 through January 31<sup>st</sup>, 2016. Table notes indicate the survey instrument question number associated with the results.

## B.1. Respondents

Table B-1: OBR Participation (n = 70)

PARTICIPANT TYPE*	COUNT	PERCENT
OBR Participants	24	34%
Incomplete Participants	15	21%
Non-OBR Participants	31	44%
Total	70	100%

Source: Database

#### B.2. Loans

Table B-2: Reasons for Installing Upgrade (Unprompted, Multiple Responses Allowed)

MENTIONS	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 31)	TOTAL (N = 70)
Needed to replace	63%	40%	68%	60%
Reduce energy costs	50%	47%	35%	43%
Increase home comfort	33%	33%	45%	39%
Increase efficiency	13%	13%	6%	10%
Reduce environmental impact	13%	7%	6%	9%
Alternative system	13%	7%	6%	9%
Availability of incentives	0%	0%	13%	6%
Health/Safety	8%	0%	6%	6%
Convenience/had funds available	8%	13%	0%	6%

Continued . . .

<sup>\*</sup> Four respondents were recorded in the database as one type of participant, but during the interview, we determined their status to be incorrect. We recoded their participation status and excluded them from frequencies of questions that were not applicable. If they were not asked a question they would have been asked had their participation status been correct, they were recoded as 'not answered'.

MENTIONS	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 31)	TOTAL (N = 70)
Needed insulation	0%	20%	0%	4%
Increase home value	0%	0%	3%	1%
Don't Know	0%	0%	0%	0%
Not Answered	0%	7%	3%	3%

Table B-3: Installed Measure – Among Incomplete Participants (n = 15)

RESPONSE	COUNT	PERCENT
Yes	5	33%
No	8	53%
Not answered	2	13%

Source: Q2

Table B-4: Reasons for Not Installing Measure – Incomplete Participants that Did Not Install Measure (Unprompted, Multiple Responses Allowed, n = 8)

MENTIONS	COUNT	PERCENT
Money	8	100%
Reluctance to take out loan, couldn't pay otherwise	4	50%

Source: Q3

Table B-5: How Completed Project Differed from Considered Project When Application was submitted – Among Incompletes that Did Install Measure (Unprompted, Multiple Responses Allowed, n = 5)

DIFFERENCE	COUNT	PERCENT
Did more/different or better unit	2	40%
Did the same	2	40%
Did later	1	20%
Did things that were unnecessary	1	20%

Table B-6: Received Energy Trust Incentive – Among Incomplete Participants that Installed a Measure

RESPONSE	INCOMPLETE PARTICIPANTS (N = 5)
Yes	80%
No	20%
Don't Know	0%

Table B-7: How Important were Energy Trust Incentives on a Scale from 1 'Not at All Important' to 5 'Very Important' – Among those that Reported Receiving an Incentive

IMPORTANCE OF ENERGY TRUST INCENTIVES	OBR PARTICIPANTS (N = 21)	INCOMPLETE PARTICIPANTS (N = 4)	NON-OBR PARTICIPANTS (N = 25)	TOTAL (N = 50)
Mean	4.7	3.3	4.6	4.5
Important (4-5)	95%	25%	84%	84%
Not important (1-3)	5%	75%	16%	16%

Source: Q6

Table B-8: Aware of OBR Loans - Among Non-OBR Participants (n = 31)

RESPONSE	COUNT	PERCENT
Yes	11	35%
No	16	52%
Don't Know	2	6%
Not answered	2	6%

Source: Q7

Table B-9: How Customers Learned about OBR – Among Those Aware of OBR (Unprompted, Multiple Responses Allowed)

MENTIONS	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 11)	TOTAL (N = 50)
Contractor	71%	80%	73%	74%
Word of mouth	8%	13%	9%	10%
Mailing	13%	7%	9%	10%
Internet	4%	0%	0%	2%
TV or radio	0%	0%	9%	2%
Don't know	4%	0%	18%	6%

Table B-10: What Contactors Say about OBR – Among Those that Heard about OBR from Contractors (Unprompted, Multiple Responses Allowed)

MENTIONS	OBR PARTICIPANTS (N = 17)	INCOMPLETE PARTICIPANTS (N = 12)	NON-OBR PARTICIPANTS (N = 8)	TOTAL (N = 37)
Can pay off on monthly utility bill	59%	25%	50%	46%
Explained details (incentives/measures/how pilot works)	41%	17%	25%	30%
Save money (no upfront cost, small bill)	12%	25%	0%	14%
They would contact ETO/handle paperwork	18%	8%	0%	11%
Good experience with pilot	6%	17%	0%	8%
Low credit requirements	6%	0%	13%	5%
Good experience with pilot	6%	0%	0%	3%
Other*	6%	0%	0%	3%
Don't Know	0%	33%	13%	14%

Table B-11: Applied for SWR OBR Ioan – Among Non-OBR Participants and Incompletes Aware of OBR Ioans

RESPONSE	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 12)	TOTAL (N = 27)
Yes	80%	0%	44%
No	7%	92%	44%
Other	7%	0%	4%
Not answered	7%	8%	7%

<sup>\*</sup> Other responses included: Energy Trust recommended contacting a contractor and were not helpful

Table B-12: Percent that Found OBR Loan Characteristics Appealing (4 or 5 on a Scale from 1 'Not at All Appealing' to 5 'Very Appealing') – Among Those that Applied for OBR Loan

LOAN CHARACTERISTIC	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 12)	TOTAL (N = 36)
Ability to make loan payments on utility bill	83%	83%	83%
Lack of fees or closing costs	92%	67%	83%
Loan did not require collateral	79%	83%	81%
Interest rate	50%	58%	53%
Loan qualification requirements (n = 25)*	65%	50%	60%

Table B-13: What Else was Appealing about Loan – Among those that Applied for OBR Loan (Unprompted, Multiple Responses Allowed)

MENTIONS	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 12)	TOTAL (N = 36)
Convenient	38%	25%	33%
Nothing/had to get a loan	38%	17%	31%
Cheap/no upfront cost	13%	33%	19%
Customer service (Energy Trust)	13%	8%	11%
Fast	4%	17%	8%
Contractor assistance	13%	0%	8%
Don't Know	0%	8%	3%
Not Answered	0%	8%	3%

Source: Q12

Table B-14: What was Most Important in Decision to Apply for a Loan – Among those that Applied for OBR Loan (Multiple Responses Allowed)

RESPONSE	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 12)	TOTAL (N = 36)
On bill payment ability	58%	42%	53%
Nothing/necessity	21%	0%	14%
Application process speed	8%	8%	8%
Nothing required upfront (collateral, fees)	4%	17%	8%
Loan requirements	4%	8%	6%
Interest rate	4%	0%	3%

Continued . . .

<sup>\*</sup> Question added 6/30/2015.

RESPONSE	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 12)	TOTAL (N = 36)
Ease of application	0%	8%	3%
Energy Efficiency	0%	8%	3%
Other*	0%	8%	3%

Table B-15: Percent that Agree with Statements Regarding Experience Applying for an OBR Loan (4 or 5 on a Scale from 1 - 'Strongly Disagree' to 5 - 'Strongly Agree') – Among those that Applied for OBR Loan

OBR LOAN EXPERIENCE	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 12)	TOTAL (N = 36)
I received loan approval in a reasonable amount of time	75%	58%	69%
The loan application process went smoothly	71%	58%	67%
I am satisfied with my experience with Craft3	79%	42%	67%
The loan application was easy to complete	58%	67%	61%
Repaying the loan is easy (n = 22)*	67%	N/A	N/A

Source: Q14

Table B-16: Importance of OBR in Decision to Make Energy Upgrades (On a Scale from 1 - 'Not at All Important' to 5 - 'Very Important') – Among OBR Participants (n = 24)

IMPORTANCE OF ACCESS TO OBR	COUNT	PERCENT
Important (4-5)	21	88%
Not important (1-3)	2	8%
Not Applicable	1	4%

Source: Q15

Table B-17: How Project would have Differed without Loan – Among OBR Participants (Multiple Responses Allowed, n = 24)

DIFFERENCE	COUNT	PERCENT
Not done the project at all	9	38%
Delayed the project for more than six months	6	25%
Done the same project	5	21%
Done a smaller project	4	17%
Installed less expensive equipment	3	13%
Other*	1	4%

<sup>\*</sup> Other responses included 'Rebates'

<sup>\*</sup> Asked of 'past' participants

<sup>&#</sup>x27; 'Other' responses include 'may have not done project'

Table B-18: How Participants would have Paid for Upgrades without Loan – Among OBR Participants that Still would have Done Project without OBR Loan (Multiple Responses Allowed, n =15)

PAYMENT METHOD	COUNT	PERCENT
Paid cash	8	53%
Used a credit card	4	27%
Gotten a loan from a different source	6	40%
Used a contractor payment plan	1	7%
Other*	3	20%
Not answered	1	7%

Table B-19: Why Customer chose not to Use OBR Loans – Among Incompletes and Non-OBR Participants Aware of OBR Loans (Unprompted, Multiple Responses Allowed, n = 26)

MENTIONS	INCOMPLETE PARTICIPANTS (N = 10*)	NON-OBR PARTICIPANTS (N = 11)	TOTAL (N = 26)
Did not want to take on debt	40%	45%	43%
Had the cash so didn't need the loan	10%	55%	33%
High interest rate	20%	9%	14%
The application process was slow	20%	9%	14%
Other	20%	0%	8%
Don't know	0%	9%	5%
Not answered	20%	18%	19%

Source: Q18

Table B-20: Payment Methods – Among Incompletes and Non-OBR Participants that Installed Measures (Unprompted, Multiple Responses Allowed, n = 34)

PAYMENT METHOD	INCOMPLETE PARTICIPANTS (N = 5)	NON-OBR PARTICIPANTS (N = 29)	TOTAL (N = 34)
Cash	40%	66%	62%
Loan (but not SWR OBR loan)	20%	7%	9%
Credit Card	20%	7%	9%
Contractor payment plan	0%	3%	3%
Other	40%	10%	15%
Not Answered	20%	10%	12%

<sup>\* &#</sup>x27;Other' responses include use: 'tax refund', 'credit union', and 'retirement fund'

<sup>\*</sup> Applicants that did not qualify were removed from analysis

<sup>\*\* &#</sup>x27;Other' responses included: 'Didn't follow through' and 'Project didn't pencil out'

<sup>\* &#</sup>x27;Other' responses included: 'Didn't pay for it', 'retirement or savings', 'borrowed from family' and 'Energy assistance program'

## B.3. Program Effectiveness

Table B-21: Contractor Provided Estimate – Among OBR Participants and Incompletes

RESPONSE	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	TOTAL (N = 39)
Yes	96%	67%	85%
No	4%	13%	8%
Don't know	0%	13%	5%
Not answered	0%	7%	3%

Source: Q20

Table B-22: Bill Change Estimate – Among those that were provided an Estimate

RESPONSE	OBR PARTICIPANTS (N = 23)	INCOMPLETE PARTICIPANTS (N = 10)	TOTAL (N = 33)
Higher	35%	60%	42%
Lower	35%	30%	33%
About the Same	17%	10%	15%
Not applicable	4%	0%	3%
Don't know	4%	0%	3%
Not answered	4%	0%	3%

Source: Q21

Table B-23: Influence of Bill Change Estimate – Among those that were provided an Estimate

INFLUENCE	OBR PARTICIPANTS (N = 23)	INCOMPLETE PARTICIPANTS (N = 10)	TOTAL (N = 33)
Influential (4-5)	65%	80%	70%
Not influential (1-3)	30%	20%	27%
Not Answered	4%	0%	3%

Table B-24: Why Rated Influence of Utility Bill Change Estimate as 4 or 5 (On a Scale from 1 - 'Not at All Influential' to 5 – 'Very Influential') in Decision to do Upgrade (Unprompted, Multiple Responses Allowed)

MENTIONS	OBR PARTICIPANTS (N = 15)	INCOMPLETE PARTICIPANTS (N =8)	TOTAL (N = 23)
Save money	53%	13%	39%
Low up front cost	13%	38%	22%
Previous experience	13%	0%	9%
Fixed income	7%	0%	4%
Provided an opportunity wouldn't have otherwise	7%	0%	4%
Interest and lien	0%	13%	4%
Energy efficiency	7%	0%	4%
Estimate was influential, just scared of debt	0%	13%	4%
Don't know	0%	13%	4%
Not answered	13%	13%	13%

Table B-25: Why Rated Influence of Utility Bill Change Estimate as 1, 2 or 3 (On a Scale from 1 - 'Not at All Influential' to 5 – 'Very Influential') in Decision to do Upgrade (Unprompted, Multiple Responses Allowed)

MENTIONS	OBR PARTICIPANTS (N = 7)	INCOMPLETE PARTICIPANTS (N =2)	TOTAL (N = 9)
Provided an opportunity wouldn't have otherwise	53%	13%	33%
Save money	13%	38%	22%
Interest and lien	13%	0%	22%
No other choice	7%	0%	22%
Low up front cost	7%	0%	11%
Energy efficiency	0%	13%	11%
Not answered	7%	0%	11%

Source: Q23

Table B-26: Change in Bill since Completing Project – Among OBR Participants (n = 24)

CHANGE	COUNT	PERCENT
About the same as expected	10	42%
Much lower than expected	4	17%
Slightly lower than expected	3	13%

Continued. . .

CHANGE	COUNT	PERCENT
Much higher than expected	3	13%
Slightly higher than expected	1	4%
Too early to tell/have not received a bill	1	4%
Not applicable	1	4%
Don't know	1	4%

Table B-27: Participants would Change their Project, Knowing what they Know Now - Among Past OBR Participants (n = 19)

RESPONSE	COUNT	PERCENT
Yes	3	16%
No	14	74%
Not applicable	2	11%

Source: Q25

Table B-28: Changes Participants would Have Made to Project, Knowing What they Know Now – Among Past OBR Participants that would have Made Changes (Unprompted, Multiple Responses Allowed, n = 3)

CHANGES	COUNT	PERCENT
Done More	2	67%
Not done project	1	33%

Source: Q26

Table B-29: What Participants would have Like to have known - Among Past OBR Participants (Unprompted, Multiple Responses Allowed, n = 19)

MENTIONS	COUNT	PERCENT
Nothing	12	63%
Worthwhile	3	16%
Wouldn't actually be On bill (because of current payment method)	2	11%
Could have done sooner	1	5%
Loan is through Craft3 not utility (cannot pay extra on bill to pay down faster)	1	5%
More exact payments	1	5%
Tax credit/filing info	1	5%
Not applicable	1	5%

Table B-30: Other Offerings Customers would like to see (Unprompted, Multiple Responses Allowed)

MENTIONS	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 31)	TOTAL (N = 70)
Insulation*/Air sealing	42%	7%	26%	27%
Windows	42%	13%	23%	27%
Water Heaters*	17%	0%	13%	11%
Nothing	4%	13%	10%	9%
Furnace & DHP, Air Conditioning	8%	0%	13%	9%
Lighting	8%	0%	10%	7%
Low Income	0%	20%	0%	4%
Appliance recycling/trade in*	4%	0%	6%	4%
Solar	0%	7%	6%	4%
Increase awareness	4%	0%	3%	3%
Non-traditional family homes	0%	7%	0%	1%
Other**	8%	7%	0%	4%
Not applicable	0%	0%	3%	1%
Don't know	17%	33%	19%	21%

### B.4. Conclusion

Table B-31: Would Consider OBR for Future Energy Upgrades

RESPONSE	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 31)	TOTAL (N = 70)
Yes	92%	93%	45%	71%
No	8%	7%	35%	20%
Depends	0%	0%	13%	6%
Don't know	0%	0%	3%	1%
Not answered	0%	0%	3%	1%

Source: Q29

<sup>\*</sup> Already available in Energy Trust program

<sup>\*\* &#</sup>x27;Other' responses included: 'more local help', 'more savings for the money', and 'other low interest loans'

Table B-32: Why Customers Would Consider an OBR loan in the Future – Among those that would consider an OBR loan in the Future (Unprompted, Multiple Responses Allowed)

MENTIONS	OBR PARTICIPANTS (N = 22)	INCOMPLETE PARTICIPANTS (N = 14)	NON-OBR PARTICIPANTS (N = 14)	TOTAL (N = 50)
Easy/Convenient	41%	43%	29%	38%
Affordable/Cheaper	36%	7%	14%	22%
Flexible	9%	0%	29%	12%
Options for other products	18%	7%	0%	10%
Don't want to take on debt	0%	14%	7%	6%
Too much paperwork	5%	0%	0%	2%
Too many restrictions	0%	7%	0%	2%
Issues with lender	5%	0%	0%	2%
Other	5%	14%	7%	8%
Don't know	0%	7%	21%	8%
Not answered	5%	7%	7%	6%

Table B-33: Why Customers Would NOT Consider an OBR Loan in the Future - Among those that would NOT Consider an OBR loan in the Future (Unprompted, Multiple Responses Allowed)

MENTIONS	OBR PARTICIPAN TS (N = 2)	INCOMPLETE PARTICIPAN TS (N = 1)	NON-OBR PARTICIPAN TS (N = 1)	TOTAL (N = 14)
Don't want debt/payments	100%	0%	64%	71%
Too many restrictions	0%	0%	9%	7%
Issues with lender	0%	0%	9%	7%
Other	0.0%	100%	9%	14%

Source: Q30

Table B-34: What Would Make OBR More Appealing (Unprompted, Multiple Responses Allowed)

MENTIONS	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 31)	TOTAL (N = 70)
Nothing	54%	20%	32%	37%
Lower interest/no interest	21%	27%	29%	26%
Lower utility bill	4%	13%	10%	9%
Different lender	4%	7%	3%	4%

Continued. . .

<sup>\*\* &#</sup>x27;Other' responses included: 'EE is important', 'no other options', and 'would have done on another retrofit'

MENTIONS	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 31)	TOTAL (N = 70)
More educational info	4%	7%	0%	3%
Other	0%	7%	10%	6%
Don't know	8%	13%	16%	13%
Not answered	4%	13%	3%	6%

Table B-35: Experience with Energy Trust (Unprompted, Multiple Responses Allowed)

MENTIONS	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 31)	TOTAL (N = 70)
Nothing to add	42%	47%	29%	37%
Satisfied	21%	27%	42%	31%
Good customer service	29%	20%	26%	26%
Fast	13%	7%	3%	7%
Not satisfied	4%	7%	3%	4%
More info/someone to ask questions	8%	0%	3%	4%
Issues with contractor	4%	0%	3%	3%
Too complicated	0%	0%	3%	1%
Take fixed income into account	0%	7%	0%	1%
Should be a 'pass through' program	0%	0%	3%	1%
Other	0%	0%	3%	1%
Not answered	13%	7%	10%	10%

Source: Q32

<sup>\*</sup> Other responses included obtaining approval

# B.5. Demographics<sup>38</sup>

**Table B-36: Housing Type** 

HOUSING TYPE	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPAN TS (N = 31)	TOTAL (N = 70)
Single-family detached house	71%	73%	68%	70%
Duplex, triplex, or four-plex	4%	7%	3%	4%
Apartment or condominium with 5 units or more	0%	7%	0%	1%
Manufactured or mobile home	21%	7%	26%	20%
Not answered	4%	7%	3%	4%

Source: Q33

Table B-37: Ages in Household (Multiple Responses Allowed)\*

AGES IN HOUSEHOLD*	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 30)	TOTAL (N = 70)
Less than 18 years old	38%	40%	17%	29%
18 - 64 years old	63%	80%	57%	63%
65 years and older	54%	33%	53%	49%
Not answered	4%	7%	3%	4%

Source: Q34

Table B-38: Income

INCOME	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 31)	TOTAL (N = 70)
Under \$20,000	13%	7%	19%	14%
\$20,000 to under \$30,000	17%	20%	35%	26%
\$30,000 to under \$40,000	25%	27%	23%	24%
\$40,000 to under \$50,000	21%	13%	3%	11%
\$50,000 to under \$60,000	8%	0%	0%	3%
\$60,000 to under \$75,000	4%	0%	0%	1%

Continued. . .

research into action"

<sup>\*</sup> Percent with one or more individual in each age group

Three respondents did not complete demographic questions due to time constraints. Their responses to those questions are recorded as 'not answered'

INCOME	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 31)	TOTAL (N = 70)
\$75,000 to under \$100,000	0%	13%	0%	3%
\$150,000 to under \$200,000	0%	0%	3%	1%
Prefer not to say	4%	7%	6%	6%
Don't know	4%	7%	3%	4%
Not answered	4%	7%	6%	6%

Table B-39: Home Ownership

HOME OWNERSHIP	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 31)	TOTAL (N = 70)
Own/buying	96%	93%	94%	94%
Rent/lease	0%	0%	3%	1%
Not answered	4%	7%	3%	4%

Source: Q36

**Table B-40: Square Footage** 

SQUARE FOOTAGE	OBR PARTICIPANTS (N = 24)	INCOMPLETE PARTICIPANTS (N = 15)	NON-OBR PARTICIPANTS (N = 31)	TOTAL (N = 70)
Less than 500	0%	0%	0%	0%
500 to under 1,000	8%	20%	23%	17%
1,000 to under 1,500	54%	20%	45%	43%
1,500 to under 2,000	21%	20%	13%	17%
2,000 to under 2,500	8%	7%	3%	6%
2,500 to under 3,000	0%	13%	3%	4%
Greater than 3,000	4%	7%	0%	3%
Don't know	0%	7%	10%	6%
Not answered	4%	7%	3%	4%

Source: Q37

# Appendix C. Summary of Loan Closing Documents

Table C-1 lists the documents SWR OBR participants were required to review, and in most cases, return in order to close their loans. In total, participants received 19 documents, totaling 34 pages and requiring 17 signatures, one set of initials, electronic contact information if applicable, and a copy of their government-issued identification.

Table C-1: SWR OBR Loan Closing Documents

DOCUMENT TITLE	NUMBER OF PAGES	ACTION REQUIRED OF PARTICIPANT	DESCRIPTION
Agreement to Provide Insurance	1	Signature	Document seeking participant's acknowledgement that Craft3 requires them to insure their home as a condition of the loan, and that, if the participant does not do so, Craft3 may purchase insurance at the participant's expense to cover their collateral.
Amortization Schedule	3	None	Table summarizing loan payments broken out by principal, interest, and remaining balance for the lifetime of the loan.
Boarding Data Sheet	2	None	Summary of loan and project details.
Customer Information Profile	1	Present identification documents	Form listing personal information (name, address, phone number, birth date, taxpayer ID) of participant to be verified by Craft3 staff based on participant identification documents.
Disbursement Request and Authorization	2	2 Signatures	Document authorizing Craft3 to disburse the loan to the contractor and acknowledging that the participant is not obtaining credit insurance.
Information and Electronic Communication	1	Provide email, web, and fax contact information, signature	Authorization for Craft3 to communicate with the participant by email.
Errors and Omissions Agreement	1	Signature	Agreement that the borrower will cooperate with Craft3 to resolve any errors in loan closing documentation.
Consumer Information and Photo Release Form	1	Initial and Signature	Release form providing or declining Craft3 permission to use photographs and content about the participant on its website.
On-bill Repayment Certification and Consent Form	2	Signature	Document requesting, on behalf of the participant, that the utility provide on-bill repayment services for the loan.

Continued. . .

DOCUMENT TITLE	NUMBER OF PAGES	ACTION REQUIRED OF PARTICIPANT	DESCRIPTION
Notification to Borrower	1	Signature	Craft3 notifies the borrower of the utility bill on which they will repay their loan.
[Utility] - Oregon Schedule 8	2	Signature	Document describing the details of the on-bill repayment service the utility will provide.
Disclosure Statement	2	2 Signatures (duplicate)	Document detailing the cost of the loan to the participant.
Loan Checklist	2	None	List of loan characteristics and closing documents.
Privacy Notice	2	Signature	Notice of type of information Craft3 collects about customers, how it is used, and how it is protected.
Notice of Final Agreement	2	2 Signatures (duplicate)	Legal agreement that the participant and Craft3 have agreed to the loan terms.
Consumer Security Agreement	4	Signature	Document granting Craft3 a security interest in the energy efficiency measures installed through the pilot.
UCC Filing Statement	2	None	Pre-filled form for filing (Uniform Commercial Code) UCC lien on energy efficiency measures installed.
Promissory Note	2	Signature	Participant's agreement to repay loan principal and interest.
Letter of Agreement	1	Signature	Participant agrees to use the funds they borrow to make energy efficiency improvements.

# Appendix D. Data Collection Instruments

# D.1. Trade Ally In-Depth Interview Guide

#### D.1.1. Introduction

Hello, may I speak to [Name]?

Hello, my name is \_\_\_\_\_\_ from Research Into Action. I am calling regarding the on-bill repayment element of Energy Trust's Savings Within Reach pilot. I am working with Energy Trust on an evaluation of this pilot and would like to schedule a time to speak with you about your involvement in the pilot. Is there a convenient time for us to talk in the next week or so, the call will last approximately 30 minutes?

[Ask for permission to record interview.]

[If already scheduled an interview and calling back]

Hello [Name],

This is \_\_\_\_\_ from Research Into Action. We're scheduled to talk today about your involvement with the on-bill repayment element of Energy Trust's Savings within Reach Program. Is now still a good time?

# D.1.2. Background

- Q1. How did you first become involved with the Energy Trust of Oregon?
- Q2. How long have you been a part of the Savings Within Reach (or SWR) on-bill repayment program?

#### D.1.3. Motivation to Offer Loans

[Ask for permission to record interview.]

- Q3. What motivated you to become eligible to offer the Savings Within Reach on-bill loans?
- Q4. [*If not addressed*] What did you anticipate would be the main benefits for your business to offering on-bill loans?
- Q5. [If not addressed:] Do you have other financing options available to offer your customers? If so, what are they?
- Q6. [If Q5=Yes] How do those other options compare to the SWR on-bill loans?

#### D.1.4. Presentation of Loan Offering to Customers

- Q7. How often do you discuss payment options the on-bill loans and any other options with your customers? Is it something you discuss with all customers? Most? Some? Few? None?
- Q8. How has this changed, if at all, since you began offering SWR on-bill loans? [If needed: increased, decreased, stayed the same]
- Q9. How do you identify which customers might qualify for SWR?
- Q10. Among those customers that might qualify for SWR, about what proportion do you tell about the on-bill loan? [Follow up if needed]: Why or why not?
- Q11. [If Q10<100%] How do you decide whether to tell a customer about the on-bill loan?
- Q12. What do you typically tell customers about the loan offering?
- Q13. Do most customers seem to understand the on-bill loan process? What parts of the process do they have the most questions about?
- Q14. How, if at all, do you incorporate the bill impact estimator into your discussions with customers about the on-bill loans? [If use bill impact estimator] Why do you use it that way? [If do not use bill impact estimator] Why not?
- Q15. [If use bill impact estimator] In your experience, how influential has the bill impact estimator been in customers' decisions to apply for an on-bill loan?
- Q16. [If use bill impact estimator] In your experience, how accurate is the bill impact estimator?
- Q17. Have you encountered any specific measures or situations for which the bill impact estimator seems less accurate?

# D.1.5. Uptake of Loans

- Q18. Our records indicate that you have submitted # application(s) for SWR on-bill loans and completed # project(s), is that correct? [If not get correct numbers]
- Q19. How does that level of uptake compare to what you expected when you began offering loans? Are customers more or less interested than you anticipated? Why do you think that is?
- Q20. What is appealing to customers about the SWR on-bill loan product? What could improve?
- Q21. What prevents more customers from using the SWR on-bill loans? [If needed: What features do the customers dislike? Taking on debt? High interest rate? Something else?]
- Q22. [ASK IF Q18>0] Has the ability to offer on-bill loans allowed you to do projects that you don't think would have happened otherwise? Has it allowed you to do them sooner?

  If yes: What proportion of customers that got loans do you think would *not* have done the project without an on-bill loan? About half

Q23. Have you had any customers that are initially interested in doing a project because of the on-bill loans, but end up doing the project without the loan?

If yes: how often does that happen? Why do you think that is?

Q24. Have you had any customers choose to use an on-bill loan for part of their project costs and pay the remaining costs some other way?

If yes: How often does that happen? Why do you think that is? [Probe: are they getting additional incentives, don't want to take on more debt, etc.]

# D.1.6. Program Process [ASK IF number of applications in Q18 >0]

Next, I'd like to ask you a few questions about the program process.

Q25. I understand Energy Trust's process for projects that use on-bill loans is different from the standard SWR process in a few key ways. I'd like to hear how those differences have made your work easier, harder, or caused you to change the way you do things for projects using on-bill loans.

First, how, if at all, has the need to get the scope of work (SOW) approved in advance affected your work?

How has the need for the customer to apply and be approved for the loan affected your work?

[If not addressed:] Has the need for these approvals caused any delays in your projects?

[If so:] What impact, if any, has that had on your ability to complete projects?

Q26. How have these differences between the OBR process and the standard SWR process affected your customers' experience with their upgrades?

[If not addressed:] What do customers dislike about the process?

Takes a little bit of extra time, once we explain.

[If not addressed:] How could the process be improved for the customer?

- Q27. How do you track the status of projects as they move through the financing process?
- Q28. What challenges, if any, have you faced in communicating with SWR program staff about the status of applications for on-bill loan projects?
- Q29. Is there anything you would have liked to have known before offering on-bill loans? [If not addressed:] How well did the training prepare you for offering the on-bill loans? It was great, showed me everything I needed to.

#### D.1.7. Conclusion

We're almost done, I just have a few more general questions.

Q30. What changes, if any, do you think Energy Trust should make to the SWR on-bill loan offering? Why do you say that?

Q31. Is there anything we have not yet talked about regarding the pilot that you would like to tell me about?

# D.2. Participant Survey Guide

#### D.2.1. Introduction

[IF GROUP = OBR PARTICIPANT]

Hi, my name is \_\_\_ and I'm calling from Research Into Action on behalf of Energy Trust of Oregon. I'm calling because we have a record that your household recently received a rebate from Energy Trust for installing (a) [MEASURE], and your contractor and Energy Trust helped connect you with a loan you are repaying on your [utility] bill. We're working with Energy Trust to understand how that program is working and how it could better work with people like you, and I'd like to ask you a few questions about your experience.

[If needed] We will keep your responses completely confidential.

[If needed] It should only take about 15 minutes.

[IF GROUP = INCOMPLETE]

Hi, my name is \_\_\_\_ and I'm calling from Research Into Action on behalf of Energy Trust of Oregon. I'm calling because we have a record that your households recently considered installing (a) [MEASURE] that would have qualified for rebates and a loan through Energy Trust's Savings Within Reach On-Bill Repayment program. I have some questions about your experience working with Energy Trust and your satisfaction with the program that will help Energy Trust understand how the program could better work with people like you.

[If needed] We will keep your responses completely confidential.

[If needed] It should only take about 10 minutes.

[IF GROUP = NON-OBR]

Hi, my name is \_\_\_ and I'm calling from Research Into Action on behalf of Energy Trust of Oregon. I'm calling because I understand your household recently installed (a) [MEASURE] that qualified for a rebate from Energy Trust's Savings Within Reach program. I have some questions about your experience working with Energy Trust and your contractor that will help Energy Trust understand how the program is working and how it could better work with people like you.

[If needed] We will keep your responses completely confidential.

[If needed] It should only take about 10 minutes.

#### D.2.2. Screening [ASK ALL]

S1. Were you involved in making decisions about the [MEASURE] project?

#### [SINGLE RESPONSE]

- 1. Yes
- 2. No

#### [IF S1 = 2, ELSE SKIP]

S2. Can I speak with someone else in your household who was involved in making decisions about installing the [MEASURE]?

#### [SINGLE RESPONSE]

- 1. Yes [make note of new respondent's name]
- 2. No [THANK AND TERMINATE]

#### [IF S2 = 1, ELSE SKIP]

S3. [Once correct contact is reached repeat intro cue] Your perspective is very important in helping Energy Trust improve the program. I have a few questions about your experience; they should take about 15 minutes. Is this a good time to talk? [If not, offer to complete as much as they can now and/or reschedule]

#### [SINGLE RESPONSE]

- 1. Yes
- 2. Not a good time [ask to reschedule and record date]
- 3. No, and would not like to reschedule [THANK AND TERMINATE]
- S4. Before we start, have I reached you on a cell phone?
  - 1. Yes
  - 2. No

#### [IF S4 = 1, ELSE SKIP]

- S5. Are you in a place where you can talk safely? If needed: not driving.
  - 1 Yes
  - 2. No

#### [IF S5=2, ELSE SKIP]

- S6. Is there a better time I can reach you?
  - 1. Yes [if yes schedule for another time]
  - 2. No

#### [IF GROUP = INCOMPLETE]

- S7. Just to confirm, are you still moving forward with the loan?
  - 1. Yes
  - 2. No

[IF 
$$S2 = 2$$
 OR  $S3 = 2$  OR  $S6=2$ ]

Thank you for your time.

# D.2.3. Loan [ASK ALL]

#### [ASK ALL]

Q1. Why were you interested in installing (a) [MEASURE]? [Do not read, probe to code]

#### [MULTIPLE RESPONSE]

- 1. Needed to replace
- 2. Availability of incentives
- 3. Reduce energy costs
- 4. Increase home comfort
- 5. Increase home value
- 6. Reduce environmental impact
- 7. Other: [OPEN-ENDED RESPONSE]

#### [Do not read:]

- 98. Don't know
- 99. Refused

#### [IF GROUP = INCOMPLETE AND S7 = 2 (NO), ELSE SKIP]

Q2. Even though you did not use the on-bill repayment loan to pay for the **[measure]**, did you ultimately install the **[measure]**?

#### [SINGLE RESPONSE]

- 1. Yes
- 2. No

#### [Do not read:]

- 98. Don't know
- 99. Refused

#### [IF Q2 = 2, ELSE SKIP]

- Q3. Why did you decide not to install (a) [measure]?
  - 1. [OPEN-ENDED RESPONSE]

- 98. Don't know
- 99. Refused

#### [IF Q2 = 1, ELSE SKIP]

- Q4. How, if at all, did the project you completed when you installed your **[measure]** differ from the one you were considering when your contractor submitted an application to Energy Trust?
  - 1. [OPEN-ENDED RESPONSE]

[Do not read:]

- 98. Don't know
- 99. Refused

#### [IF Q2=1 OR GROUP ≠ INCOMPLETE, ELSE SKIP]

Q5. Did you receive incentives from Energy Trust when you installed the [measure]? If needed: The incentives would have been listed on the contractor's invoice for your project, and the contractor would have deducted them from the amount you had to pay.

#### [SINGLE RESPONSE]

- 1. Yes
- 2. No

[Do not read:]

- 98. Don't know
- 99. Refused

#### [IF Q5=1, ELSE SKIP]

Q6. How important were Energy Trust's Savings Within Reach incentives in your decision to move forward with your project? These incentives would have been listed on the contractor's invoice for your project, and the contractor would have subtracted them from the amount you had to pay. Please use a one to five scale where one means "not at all important" and five means "very important."

#### [SINGLE RESPONSE]

- 1. 1 Not at all important
- 2. 2
- 3. 3
- 4. 4
- 5. 5 Very important

- 97. Not applicable
- 98. Don't know
- 99. Refused

#### [IF GROUP = NON-OBR]

Q7. Were you aware that you could get a loan to pay for your project that you would repay on your [utility] bill?

#### [SINGLE RESPONSE]

- 1. Yes
- 2. No

#### [Do not read:]

- 98. Don't know
- 99. Refused

#### [IF GROUP = OBR PARTICIPANT, OR INCOMPLETE OR IF Q7 = 1, ELSE SKIP]

Q8. How did you learn you could pay for your [MEASURE] with a loan on your **[utility]** bill? [Do not read, probe to code]

#### [MULTIPLE RESPONSE]

- 1. Contractor
- 2. Friend/Family/Other word of mouth
- 3. Workshop or event
- 4. TV or radio
- 5. Internet
- 6. Mailing

#### [Do not read:]

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 98. Don't know
- 99. Refused

#### [IF Q8=1, ELSE SKIP]

- Q9. What did the contractor tell you about the option to pay for your [measure] with a loan on your [utility] bill?
  - 1. [OPEN-ENDED RESPONSE]

#### [Do not read:]

- 98. Don't know
- 99. Refused

#### [IF (GROUP = INCOMPLETE AND S7 = 2 (NO)), OR Q7 = 1]

Q10. Did you apply for a Savings Within Reach On-Bill Repayment loan?

#### [SINGLE RESPONSE]

- 1. Yes
- 2. No

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 98. Don't know

#### 99. Refused

#### [ASK IF GROUP = OBR PARTICIPANT OR Q10 = 1]

Q11. I'm going to read a list of characteristics of the on-bill repayment loan. Please tell me how appealing each of the characteristics were to you when deciding to take out the loan on a scale from 1 (not at all appealing) to 5 (very appealing). How appealing was...*Interviewer: do not read 97-99* 

[MATRIX QUESTION: SCALE] [RANDOMIZE ITEMS]

[LOGIC] Item	1 Not at all appealing	2	3	4	5 Very appealing	97 NA	 99 RF
Interest rate							
Ability to make loan payments on your <b>[utility]</b> bill							
Fact that the loan did not require collateral							
Lack of fees or closing costs							
Loan qualification requirements ( <i>If needed: utility bill payment history, lower credit score</i> ).							

#### [ASK IF GROUP = OBR PARICIPANT OR Q10 = 1]

- Q12. What else, if anything, was appealing to you about the loan?
  - 1. [OPEN-ENDED RESPONSE]

[Do not read:]

- 98. Don't know
- 99. Refused

#### [ASK IF GROUP = OBR PARTICIPANT OR Q10 = 1]

Q13. Of all the things that were appealing to you about the loan, what was most important in your decision to apply for a loan?

If none piped from Q8, ask instead: So then, what was most appealing about the loan?

#### [SINGLE RESPONSE]

1. [PIPE IN ALL RESPONSES FROM Q11 RATED "4 OR 5"]

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 97. Not applicable
- 98. Don't know
- 99. Refused

#### [ASK IF GROUP = OBR PARTICIPANT OR Q10=1]

Q14. I'd like to hear about your experience applying for the loan. Using a one to five scale, with one meaning 'strongly disagree' and five meaning 'strongly agree,' to what extent do you agree that...

Interviewer: prompt 'to what extent you agree that' with scale response for each, do not read 97-99.

- 1. *1 Strongly disagree*
- 2. 2
- 3. *3*
- 4. 4
- 5. 5 Strongly agree

[ $IF \le 3$  FOR EACH QUESTION] Interviewer: prompt with: Why do you say that? [MATRIX QUESTION]

# [RANDOMIZE ITEMS]

The loan application was easy to complete	Scale	Why?
I received loan approval in a reasonable amount of time	Scale	Why?
The loan application process went smoothly	Scale	Why?
[IF OBR PARTICIPANT TYPE = PAST] Repaying the loan is easy	Scale	Why?
I am satisfied with my experience with Craft3, the financial institution that processed the loan application.	Scale	Why?

#### [ASK IF GROUP = OBR PARTICIPANT]

Q15. Again, using a one to five scale, please tell me how important access to the on-bill loan was in your decision to make energy upgrades, where one means "not at all important" and five means "very important."

#### [SINGLE RESPONSE]

- 1. 1 Not at all important
- 2. 2
- 3. 3
- 4. 4
- 5. 5 Very important

- 97. Not applicable
- 98. Don't know
- 99. Refused

#### [IF GROUP = OBR PARTICIPANT]

Q16. If you had <u>not</u> received the loan, how would your project have been different? Would you have: [READ all and select all respondent says "yes" to.]

#### [MULTIPLE RESPONSE]

- 1. Not done the project at all [answer is exclusive]
- 2. Delayed the project for more than six months
- 3. Done a smaller project
- 4. [Display if measure  $\neq$  insulation]Installed less expensive equipment
- 5. Done the same project [answer is exclusive]

#### [Do not read:]

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 98. Don't know
- 99. Refused

#### [IF GROUP = OBR PARTICIPANT AND Q16 $\neq$ 1]

Q17. How would you have paid for your upgrades if you had <u>not</u> received the loan? Would you have [READ all and select all respondent says "yes"]:

#### [MULTIPLE RESPONSE]

- 1. Paid cash
- 2. Used a credit card
- 3. Gotten a loan from a different source
- 4. Used a contractor payment plan
- 5. Not have completed an upgrade

#### [Do not read:]

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 98. Don't know
- 99. Refused

#### [IF Q7 = 1 OR (GROUP = INCOMPLETE AND S7 = 2 (NO)), ELSE SKIP]

Q18. Why did you choose <u>not</u> to use the on-bill repayment option? [Do not read, probe to code]

#### [MULTIPLE RESPONSE]

- 1. High interest rate
- 2. Did not want to take on debt
- 3. Did not want to make loan payments on [utility] bill
- 4. Had the cash so didn't need loan
- 5. Application too difficult
- 6. I didn't meet the requirements
- 7. The application process was slow

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 97. Not applicable

- 98. Don't know
- 99. Refused

#### [IF Q2 = 1 OR GROUP = NON-OBR, ELSE SKIP]

Q19. How did you pay for your project? [Do not read, probe to code]

#### [MULTIPLE RESPONSE]

- 1. Loan (but not SWR OBR loan)
- 2. Credit Card
- 3. Cash
- 4. Contractor payment plan
- 5. SWR OBR loan

#### [Do not read:]

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 98. Don't know
- 99 Refused

# D.2.4. Program Effectiveness [ASK ALL]

#### [IF GROUP ≠ NON-OBR, ELSE SKIP]

Q20. Did your contractor give you an estimate for how your **[utility]** bill would change after you completed your project, taking into account both your loan payments and the energy you would be saving?

#### [SINGLE RESPONSE]

- 1. Yes
- 2. No

#### [Do not read:]

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 97. Not applicable
- 98. Don't know
- 99. Refused

#### [DISPLAY IF Q20 = 1 (YES)]

Q21. Did the contractor estimate that your [utility] bill would be higher, lower, or the same after you received the loan? [Do not read, probe to code]

#### [SINGLE RESPONSE]

- 1. Higher
- 2. Lower
- 3. About the same

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 97. Not applicable

- 98. Don't know
- 99. Refused

#### [IF Q20 = 1 (YES), ELSE SKIP]

Q22. On a scale from one to five, where one means "not at all influential" and five means "very influential," how influential was that estimate of how your [utility] bill would change in your decision to complete your energy efficiency improvement project?

#### [SINGLE RESPONSE]

- 1. 1 Not at all influential
- 2. 2
- 3. 3
- 4. 4
- 5. 5 Very influential

#### [Do not read:]

- 97. Not applicable
- 98. Don't know
- 99. Refused

#### [IF Q22 = 1-5, ELSE SKIP]

- Q23. Why do you say that?
  - 1. [OPEN-ENDED RESPONSE]

#### [Do not read:]

- 98. Don't know
- 99. Refused
- Q24. [IF GROUP = OBR PARTICIPANT, ELSE SKIP] How does the change you've seen in your [utility] bill since completing your project compare to what you expected? Is your bill: [READ until respondent says "yes"]

#### [SINGLE RESPONSE]

- 1. Much lower than expected
- 2. Slightly lower than expected
- 3. About the same as expected
- 4. Slightly higher than expected
- 5. Much higher than expected
- 6. Too early to tell

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 97. Not applicable
- 98. Don't know
- 99. Refused

Q25. [IF OBR PARTICIPANT TYPE = PAST, ELSE SKIP] Knowing what you know now about how the loan payments have changed your [utility] bills, would you have changed anything about the project you completed? [Probe: how you paid for project, size of project]

#### [SINGLE RESPONSE]

- 1. Yes
- 2. No

#### [Do not read:]

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 97. Not applicable
- 98. Don't know
- 99. Refused

#### [IF Q25 = 1, ELSE SKIP]

- Q26. What would you have changed?
  - 1. [OPEN-ENDED RESPONSE]

#### [Do not read:]

- 98. Don't know
- 99. Refused
- Q27. [IF OBR PARTICIPANT TYPE = PAST, ELSE SKIP] Looking back, what, if anything, would you have liked to have known about the on-bill loan before you completed your project?
  - 1. [OPEN-ENDED RESPONSE]

#### [Do not read:]

- 98. Don't know
- 99. Refused

#### [ASK ALL]

- Q28. The Energy Trust program you participated in is focused on providing additional assistance to income-qualified households. What other offerings or programs would you like to see that could help income-qualified households save energy?
  - 1. [OPEN-ENDED RESPONSE]

- 98. Don't know
- 99. Refused

#### D.2.5. Conclusion [ASK ALL]

#### [ASK ALL]

Q29. Would you consider using a loan that is repaid via your **[utility]** bill to pay for <u>future</u> energy efficiency upgrades to your home?

#### [SINGLE RESPONSE]

- 1. Yes
- 2. No

#### [Do not read:]

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 97. Not applicable
- 98. Don't know

#### [ASK IF Q29 = 1 OR 2, ELSE SKIP]

Q30. Why do you say that?

#### [SINGLE RESPONSE]

1. [OPEN-ENDED RESPONSE]

#### [Do not read:]

- 97. Not applicable
- 98. Don't know

#### [ASK ALL]

Q31. What, if anything, would make the offer of a loan you could repay on your **[utility]** bill more appealing?

#### [SINGLE RESPONSE]

1. [OPEN-ENDED RESPONSE]

#### [Do not read:]

- 97. Not applicable
- 98. Don't know

#### [ASK ALL]

Q32. Is there anything else you would like to add about your experience with Energy Trust that we have not already talked about?

# D.2.6. Demographics [ASK ALL]

We are almost finished, I just have a few general questions.

#### [ASK ALL]

- Q33. What type of home do you live in? [Do not read, probe to code]
  - 1. Single-family detached house

- 2. Single-family attached home (such as townhouse)
- 3. Duplex, triplex, or four-plex
- 4. Apartment or condominium with 5 units or more
- 5. Manufactured or mobile home

#### [Do not read]

- 96. Other, please specify: [OPEN-ENDED RESPONSE]
- 98. Don't know
- 99. Refused

#### [ASK ALL]

Q34. Including yourself, how many of the people currently living in your home year-round are in the following age group?

#### [MATRIX QUESTION]

[LOGIC]	Item	Numeric Response	96 Other, specify		98 DK	99 RF
1.	Less than 18 years old					
2.	18 to 24 years old					
3.	25 to 34 years old					
4.	35 to 44 years old					
5.	45 to 54 years old					
6.	55 to 64 years old					
7.	65 years old or older					

#### [ASK ALL]

- Q35. I'm going to read a list of options. Please stop me when I reach the range that includes your annual household income from all sources in 2014 before taxes.
  - 1. Under \$20,000
  - 2. \$20,000 to under \$30,000
  - 3. \$30,000 to under \$40,000
  - 4. \$40,000 to under \$50,000
  - 5. \$50,000 to under \$60,000
  - 6. \$60,000 to under \$75,000
  - 7. \$75,000 to under \$100,000
  - 8. \$100,000 to under \$150,000
  - 9. \$150,000 to under \$200,000
  - 10. Over \$200,000
  - 11. Prefer not to say

- 98. Don't know
- 99. Refused

#### [ASK ALL]

- Q36. Do you or members of your household own your home or do you rent it? [Do not read, probe to code]
  - 1. Own/buying
  - 2. Rent/lease
  - 3. Occupy rent-free

#### [Do not read]

- 98. Don't know
- 99. Refused

#### [ASK ALL]

- Q37. Approximately how many square feet of living space are there in your residence, including bathrooms, foyers and hallways (exclude garages, basements and unheated porches)? [Do not read, probe to code]
  - 1. Less than 500
  - 2. 500 to under 1,000
  - 3. 1,000 to under 1,500
  - 4. 1,500 to under 2,000
  - 5. 2,000 to under 2,500
  - 6. 2,500 to under 3,000
  - 7. Greater than 3,000

#### [Do not read]

- 98. Don't know
- 99. Refused

#### [IF OBR PARTICIPANT TYPE = RECENT]

- Q38. Would it be all right to contact you in a few months to ask some follow up questions about how the repayments are going? It would take less than five minutes.
  - 1. Yes
  - 2. No

#### [Do not read]

Those are all the questions we have for you. Thank you kindly for your time.