research/into/action inc

Final Report

Evaluation of Energy Trust Programs in Southwest Washington

Funded By:

EnergyTrust of Oregon

Prepared By:

research/into/action inc

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EXECUTIVE SUMMARY

Results to date suggest that the three Energy Trust programs operating in NWN territory in SW WA from May 2011 to December 2011 are performing well. Contractors offered positive comments about the programs and reported that the programs helped them sell energy efficiency projects.

EXISTING BUILDINGS

The Existing Buildings program exceeded stretch goals. However, budget constraints, coupled with the requirement that incentives make up at least 60% of program costs in SW WA, may limit how much staff resources can be increased to expand the program's reach.

Developing a network of trade allies in SW WA may help the program expand while keeping staff resources within required limits. The Existing Buildings program has begun developing a network of trade allies in SW WA, and should continue working with trade allies to encourage them to promote the program. A particular argument for working more with SW WA trade allies is the fact that, although we found a solid base of support for energy efficiency programs and specifically Energy Trust, some contractors seem unaware of the opportunities the program provides in SW WA, such as study assistance.

> **Recommendation:** To the extent possible within budget limitations, the PMC should continue to expand recruitment and training efforts of commercial trade allies in SW WA to support program expansion in that area and provide additional training to Oregon-based trade allies on program services available in SW WA.

> **Recommendation:** If possible, Energy Trust should work with NWN and the WUTC to increase the budget for the Existing Buildings program SW WA, to increase staff resources for that program.

EXISTING SINGLE FAMILY

The Existing Single Family program exceeded stretch goals for 2011. The program still could tap additional gas savings in areas outside of Vancouver and Camas. However, penetrating areas with a lower density of gas households presents a challenge for contractors.

> **Recommendation:** Providing contractors with a list of ZIP Codes for NWN territory – and identifying the ZIP Codes with the highest density of gas households – may help them target customers more successfully.

Some contractor feedback supports the value of contractor training and ongoing communication. First, contractor uncertainty of the program's continuing status in SW WA could reflect a more

general lack of program-related knowledge. Second, existing trade allies found program requirements complicated and non-trade ally contractors were prevented by program paperwork from becoming a trade ally.

> **Recommendation:** To the degree possible given current budgetary and regulatory constraints, continue and increase efforts to recruit and train trade allies.

NWN offers incentives for high-efficiency furnaces independent of the Energy Trust incentives. Bundling such incentives with Energy Trust incentives could increase program participation, resulting in more energy savings. To take advantage of NWN incentives, however, customers must use a NWN certified contractor, of which only two are located in SW WA. The requirement of using a NWN certified contractor may limit customers' abilities to bundle Energy Trust and NWN incentives.

> **Recommendation:** Energy Trust should consider working with Washington-based trade allies to help them become NWN certified contractors, thereby providing opportunities to a greater number of NWN customers to bundle Energy Trust incentives with NWN incentives for high-efficiency furnaces.

NEW HOMES

The New Homes program exceeded stretch goals for 2011. However, there appears to be little connection between home builders and the New Homes program. While builders offered positive comments about the program, they appeared less aware of Energy Trust in general. Further, although they reported customer interest in energy efficiency in SW WA and said the programs helped them sell energy efficiency projects, all of the interviewed builders were already building to ENERGY STAR standards, and it is not clear that the program is getting them to build to a greater level of efficiency than they already were achieving.

> **Recommendation:** It may be in Energy Trust's interest to carry out a more detailed investigation of the New Homes program as it is conducted in SW WA.

MEMO

Date: July 5, 2012
To: Board of Directors
From: Philipp Degens , Evaluation Manager
Adam Bartini, NW Natural WA Senior Project Manager
Subject: Staff response memo: 2011 NW Natural Washington Process Evaluation

The NW Natural Washington program met or exceeded its 2011 stretch goals in all three of the services offered; the Existing Buildings, Existing Homes and New Homes programs. All three of the programs achieved this with limited budgets and limited staff resources.

The Existing Buildings program's ability to achieve its goals is still quite sensitive to the timing of specific projects, as one project completing late in Q4 allowed the program to meet not only its conservative, but stretch goals too. The Existing buildings program would benefit from both increased trade ally recruitment and PMC direct sales outreach.

Opportunities in the Existing Homes program also involve additional recruitment of trade allies. Assisting trade allies to become a NWN certified contractor is currently not a likely option, as participation in this network is limited. However, encouraging existing certified contractor to increase their activity in Washington is an option that the program will pursue. The program is also taking steps to share with trade allies the number of customer accounts by zip code, as recommended in the evaluation report.

Energy Trust is planning to have the New Homes program step up outreach to builders and their verifiers to improve their level of market influence.

Energy Trust is currently selecting a PMC(s) to provide services to this region after the end of 2012. The recommendations from this process evaluation are being considered during the PMC selection processes. It is anticipated that the next process evaluation will be carried out in late 2013 to provide feedback on the performance of the new program.

1 INTRODUCTION

Energy Trust of Oregon (Energy Trust) began providing limited residential and commercial energy efficiency programs in NW Natural's (NWN) Southwest Washington (SW WA) service territory on a pilot basis in October 2009. In May 2011, the Washington Utilities and Transportation Commission (WUTC) approved a plan for the pilot program to become permanent, thus allowing Energy Trust of Oregon to offer incentives to NWN's residential and commercial customers in Washington on an ongoing basis.

Energy Trust selected Research Into Action, Inc., to carry out a process evaluation of the program activity in SW WA in the fall of 2011. The evaluation methods consisted of analyzing secondary data and conducting interviews with program staff, trade allies, and nonparticipating trade allies to identify challenges and opportunities, and to recommend courses of action to address any challenges.

BRIEF SW WA PROGRAM DESCRIPTION

Energy Trust program offers three programs in SW WA: one commercial program (Existing Buildings) and two residential programs (Existing Single Family, which includes Home Performance with ENERGY STAR®, and New Homes). The Energy Trust programs in Oregon and Washington go by the same name and are run by the same Program Management Contractors (PMC) but differ in significant ways because of the programs' different regulatory environments, funding mechanisms, and history. Table 1-1 provides a summary of the key characteristics of the programs by state and highlights some of the key differences.

Table 1-1: Characteristics of Energy Trust Programs by State

CHARACTERISTIC	ENERGY TRUST – OREGON	ENERGY TRUST - WASHINGTON
Regulatory Agency	Oregon Public Utility Commission	Washington Utilities and Transportation Commission
Funding Source	Oregon ratepayers from Pacific Power, Portland General Electric, NW Natural Gas, Cascade Gas	Ratepayers from NW Natural Gas in SW WA
Annual Budget	$126.7 million[a]	$1.5 million[b]
Inception Year	2002-2003	2009 (pilot) 2011 (permanent)
Service Territory	NW Natural Gas Pacific Power Portland General Electric Cascade Gas	NW Natural Gas (Clark, Skamania, Klickitat Counties)

Continued

CHARACTERISTIC	ENERGY TRUST – OREGON	ENERGY TRUST - WASHINGTON
Customer Types for Programs	Gas customers Electric customers	Gas customers
Services Offered	Prescriptive Custom	Prescriptive Custom (limited)
Markets served	Residential Commercial Industrial Agricultural	Residential Commercial
Programs Offered	Existing Buildings Existing Homes New Homes Solar Multifamily New Manufactured Homes Products Production Efficiency Small Wind New Buildings	Existing Buildings (limited) Existing Homes (limited) New Homes (limited)

[a] 2010. Energy Trust of Oregon 2010 Annual Report to the Oregon Public Utilities Commission. April 15, 2011. *http://energytrust.org/library/reports/2010-Annual-Report-OPUC.pdf*, Accessed on April 19, 2012.

[b] Projected 2012 budget. "Energy Trust of Oregon to re-bid three program management contracts News Release. *http://energytrust.org/news/news/120315_ProgramManagementContractRebid_PR.docx.pdf*, Accessed on April 19, 2012.

The Energy Trust program in Washington started October 1, 2009 as a pilot for NWN and became permanent in May 2011. The program in SW WA is conducted under the auspices of the Washington Utilities and Transportation Commission (WUTC) and is funded by NWN ratepayers in Clark, Skamania, and Klickitat counties. The program continues to evolve under the direction and oversight of the Energy Efficiency Advisory Group (EEAG), which consists of representatives from the WUTC, NWN, Energy Trust, Public Counsel, NW Energy Coalition and others. The EEAG reviews and advises on all program reports, tariff filings and other issues, though ultimately decision-making rests with the WUTC.

The SW WA programs are limited versions of the Existing Buildings, Existing Single Family, and New Homes programs Energy Trust offers in Oregon. There are significant differences in the types of measures that can receive incentives, the amount of time staff can spend on activities, and the complexity of projects that can occur. The SW WA programs provide incentives for gas measures only. Compared to the Oregon programs, the SW WA programs have lower savings goals and much lower budgets, offer different incentive structures, use prescriptive measures more, and provide less marketing and staff outreach support.

Some of the differences between the Washington and Oregon programs arise from budgetary limitations and state-specific requirements for the Washington programs. For example, the Existing Buildings program in SW Washington has a goal of spending 60% of the program budget directly on incentives. This limits the amount of time staff can spend in the field promoting the program, conducting trade ally meetings, or developing marketing materials. New Homes and Existing Buildings PMCs spend very little time conducting activities in SW WA because of these Washington-specific program requirements. Only Existing Single Family has a full-time person dedicated to program promotion in SW WA.

A final difference is that, in 2011, NWN customers participating in the Existing Buildings program can obtain incentives for technical studies and custom measures. Unlike in Oregon, however, program participants must pay for the study up front and then get reimbursed for the cost by Energy Trust.

PROGRAM SAVINGS

All three programs – Existing Buildings, Existing Single Family, and New Homes – exceeded their stretch goal for 2011. The Existing Single Family program exceeded stretch goals despite the fact that the reduction of the federal tax credit from $1,500 in 2010 to $500 in 2011 had reduced sales of efficiency upgrades through October 2011, particularly for high-efficiency gas furnaces.

Table 1-2 shows the therm savings goals for each program in SW WA and the reported therms saved as of December 31, 2011.[1] Note that the Existing Single Family program savings shown in the table include 33,961 therms saved from PMC-installed measures, such as home energy saver kits; when these are excluded, the total is 29,961 therms.

Table 1-2: Savings Goals by Program

PROGRAM	2011 CONSERVATIVE THERM GOAL	2011 STRETCH THERM GOAL	THERMS SAVED AS OF 12/31/12	% OF STRETCH GOAL
Existing Buildings	89,250	105,000	121,198	115%
Existing Single Family	54,106	63,654	63,922[a]	100%
New Homes	15,895	18,700	19,324	103%
Total	**159,251**	**187,354**	**204,445**	**109%**

[a] When measures listing the PMC as the contractor are excluded, the total is 29,961.

[1] The reported therms saved are gross savings. No impact evaluation had yet been performed at the time of this report.

Using gross savings for the Existing Buildings and Existing Single Family programs (no similar data were found for the New Homes program), we analyzed the savings in SW WA as a percentage of program gas savings for the entire Energy Trust gas market.

The Existing Buildings program was expected to save approximately one million therms in 2009, the latest year for which data are available.[2] Even with an increase in total program savings, the SW WA program likely accounts for at least 10% of total 2011 program therm savings. SW WA constitutes about 8% of Energy Trust's total commercial gas market.[3] Thus, the savings for the Existing Buildings program in SW WA are at least on par with those for the program as a whole.

The Existing Single Family program was expected to save approximately 1.4 million therms in 2009.[4] Again, assuming a moderate increase, the SW WA program likely accounts for about 4% of total 2011 program therm savings. By contrast, SW WA constitutes about 8% of Energy Trust's total residential gas market.[5] This analysis, however, does not account for the fact that, on average, housing stock is considerably younger in Clark County than in Oregon (

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2 *Impact Evaluation of Existing Commercial Buildings Program: Program Years 2008-2009*. Prepared by SBW Consulting, Inc. for Energy Trust of Oregon, March 29, 2011. Available at *http://energytrust.org/library/reports/110329_2008-9_EB_impact_evaluation.pdf*. Accessed May 1, 2012.

3 NWN has about 5,500 commercial accounts. (Source: *Energy Trust Pilot Programs in Southwest Washington*. Prepared for Energy Trust of Oregon by Research Into Action, Inc. May 6, 2011. Available at: *http://energytrust.org/library/reports/ SW_WA_Pilot_Program_050311.pdf*. Accessed April 27, 2012.) About 78,000 businesses in Oregon are served by gas utilities (source: *http://www.census.gov/compendia/statab/cats/energy_utilities/gas_utility.html*. Accessed May 1, 2012). Energy Trust territory covers approximately 83% of Oregon, so the total Existing Buildings commercial gas market in Oregon is about 65,000 businesses and the total commercial gas market, including SW WA, is about 70,500 businesses.

4 Energy Trust of Oregon 2009 Existing Homes Gas Impact Analysis. Prepared by Energy Trust of Oregon, August 12, 2011. Available at *http://energytrust.org/library/reports/2009_HES_gas_impact_eval.pdf*. Accessed May 1, 2012.

5 SW WA has about 48,000 gas households. (Source: *Energy Trust Pilot Programs in Southwest Washington*. Prepared for Energy Trust of Oregon by Research Into Action, Inc. May 6, 2011. Op. Cit.) There are 676,000 gas households in Oregon (source: *http://www.census.gov/compendia/statab/cats/ energy_utilities/gas_utility.html*. Accessed May 1, 2012). Energy Trust territory covers approximately 83% of Oregon, suggesting the total Energy Trust gas residential market in Oregon is about 561,000 households.

Table 1-3), which may reduce demand for energy upgrades. A more definitive analysis is not possible without knowing the relationship between era of house construction and demand for energy upgrades.

Table 1-3: Percentage of Houses by Era of Construction in Clark Co. and Oregon[a]

	Percentage of Houses	
Era of House Construction	Clark Co.	Oregon
Before 1960	13%	27%
1960 to 1989	41%	42%
1990 or later	46%	30%

[a] Source: U.S. Census Bureau's American Community Survey 2005-2009 Data, *http://www.census.gov/acs/www/ and* http://www.usa.com/oregon-state-housing.htm. Accessed May 1, 2012.

2 METHODOLOGY

The ongoing evaluation draws on a variety of data sources to address the research objectives:

- Interviews with program implementation staff, participant contractors that primarily serve the SW WA market, and nonparticipant contractors that serve the SW WA market.
- Energy Trust primary data: ongoing brief program satisfaction and free-ridership surveys of SW WA program participants, the 2010 *Trade Ally* survey, and program participation data form Energy Trust's *FastTrack* database.
- Secondary sources, such as U.S. census, economic census, and Washington State data.

This report focuses on the results of the interviews with Energy Trust and PMC staff and the participant and nonparticipant contractors.

ENERGY TRUST AND PMC STAFF

In October and November 2011, we conducted open-ended interviews with the PMCs' SW WA program managers regarding possible barriers, opportunities and challenges in rolling out the program and what they wanted to learn from our evaluation. We also spoke with Energy Trust's SW WA Project Manager several times throughout the evaluation. These interviews lasted approximately one hour. We recorded the interviews and transcribed them for later qualitative analysis using *NVivo 9* and *MS Excel*.

PARTICIPATING CONTRACTORS

Our goal was to complete interviews with 10 contractors for the Existing Buildings program, 10 for the Existing Single Family program, and five builders for the New Homes program.

From the *FastTrack* program file, we identified 14 Existing Buildings contractors, 60 Existing Single Family contractors, and 16 New Homes builders. Of the 60 Existing Single Family contractors, we identified 22 that were based in Washington as priority contacts. Those 22 contractors had completed from one to 25 projects in 2011 – somewhat more than half had done three or fewer projects, and three had done 20 or more projects.

We randomized the lists of the 22 Washington-based Existing Single Family contractors, as well as all of the New Homes and Existing Buildings contractors and called everyone on each list until we reached a final disposition or completed our goal for that list.

We conducted open-ended phone interviews with all three groups. Our interview guide addressed the research questions identified in the RFP and in subsequent discussions with

Energy Trust and PMC staff. The interview guide covered the respondent's roles and responsibilities; familiarity and experience with Energy Trust, the relevant NWN program, and other efficiency programs; and energy efficiency marketing activities.

We interviewed the contact provided by Energy Trust, unless that person suggested we speak with someone else in the company. The interviewer explained the purpose of the interview and identified himself as a contractor hired by Energy Trust to conduct the interviews. The interviews were conducted from November 2011 through January 2012. The interviews lasted 20 to 25 minutes. We recorded and transcribed all interviews, and then coded the open-ended responses into categories for later analysis.

NONPARTICIPATING CONTRACTORS

Our goal was to complete interviews with about five nonparticipating contractors. We asked the three PMCs to provide lists of contractors they had attempted unsuccessfully to enlist in their respective programs.

Commercial contractors come to the program through the Existing Buildings PMC's outreach work with customers, so that PMC was unable to provide us a list of nonparticipant contractors. The PMC for Existing Single Family provided us with the names of eight contractors, three of whom we determined had done Energy Trust projects; this left us with five nonparticipant contractors to contact for that program. The PMC for New Homes provided the name of one nonparticipating builder.

ENERGY TRUST PRIMARY DATA AND SECONDARY SOURCES

We analyzed Energy Trust *FastTrack* data to identify the distribution of measure types, the geographic distribution of projects, and the distribution of Existing Buildings projects across building types. We compared the distributions of projects and measures against data from secondary sources, where available.

Additionally, we reviewed results from Energy Trust's *Fast Feedback* survey of program participants to glean information about possible barriers to program participation in SW WA. *Fast Feedback* is an ongoing survey Energy Trust conducts of program participants that measures program satisfaction, what influenced participation, and asks respondents for ideas about what could improve the program. We analyzed results for the Existing Buildings and Existing Homes programs. No data was available for New Homes.

Energy Trust also conducts an annual survey of Trade Allies. We reviewed results of that survey to identify any comments or patterns from trade allies that identify possible barriers to program participation in SW WA.

Analysis of these data sources are included by program in sections four through seven of the report.

3 PROGRAM MANAGEMENT AND IMPLEMENTATION

Between October 24 and November 1, 2011, we completed four interviews representing seven individuals associated with the program (Table 3-1).

Table 3-1: Staff Call Summary

ORGANIZATION	ROLE	NUMBER OF STAFF INTERVIEWED
Energy Trust	Program Sponsor	1
Lockheed Martin	Existing Buildings Program Management Contractor	2
CSG	Existing Single Family Program Management Contractor	2
PECI	New Homes Program Management Contractor	2
Total		**7**

Program staff interviews provided us with an in-depth understanding of the role of each program actor, how communication happens across the various actors, and what changes might be coming to the program. Program staff also shared their insights into program challenges, successes, and barriers to participation.

An Energy Trust staff person coordinates the three programs Energy Trust offers in SW WA. This staff person holds bi-weekly meetings with the program manager at each PMC and reviews a periodic tracker document that summarizes activities, savings numbers, budgets, and market metrics for Existing Buildings and Existing Homes projects. After each report, Energy Trust staff meet with relevant PMC staff to discuss program milestones, challenges and highlights of the past month. Regular *ad hoc* communications via phone and email also are common. Staff respondents did not report any communication barriers or challenges.

Energy Trust staff and PMC staff also meet quarterly at the Clark County Efficiency Group meeting. This group consists of Energy Trust, Clark PUD, NWN, and Clark County representatives. The group discusses ways their organizations can collaborate to support their common goal of promoting efficiency in Clark County.

Staff contacts for the three Energy Trust SW WA programs described different methods to generate projects and savings (see Table 3-2). The Existing Buildings program conducts direct outreach to end users, while the Existing Single Family program is promoted through contractors and marketing targeted at end users; the New Homes promotes the program to builders through the existing ENERGY STAR program and trade-specific advertising.

Table 3-2: Program Outreach Activities

PROGRAM	OUTREACH ACTIVITIES
Existing Buildings	• Direct sales to commercial customers in SW WA
Existing Single Family	• Recruit contractors • Communicate incentives to customers and trade allies • Conduct outreach to community groups • Coordinate marketing activities
New Homes	• Coordinate with existing ENERGY STAR program • Advertise in Building Industry Association (BIA) publications and website • Advertise through NWN publications and website

We sought to determine whether the staff resources devoted to the three programs in SW WA are commensurate with the proportion of the Energy Trust commercial and residential markets that area represents. We estimated that Clark County represents about 8% of Energy Trust's commercial market and residential markets.[6] Based on reports by program contacts, the Existing Buildings program dedicates approximately 3% of its staff resources to SW WA and New Homes dedicates about 2%.[7] (The PMC manager for Existing Homes did not respond to our request for this information.) The Existing Buildings and New Homes programs, at least, may benefit from increasing staff resources for operations in SW WA.

Remaining information gleaned from staff interviews falls under the program description headings below.

[6] As of 2009, there were 5,467 commercial accounts and 47,730 gas households in Clark Co. (Source: *Energy Trust Pilot Programs in Southwest Washington*. Prepared for Energy Trust of Oregon by Research Into Action, Inc. May 6, 2011. Available at: *http://energytrust.org/library/reports/* SW_WA_Pilot_Program_050311.pdf. Accessed April 27, 2012.) The total Existing Buildings gas market is about 70,000 businesses (see footnote 4) and the total Energy Trust residential gas market is about 561,000 households (see footnote 7).

[7] Staff resources are less than one full-time equivalent in both cases.

4 EXISTING BUILDINGS PROGRAM

ENERGY TRUST AND PMC STAFF FEEDBACK

The Existing Buildings programs in SW WA and Oregon offer similar gas incentives, except that customers in Washington must pay for study assistance and then receive reimbursement. In Oregon, Energy Trust pays for studies on behalf of a customer. SW Washington customers are eligible to receive incentives for a variety of types of gas projects (Table 4-1).

Table 4-1: Eligible Gas Project Types in SW Washington

PROJECT TYPE
Furnace
Insulation
Boilers
Efficient tank water heaters
Tankless water heaters
Steam traps
Lodging and foodservice equipment
HVAC unit heater
Radiant heating
Custom projects (based on pre-approval and engineering study)

PMC informants described the marketing and outreach approach for SW WA, which has undergone some development since the program began as a pilot in October 2009. During the pilot phase, from October 2009 to May 2011, Energy Trust and PMC staff did not invest a great amount of time or resources developing a trade ally network in Washington. One informant suggested that this was a decision made specifically "in the context" of a pilot program. Another informant provided a more complete rationale, pointing out that it was much faster to engage participants directly than through a trade ally network. Therefore, the program conducted outreach primarily to customers and not contractors during the pilot phase.

In the past two years, the program has evolved to include outreach to trade allies, including an Energy Trust roundtable, an end-of-year breakfast meeting for Washington-based trade allies, and face-to-face trainings with trade allies interested in the SW WA program. The program reaches out to Oregon-based trade allies as well as those based in Washington. Staff reported that the relatively small number of commercially focused contractors in SW WA, argued against solely recruiting and training local trade allies. To ensure that established Oregon-based trade allies were aware of program offerings in SW WA, program staff put articles in the *Insider* newsletter alerting existing trade allies of the SW WA programs.

Nevertheless, the SW WA program continues to rely relatively heavily on having PMC business development staff reach out to potential customers through face-to-face meetings, phone calls, and emails. Once a NWN commercial customer proceeds with a project, the level of PMC staff involvement is similar to that in Oregon, assisting customers in processing project paperwork and attaining technical assistance if needed. PMC staff also work with customers' selected contractors to explain program requirements.

A key PMC informant noted that this approach does not differ significantly from the approach taken in Oregon to sell gas projects. That informant pointed out that trade allies are more heavily involved in lighting and prescriptive projects in Oregon, but not as much in gas projects, particularly in custom gas projects. It was this informant's experience that contractor aversion to program paperwork sometimes prevented them from selling the program to their customers.

FAST FEEDBACK SUMMARY

We reviewed summary data from Energy Trust's ongoing *Fast Feedback* survey that pertained to the Existing Buildings program in Washington. From Q3 2010 through Q3 2011, 20 respondents completed the survey. Most were satisfied with the program (expressed as a rating of '4' or '5' on a five-point scale, from *not at all satisfied* to *very satisfied*; Table 4-2).

Table 4-2: Fast Feedback Satisfaction Survey Results Third Quarter 2010 – Third Quarter 2011 – Existing Buildings

SATISFIED WITH…	*n*	DIS-SATISFIED [a]	SATISFIED [a]	DON'T KNOW	NOT APPLICABLE
Program Experience	20	0	20	0	0
Incentive Amount	20	1	19	0	0
Ease of Applying for incentive	20	1	19	0	0
Interaction with Program Representative	20	0	20	0	0
Quality of Installation Work	20	1	17	2	0
Performance of Equipment	20	3	16	1	0

[a] Dissatisfied equals a score of 1-3 and satisfied equals a score of 4 or 5.

The summary data we reviewed did not permit us to use our standard methodology for calculating free-ridership on a case-by-case basis.[8] That methodology calculates two free-ridership component scores for each participant – one based on stated intentions to carry out an

[8] See, for example, *Fast Feedback Program Rollout: Nonresidential & Residential Program Portfolio*. Final Report prepared by Research Into Action, Inc., for Energy Trust of Oregon, December 31, 2010. Available at *http://energytrust.org/library/reports/101231_Fast_Feedback_Rollout.pdf*. Accessed on February 27, 2012.

energy efficiency upgrade and one based on rated program influence on the final project. The latter is based on the highest influence rating given for any program component by each participant, which was not available in the summary data.

Based on the patterns of ratings, however, we were able to make some assumptions about the distribution of maximum influence ratings. From those assumptions, we are able to produce a non-savings weighted rough estimate of overall free-ridership of about 36% for these 20 participants in SW WA.

TRADE ALLY SURVEY SUMMARY

The 2011 Trade Ally survey asked respondents to identify barriers to conducting Energy Trust projects in SW WA. Of the eight respondents that work in the commercial and industrial sectors in SW WA, five stated there was a lack of customer awareness of Energy Trust and two reported there was limited number of incentives available.

CONTRACTOR FEEDBACK

We were able to complete interviews with seven of the 14 contractors whose contact information we received. Of the other seven, we were unable to reach three, one did not pass screening, one had bad contact information, and one refused an interview. Additionally, we started an interview with one insulation contractor but could not complete the interview due to a language barrier.

Description of Respondents

The seven contractors that we interviewed worked on 17 of the 25 commercial projects recorded in the Energy Trust *FastTrack* database as of December 31, 2011. Three of the seven respondents worked in both the residential and nonresidential sectors; the other four worked only in the nonresidential sector. Four respondents were in sales, two were company presidents, and one was a project manager. All respondents had been trade allies for more than one year. Three respondents represented HVAC contractors, two represented an energy services company (ESCO), one was an insulation contractor, and the seventh represented a dry cleaner/laundry equipment supply company.

All respondents said they worked in Oregon and Washington and all but the dry cleaning/laundry equipment supplier reported always discussing Energy Trust programs in their sales pitch to customers. The dry cleaning/laundry equipment supplier spoke about Energy Trust only with customers in need of new steam traps and customers purchasing small laundry equipment. According to this respondent, much of his equipment was not eligible for Energy Trust incentives.

Comparison of Existing Buildings with Other Efficiency Programs

Five of the seven respondents had experience with other energy efficiency programs in their service territory, including those offered by Clark PUD, Cowlitz PUD, and BPA. Four of the five reported positive experiences with efficiency programs other than Energy Trust's. The respondent who was dissatisfied with another efficiency program complained that its requirements were onerous and its staff were unresponsive. This respondent was so dissatisfied with the other program that he refuses to do efficiency projects for that program. However, he is very satisfied with Energy Trust programs and continues to find value in helping his customers to do Energy Trust projects. Two of the seven respondents had no experience with efficiency programs in SW WA other than Energy Trust.

Differences between Oregon and Washington Programs

When asked to identify any concerns about differences between Oregon and Washington programs, two contractors reported that they would like the programs to be more alike. One HVAC contractor did not like the fact that the incentive amounts differed between the two states. The other did not like the limited range of program options in Washington, compared to Oregon. A third respondent did not like having to navigate each Energy Trust, PUD, and gas company program in Washington separately; he preferred Energy Trust's "one-stop-shop" model in Oregon, where Energy Trust controls all efficiency programs within its service territory. The remaining respondents did not see any substantive differences between the states or did not have enough knowledge of the program differences to comment.

We asked respondents if they noticed any differences in program paperwork in Washington and Oregon. Five of the seven respondents were familiar enough with the paperwork processes in Washington to provide a response. Two said the process worked better in Oregon, one said it was better in Washington, and two said there was no difference between the states. The respondent that preferred the process in Washington said the process for project approval seemed faster than the process in Oregon. One respondent who preferred the process in Oregon liked dealing with just Energy Trust for any project instead of having to address the varying paperwork requirements of multiple PUDs, NWN, and Energy Trust. Of the two respondents who reported not being familiar with the paperwork process in Washington, one said someone else in his company was responsible for the paperwork and the other said an engineering company on the project submitted the paperwork for his project.

Promotion of Energy Efficiency in Washington

We asked our contacts whether and how their company promotes energy efficiency in SW Washington. All respondents reported that their company actively promotes energy efficiency through such channels as Google marketing, mailers, and promoting their affiliation with groups like Energy Trust on their marketing collateral. One respondent reported conducting staff meetings to train sales staff to promote the sale of efficiency services. Additionally, all respondents indicated they push high-efficiency products whenever possible. However, the dry

cleaning/laundry supplies respondent reported some reluctance in selling the latest technologies including high-efficiency products until that equipment is tested in the marketplace. "Customers do not want to be guinea pigs," testing expensive equipment that needs to last 15 years.

Challenges to Promoting Commercial Energy Efficiency in Washington

Respondents were asked to identify challenges to promoting commercial energy efficiency projects in Washington. Customer awareness and small incentives lead the list of challenges as can be seen in Table 4-3.

Table 4-3: Challenges to Promoting Commercial Efficiency Projects in SW WA (*n* = 7)

CHALLENGES	COUNT
Lack of Customer Awareness	3
Incentives Too Small	2
Not Enough ETO Staff to Adequately Promote Program	1
Low Web Presence for Energy Trust Programs	1
Limited Promotion of Energy Efficiency Among HVAC Industry	1
Poor Economic Conditions	1

One challenge that a respondent identified relates especially to ESCOs. This contact noted that contractors and ESCOs undersell services to customers. For example, an ESCO may do a "low-hanging fruit" project with a fast payback and moderate energy savings, but not bundle that with a longer payback/higher energy savings project, such as HVAC upgrades. Bundling the two projects together results in an intermediate payback the customer can tolerate while delivering significant energy savings. Doing only the "low-hanging fruit" project for a given customer leaves the larger, longer-payback projects for the next ESCO, which a customer will be reluctant to do even though they may produce significant savings.

Study Assistance

We asked respondents if they were aware of the study assistance available to customers in Washington to gauge awareness of this program element. One insulation contractor reported the study assistance was not applicable to his company's services. However, of the remaining six respondents, two HVAC contractors and one ESCO respondent were aware of the study assistance available through Energy Trust, but only one of the HVAC contractors reported that a customer had used it. The remaining HVAC respondent stated that a study-eligible project did not occur in SW WA for him, and the ESCO respondent stated he was familiar with study assistance in Oregon and assumed it was similar in Washington. The remaining three respondents were not aware of the study assistance in SW WA.

Awareness of Program Status

When asked what they heard about the status of the Energy Trust program in SW WA only one respondent reported anything. This respondent reported having heard that the SW WA Energy Trust program was not meeting its targets for the number of applications and completed projects, but he attributed this to customers' not understanding the benefits of energy efficiency rather than anything the program might be doing wrong. The remaining respondents were not aware of any program changes and assumed the program would persist as is.

ENERGY TRUST PRIMARY DATA AND SECONDARY SOURCES

Not surprisingly, a large majority of Existing Buildings projects and savings in SW WA came from Vancouver (Table 4-4), which has the greatest concentration of commercial and industrial activity. The amount of Vancouver projects and savings is somewhat over-represented relative to the distribution of commercial and industrial property in Clark County.[9]

Table 4-4: Distribution of Existing Buildings Projects and Savings by City, 2010-2011

	Projects		Savings		C&I Land Use
Area	Count	Pct	Count	Pct	PCT
Vancouver	57	89%	177,227	83%	60%
Camas	4	6%	15,551	7%	7%
Ridgefield	3	5%	20,934	10%	5%
Other	0	0%	0	0%	27%
Total	**64**	**100%**	**213,712**	**100%**	**100%**

Nearly half the savings came from ceiling and wall insulation projects, with heating-related measures together making up over one-third of the savings (Table 4-5).

Table 4-5: Distribution of Existing Buildings Projects and Savings by Measure Type, 2010-2011

	Projects		Savings		Pct of 2009 Oregon Gas Savings[a]
Measure Category	Count	Percent	Count	Percent	
		Insulation			
Ceiling Insulation	24	35%	88,476	41%	10%
Wall Insulation	12	12%	6,613	3%	1%

[9] *Clark County Comprehensive Plan 2004-2024*, Chapter 1: Land Use Element. Accessed from *http://www.clark.wa.gov/planning/land_use/documents/CompPlan_chapter1.pdf* on December 12, 2011.

Measure Category	Projects Count	Projects Percent	Savings Count	Savings Percent	Pct of 2009 Oregon Gas Savings[a]
Pipe Insulation	5	5%	7,846	4%	0%
Heating and Cooling					
Gas Furnace	3	4%	300	0%	0%
Radiant Heating	10	14%	22,863	14%	1%
Gas Unit Heater	3	4%	860	1%	0%
					continued
Boiler	11	16%	33,945	21%	11%
Other Heating	0	0%	0	0%	1%
Water Heating					
Tankless water heater	1	1%	217	0%	1%
Tanked water heater	9	13%	1,462	1%	1%
Other					
Food equipment	4	6%	1,920	1%	6%
Clothes washer	1	1%	542	0%	0%
Custom Measures	7	10%	42,809	27%	54%
Total	**64**	**100%**	**213,712**	**100%**	**100%**

[a] 2009 was the most recent year for which the evaluation team possessed data.

Finally, we examined the distribution of SW WA projects and savings by market segment and compared the distribution to the distribution of gas-related savings in the 2009 Oregon program. The distribution of projects and savings between SW WA and Oregon differed in several respects (Table 4-6). One notable difference is that about one-third of the SW WA projects and savings came from K-12 schools, while just under one-fifth of gas savings in the 2009 Oregon program came from schools. The Oregon program has had difficulty penetrating the K-12 schools segment in Oregon, since Oregon schools are required to use SB 1149 funds for equipment and facility improvements before they make energy efficiency upgrades. SB 1149 limits how much Oregon schools can invest in efficiency upgrades.[10] Washington K-12 schools are not subject to limitations like SB 1149; if not, they may be able to make better use of available program funds than their Oregon counterparts.

The two states also show sizable differences in the distribution of projects and savings from the office, warehouse, manufacturing, laundry/dry cleaning, college/university, institution/

[10] Energy Trust and its PMC are aware of this issue and are identifying ways that program staff can work with schools to attain more savings from Oregon schools despite SB 1149.

government, laundry/dry cleaners, and lodging market segments. An analysis that incorporates the relative size of each segment in each state, as was done for the 2009 Oregon program[11], would provide valuable information on where more savings might be available. Such an analysis was outside the scope of this evaluation.

Table 4-6: Distribution of Existing Buildings Projects and Savings by Building Type, 2010-2011

	2010-2011 Washington Projects		2010-2011 Washington Savings		2009 Oregon Gas Savings[a]
	Count	Percent	Count	Percent	Percent
Schools K-12	21	33%	62,431	29%	18%
Office	10	16%	61.893	29%	8%
Warehouse	5	8%	20,772	10%	3%
Manufacturing[b]	2	3%	19,834	9%	0%
Laundry/Dry Cleaners	8	13%	7,980	4%	13%
Retail	6	9%	7,298	3%	3%
Hospital	1	2%	6,632	3%	5%
Grocery	2	3%	5,571	3%	1%
Restaurant	3	5%	5,535	3%	5%
Religious/Spiritual	2	3%	3,889	2%	2%
Retirement/Assisted Facilities	1	2%	302	0%	0%
Institution/Government	1	2%	120	0%	7%
College/University	0	0%	0	0%	20%
Lodging/Hotel/Motel	0	0%	0	0%	5%
Other	2	3%	11,455	5%	10%
Total	**64**	**100%**	**213,712**	**100%**	**100%**

[a] 2009 was the most recent year for which the evaluation team possessed data.

[b] Manufacturing is part of the Production Efficiency program in Oregon

[11] *Process Evaluation – 2009 Existing Buildings Program.* Prepared for Energy Trust of Oregon by Research Into Action. December 1, 2010. Available at: *http://energytrust.org/library/reports/2009_Existing_Buildings_121810.pdf*. Accessed April 26, 2012.

5 EXISTING SINGLE FAMILY PROGRAM

ENERGY TRUST AND PMC STAFF FEEDBACK

The Energy Trust Existing Single Family Homes program in SW WA program provides incentives for the following items:

- Weatherization upgrades
- Gas furnaces
- Direct-vent gas unit heaters
- Direct-vent gas fireplaces
- Gas boilers
- Gas tank and tankless water heaters.

The program in SW WA is similar to the Oregon program, with two exceptions:

- The SW WA program provides incentives only for gas equipment and weatherization measures.
- The SW WA program provides incentives for 90% or greater efficient furnaces.[12]

Unlike the other programs in SW WA, a full-time Existing Single Family Homes Program PMC employee recruits contractors, conducts outreach to community groups, makes presentations to companies and provides customer support to drive projects. This outreach model relies on contractors to sell efficiency to end-users and/or for end-users to demand energy efficiency upgrades from their contractors. This model requires that contractors and end-users are not only aware of Energy Trust and the benefits of energy efficiency, but also have the need for and resources to take action without direct contact from an Energy Trust representative.

The program savings goals assumed the program would get about 40% of its savings from gas furnace upgrades. In terms of generating savings and increasing the number of projects in SW WA, the Existing Single Family program faced a significant hurdle when the federal tax credit for efficiency upgrades was reduced from $1,500 in 2010 to $500 in 2011. Furthermore, the credit was only $150 for gas furnaces in 2011. Staff reported that many customers chose not to upgrade their inefficient furnaces because of this reduction.

[12] The $100 bonus incentive for efficient gas furnaces expired December 31, 2011. The $100 base incentive remains in effect.

Staff identified the following additional challenges to promoting the Existing Single Family programs:

- Just one-third of homes in SW WA have gas heat and they tend to be newer and less likely to need efficiency upgrades.
- There is no program to reach out to moderate-income gas households in SW WA.
- There is no incentive in SW WA for Home Performance testing.
- Contractors perceive the program to be complicated before they even do a project.
- Contractors had negative experiences with other utility programs.

Program staff also noted that the small number of NWN certified furnace contractors based in Washington limited customers' ability to bundle Energy Trust incentives with special NWN offerings. Specifically, a NWN customer in Washington can qualify for a $100 incentive from NWN for a furnace purchase if the furnace is 95% + AFUE, the customer purchases an air conditioning unit, and the installation is done by a NWN certified contractor. Currently, however, there are only two NWN certified furnace contractors based in Washington. This means that customers of other WA-based contractors may not be aware that they could qualify for multiple furnace incentives.

FAST FEEDBACK SUMMARY

Twenty-nine people received the *Fast Feedback* survey for the Existing Homes program in SW WA in the second and third quarters of 2011. Respondents were generally satisfied with the program: at least 90% reported satisfaction ('4' or '5' on a 5-point scale) with the incentive application process, the experience with their contractor, and the overall program experience. However, only 73% were satisfied with the time it took to get their incentive. These results are almost identical to results from Oregon participants.[13]

Almost half of respondents (48%) indicated they would have done the same project even without the incentive, while about one-third (34%) indicated they would have not done their project or postponed the project for more than one year without the incentives. By itself, this pattern of responses would suggest high free-ridership. On the other hand, two-thirds of respondents indicated that their decision to do the energy efficient measure upgrade or service was influenced ('4' or '5' on a 5-point scale) by the program incentive, and 90% said they were influenced by the contractor. The high level of program influence suggests that free-ridership is probably lower

[13] Degens, Phil (May 21, 2012). Telephone interview.

than would be suggested by the percentage saying they would have done the project without the incentive.[14]

TRADE ALLY SURVEY SUMMARY

The 2011 Trade Ally survey asked respondents to identify barriers to conducting Energy Trust projects in SW WA. The nineteen respondents that work in the residential sector in SW WA reported the following barriers

- Nine stated there was a lack of customer awareness of Energy Trust
- Six reported the "of Oregon" in Energy Trust's name confused Washington consumers
- Five reported there was limited number of incentives available
- Two reported customers living in newer homes do not think there home needs any efficiency improvements.

CONTRACTOR FEEDBACK

We interviewed 11 contacts for contractors that had done Existing Single Family projects in SW WA, eight of whom were Energy Trust trade allies. Six of the contacts were an owner, officer, or general manager of the firm; three did sales or bidding work; and two were administrative staff.

All but one of the respondents reported that at least 80% of their firm's work was residential; the remaining contact indicated that 40% of his firm's work was residential. All respondents said their firm did at least 90% of their work in either Oregon or SW WA. The percentage of work done in SW WA ranged from 1% to 100%, with respondents evenly distributed along that continuum.

Seven of the respondents said that their primary work was installing HVAC equipment, three primarily did building shell work, and one indicated his firm did a range of retrofits. One of the building shell contractors indicated that 99% of his firm's work was in new homes (as a subcontractor) and did not actively pursue existing homes work; this respondent completed the interview but did not provide quantitative responses to several questions.

[14] The free-ridership algorithm that Energy Trust uses calculates the free-ridership score of each respondent from both the respondent's statement about what would have happened without the program (the respondent's "intention" to save energy) and the highest rated influence of any program element. We had only summary data across respondents, and therefore could not calculate free-ridership scores for individual respondents.

Experience as an Energy Trust Trade Ally

Of the eight trade allies we contacted, seven had been trade allies for more than one year. While most indicated that becoming a trade ally did not pose any significant challenges, several reported some difficulty or inconvenience.

Four said it was difficult for them to attend the webinar that is required of trade ally applicants, either because the advance notice they received was not sufficient for their purposes or because it was inconvenient for them to attend (partly because of short staffing).

Three of the eight contacts indicated that the requirements for being a trade ally were complicated. This issue may need to be investigated further, as there are no particular requirements for existing trade allies to become trade allies for the SW WA programs – they need only contact program staff to add SW WA to their profile. These informants may have meant that general requirements for being an Energy Trust trade ally at all were complicated. It is worth noting in this context that, of the three contractors we spoke with who were not trade allies, one said the program requirements were barrier to becoming a trade ally and one did not "see a reason to be an ally and deal with the paperwork." (The third simply indicated he did most of his work in Oregon and had not yet gotten around to becoming a trade ally.) Therefore, to the extent that the program seeks to develop a trade ally network in SW WA by enrolling contractors who are not currently Energy Trust trade allies, it may need to assist those contractors in the enrollment process.

Notably, only one contact said that the higher insurance required of trade allies was a barrier for his firm.

Marketing Energy Efficiency

Respondents varied in terms of the level and types of effort they made to promote energy efficiency in SW WA. Seven of the 11 contacts described specific marketing channels, including mass marketing (radio, TV, print), direct mail (newsletters, email blasts), in-person discussions with customers, a company website, and the Yellow Pages. Most respondents mentioned using only one channel. The most commonly mentioned channel was in-person, cited by three contacts.

In terms of message content, the most common related to specific technologies. Four contacts mentioned a variety of specific technologies (programmable thermostats, duct sealing, solar, ventilation, radiant barriers, and heat pumps), but each was mentioned only once. Other types of message contact, reported by one contact each, were promoting heating and cooling tune-ups, promoting water heater adjustments, and offering assistance with applications.

Most (seven of 11) respondents reported no significant obstacles to marketing energy efficiency in SW WA, with three specifically commenting that residents of that area are aware of or motivated by energy efficiency. Nevertheless, several contacts reported some challenges. Five addressed cost issues, most of which were general (price competition, a tight economy, or lack of understanding of payback). One, however, specifically mentioned the high incremental cost of

going from an 80% to a 90% efficiency furnace; according to that respondent, the incentive does not adequately offset the incremental cost for the more efficient product. Another contact said the major obstacle to selling high-efficiency products and services was that some owners do not expect to own the property for a long time or who bought it as rental property and do not plan to invest in energy-efficient improvements in the near-term.

The amount or types of challenges mentioned did not appear to be related to the respondents' reported level or type of effort to promote energy efficiency.

Most respondents commented that programs offered by Energy Trust and others helped them sell energy-efficient options to their clients. Two contacts said it was their experience that incentive programs sometimes attract less skilled contractors who provide poor service. None of the other contacts expressed this view, and it does not appear to be confirmed in the program experience – as noted above, more than 90% of surveyed participants were satisfied with their contractor. Nevertheless, ensuring that contractors provide high quality services is vital to Energy Trust's continued success in the marketplace, and a small number of contractors providing inadequate services could have a disproportionate adverse program effect. Ongoing support of contractor training may be the best way to avoid such concerns.

Another trade ally noted that NWN does not cover all of SW WA, making it somewhat difficult to target customers; that ally thought it would be helpful to receive a list of ZIP Codes for NWN territory. A list of ZIP Codes representing high densities of homes with gas heat within that territory might be particularly useful.

Including Energy Trust Incentives and Tax Credits in Bids

Eight of the 11 respondents said they "always" include Energy Trust incentives in their sales pitch, while two indicated they "sometimes" do and one did not respond. Nevertheless, nine respondents reported that 25% or less of their residential work in SW WA received Energy Trust incentives, six of whom said it was 5% or less.[15] For most respondents who did work in Oregon and SW WA, the percentage of projects that received Energy Trust incentives was of a similar order of magnitude in both states. The two exceptions were HVAC specialists, who reported that most or all of their Oregon projects received Energy Trust incentives while a small percentage of their Washington projects did so. One of those contacts pointed out that most SW WA homes are electrically heated, and that this accounts for the small percentage of HVAC work that receives Energy Trust incentives in NWN's territory.

Interestingly, only one of the 11 respondents mentioned that the name Energy Trust of *Oregon* is an obstacle to the selling the SW WA program – by comparison, four of the 11 respondents we interviewed for the *2011 Trade Ally Survey* indicated the name was an obstacle.

[15] One respondent reported that 70% of his SW WA residential work received Energy Trust incentives, and one did not know.

Nearly all of the contractors said that they "always" or "nearly always" included the federal income tax credit in their bids. Respondents were split in their assessment of the effect the tax credit reduction had on their business. Six said that it had decreased either their sales or the number of bids from 15% to over 80%. Four indicated it had not had a substantial effect, although one of those expected the tax credit reduction to substantially reduce business in December 2011 relative to the December 2010 level. The reported effect of the tax credit reduction on sales or bids appeared to be unrelated to respondents' primary type of residential work or to their number of Energy Trust projects in 2011. One respondent reported that a lot of his competitors had been promoting low-end equipment (e.g., 80% efficiency furnaces) in 2011, possibly as a result of the tax credit reduction.

Experience with Energy Trust Projects in SW Washington

Respondents generally were satisfied with their interactions with program staff and completing applications. Of nine contacts who described interactions with program staff, six rated their satisfaction with the interactions as a *5* on a one-to-five scale (where *1* is *not at all satisfied* and *5* is *extremely satisfied*); one other contact provided a rating of *4*. One gave a satisfaction rating of *2.5*. That contact reported having had to provide the same paperwork seven to eight times because program staff kept losing it. Another rated his satisfaction with the program as a *1*. That respondent was unhappy with the Energy Trust inspection process – specifically, the length of time it takes to get a project inspected so that the incentive check can be released. The respondent clarified that the Energy Trust process takes longer because program staff tend unnecessarily to lengthen and complicate the process. The respondent further noted that of 300 jobs his company does a year, the only dissatisfied customer was one that had done an Energy Trust project.

When asked specifically if they had experienced challenges when submitting a project to Energy Trust, about half of the respondents reported having requested clarification or administrative assistance; all five reported being satisfied with the assistance provided. Despite commenting generally on the time investment required, one contact indicated that the process flowed well.

Two of the 11 contacts reported more substantive concerns: two remarked that the turnaround time for incentives was "slow"[16] and one commented that the application paperwork was difficult for customers to complete.

Differences between Oregon and Washington Energy Trust Programs

None of the trade ally respondents indicated that the projects they had done in Washington differed from those they had done in Oregon, other than being limited to gas projects. None

[16] One of these complained more generally that the program had been inconsistent in how it carried out project inspections, and that contributed to the slow turnaround. This is the same contact who characterized program staff as always trying to "cover themselves." That contact also remarked that inspectors had inappropriately commented on the cost that customers had paid for a job.

reported any notable differences between the two states regarding the Energy Trust application paperwork.

Most contacts (eight of 11) noted no questions or concerns about differences in Energy Trust incentives in Oregon and Washington. One respondent each mentioned the lack of gas furnace incentives in Oregon and overall higher incentives in Oregon. In addition, one contact mentioned the fact that efficiency programs for multiple utilities were integrated under the Energy Trust umbrella in Oregon but not in Washington, which made it more difficult to serve customers in Washington.

Experience with Other Programs

All but one respondent was familiar with Clark County PUD programs. One reported that he expected that his firm would become a preferred contractor for that program. Several other contacts reported doing a significant amount of work for that program. Four contacts reported that their firm had worked on the NW Ductless Heat Pump Project. In addition, one contact each mentioned familiarity with Cowlitz, Skamania, and Klickitat PUDs; BPA; and ENERGY STAR.

A few contacts volunteered comparisons between Energy Trust and other organizations or programs. Two said that the Energy Trust application forms are "better" and the process is "smoother" than that of other utility programs. Another respondent remarked that "Energy Trust is becoming more about marketing and less about setting trends it seems to me but everyone who works for Energy Trust is pretty sharp."

Program Status in SW Washington

When asked what they knew about the program's status in SW WA, three contacts said they believed the program was continuing; the others either specifically said they knew nothing about the program's status or did not respond. These responses may suggest a need to provide clearer and more up-to-date communication to contractors about the program's status.

Contractors' Suggestions for the Program

We asked respondents what Energy Trust might do to increase program participation in SW WA, inform businesses about its programs, and target outreach to different types of customers. Most respondents generally suggested increasing marketing and outreach, such as through public-interest pieces on local TV news programs and more newspaper advertising.

Some provided more specific comments. One suggested that advertising should focus more on energy savings than on the Energy Trust brand and should rely on contractors to promote Energy Trust. Another respondent suggested that Energy Trust investigate the use of QR codes to direct smart phone users to the Energy Trust website. Other suggestions were to train more trade allies and work with local chambers of commerce and the Air Conditioning Contractors of America.

ENERGY TRUST PRIMARY DATA AND SECONDARY SOURCES

We examined *Fast Track* data to identify the distribution of existing single family projects across SW WA. We excluded all service incentives[17] from our analysis to identify where the program has been able to reach outside of direct PMC efforts. Existing Single Family projects in SW WA were located overwhelmingly in Vancouver and Camas (Table 5-1).

Table 5-1: Distribution of Existing Single Family Projects and Savings by Location, 2009-2011

	PROJECTS		SAVINGS	
CITY	COUNT	PCT	SUM	PCT
Vancouver	836	84%	64,416	85%
Camas	67	7%	5,149	7%
Battle Ground	23	2%	1,820	2%
Washougal	18	2%	1,317	2%
Ridgefield	19	2%	1,160	1%
White Salmon	10	1%	737	1%
Other	18	2%	860	1%
Total	**991**	**100%**	**75,460**	**100%**

In our evaluation of the pilot Energy Trust programs in SW WA[18], we compared the distribution of program savings across four areas – Vancouver, Camas, other localities with high proportions of gas households[19], and all other localities – with the proportion of SW WA gas households in each of those areas. Based on this analysis, we reported that Vancouver and, to a lesser extent, Camas, represented a disproportionate percentage of program savings relative to the opportunities for gas savings in those localities.

We repeated that analysis with 2011 program savings data. Assuming that the distribution of gas households across those four areas has not changed appreciably in one year, the results are largely unchanged (Table 5-2). These results suggest that the program still could tap additional gas savings in areas outside of Vancouver and Camas.

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17 Service incentives are activities conducted by PMCs, such as direct installation of low flow showerheads and Home Energy Reviews.

18 *Energy Trust Pilot Programs in Southwest Washington*. Prepared for Energy Trust of Oregon by Research Into Action, Inc. May 6, 2011. Available at: *http://energytrust.org/library/reports/* SW_WA_Pilot_Program_050311.pdf. Accessed April 27, 2012.

19 Barberton, Battle Ground, Brush Prairie, Cherry Grove, Felida, Lake Shore, Meadow Glade, Mill Plain, Orchards, Ridgefield, Walnut Grove, Washougal. Most of these places are on the outskirts of Vancouver, in the areas of Clark County that experienced the most building in recent years.

Table 5-2: Distribution of Savings Compared to Distribution of Gas Population

		2010 Pilot		2011 Program	
	% of Gas Population	% of Savings	Ratio of Savings to Gas Pop.	% of Savings	Ratio of Savings to Gas Pop.
Vancouver	34%	80%	2.36	85%	2.51
Camas	5%	7%	1.31	7%	1.36
Other High Gas[a]	29%	12%	0.41	6%	0.19
Other	33%	1%	0.03	2%	0.06

[a] Cities or towns with a high percentage of gas households: Barberton, Battle Ground, Brush Prairie, Cherry Grove, Felida, Lake Shore, Meadow Glade, Mill Plain, Orchards, Ridgefield, Walnut Grove, Washougal.

Finally, we reviewed savings by measure type (Table 5-3). Almost half the measures were HVAC, and nearly one-quarter were building shell (insulation, windows) improvements.

Table 5-3: Savings by Measure Type, 2009-2011

	Projects		Savings	
Measure Type	Count	Percent	Sum	Percent
HVAC	504	51%	36,929	49%
Building Shell	223	23%	17,514	23%
Fireplace	75	8%	6,815	9%
Water Heat	106	11%	4,847	6%
Unknown	65	7%	8,650	11%
Other	18	2%	706	1%
Total	**991**	**100%**	**75,460**	**100%**

6 NEW HOMES PROGRAM

ENERGY TRUST AND PMC STAFF FEEDBACK

In SW WA, the PMC works with the ENERGY STAR program staff and verifiers to support builders *already* building to ENERGY STAR specifications and encourage builders who are not already building all their homes to ENERGY STAR specifications to make that commitment. The Washington approach differs from the Oregon approach because the Washington program design is much different despite the similar program names. The Washington budget is much smaller, staff resources are not committed to Washington as they are in Oregon, and the scope of work in Washington versus Oregon is different. These differences are a result of the regulatory and budget constraints that exist in Washington (see *Section 1, Brief SW WA Program Description*).

Because of the above-mentioned budget constraints, marketing efforts in SW WA are limited to advertisements in the Building Industry Association (BIA) of SW WA materials, and NWN marketing collateral.

Builders receive a maximum incentive payment of $600 in Washington. Builders in SW WA receive incentives for taking one of two prescriptive actions when constructing new gas homes:

- Build to the ENERGY STAR standard ($600 incentive).
- Install a tankless water heater in a new non-ENERGY STAR home ($200 incentive).

Currently in SW WA, no builder has received the incentive for installing tankless water heaters. Staff hypothesized that builders were not interested in the $200 tankless incentive because they already were building to the ENERGY STAR standard and were eligible for the greater incentive.

BUILDER FEEDBACK

We interviewed five builders, who represented 65 of the 182 projects entered in Energy Trust's *FastTrack* database. Two of these were company owners, two were managers, and one was a finance director. Four represented companies that had received Energy Trust incentives for more than one year and all reported they were "very familiar" with Energy Trust. Three said they did over 50% of all their work in SW WA, and two reported doing 20% or less of their work in SW WA. Four of five respondents reported being members of the BIA of SW WA; the fifth respondent assumed his company was a member, but did not know that for a fact.

Past Experience with ENERGY STAR

All respondents reported that all of their homes in SW WA were, at a minimum, ENERGY STAR certified, and were aware of other green building programs, such as Earth Advantage and LEED. Four of the five builders indicated they build homes to standards that exceed ENERGY STAR. Three reported building Earth Advantage homes; one of them also builds to the Build it Green Washington standard. The fourth had experience building LEED and High Performance Homes. Additionally, these builders suggested they have built to at least the ENERGY STAR standard for at least two years.

Respondents reported their companies chose to build to the ENERGY STAR standard for reasons other than receiving Energy Trust incentives. Four of the five suggested they wanted to deliver the best product available to their customers and that that meant helping customers control energy costs by building an energy-efficient home. One reported that potential customers demand ENERGY STAR homes.

Builders' experience with other green building programs in part led to their participation in Energy Trust's New Homes program in SW WA. All of these contacts said they became aware of the Energy Trust SW WA program due to their connections with green building programs in the region, such as Earth Advantage and the Northwest Energy Efficiency Alliance.

Future of ENERGY STAR

All five of the builder respondents said they would continue to build to ENERGY STAR specifications despite the new requirements in 2012. When asked if they were familiar with the 2012 changes, three respondents commented that they were not aware of specific changes but were not worried about meeting the new requirements. Two contacts, who were at least aware of some of the 2012 changes, were confident they could easily meet the new specifications.

Two respondents were slightly hesitant about continuing to build to ENERGY STAR standards well into the future. One was concerned "if there was a dramatic change" in the standards; the other, a production builder, was concerned that ENERGY STAR changes might increase costs beyond the market's ability to pay for them.

In addition to comments from these builders, we received a comment from an Existing Homes contractor who was also knowledgeable about the New Homes program and ENERGY STAR building practices. This respondent reported that Energy Trust should work with ENERGY STAR to ensure that Energy Trust program offerings reflect the fact that Washington will implement ENERGY STAR 3.0 in 2012, while Oregon still will follow ENERGY STAR 2.5.

Builder Relationship with Energy Trust

Four of the five builders reported no problems with filing paperwork for incentives; the fifth builder did not know whether his firm had any problems with the paperwork because someone else in his office prepared it.

Builders reported having limited contact with Energy Trust staff. Only three builders reported they had contact with Energy Trust representatives and therefore were able to rate their satisfaction with Energy Trust representatives. Two of these said they were "very satisfied" with their contact with Energy Trust. One was "somewhat dissatisfied" because he wanted more interaction with Energy Trust.

That respondent's reasons for satisfaction were interesting in that they were not directly relevant to the SW WA program but were important for other reasons. Specifically, his desire for more interaction with Energy Trust was to provide more feedback about topics such as the Energy Performance Score (EPS). Strictly speaking, this is not relevant to the SW WA program, as EPS is used to rate homes in Oregon but not in Washington. Nevertheless, this finding does highlight the fact that contractors that work in both states may not distinguish between the two when it comes to their level of satisfaction – in other words, program satisfaction or dissatisfaction may cross state lines.

Challenges to Building and Selling Efficient Homes

Respondents reported challenges to building and selling energy-efficient homes. Two builders expressed frustration that the mortgage industry does not value energy efficiency in appraisals. One found that the SW WA market in particular did not seem to value energy-efficient homes and determined that his company would no longer build homes in SW WA because of this. Another builder said most builders have to overcome very large hurdles when they transition from building a code-built home to an ENERGY STAR home. He noted that it took him two years and approximately $250,000 to learn how to build to ENERGY STAR specifications but said that he intends to build to at least that standard for the foreseeable future.

As of July 2012, participant builders are required to become trade allies and meet the trade ally requirements. Information we obtained about respondents' building practices suggests that the Energy Trust standards for becoming a new homes trade ally would not pose a barrier to them. All five of the builders we spoke with already build to the ENERGY STAR standard at a minimum. Four of the five seek out other certifications for their homes, such as Platinum Earth Advantage and LEED. One non-trade ally even offered to showcase Energy Trust at one of his homes on a tour of homes.

ENERGY TRUST PRIMARY DATA AND SECONDARY SOURCES

New Homes projects in SW WA were less concentrated in Vancouver and Camas than were the Existing Single Family projects (Table 6-1).

Table 6-1: Distribution of New Homes Projects by Location, 2010-2011

	PROJECTS	
CITY	COUNT	PCT
Vancouver	168	50%
Battle Ground	49	14%
Washougal	41	12%
Ridgefield	37	11%
Camas	30	9%
La Center	7	2%
Woodland	4	1%
Total	**336**	**100%**

We compared the distribution of program incentives to the distribution of new homes built across the four geographic groupings we previously identified: Vancouver, Camas, other high-gas-household areas, and all other parts of Clark County. As Table 6-2 shows, the distribution of program incentives closely tracks the distribution of new homes.

Table 6-2: Distribution of New Homes Compared to Distribution of Gas Population

	% OF NEW HOMES BUILT IN 2011[a]	% OF PROGRAM INCENTIVES	RATIO OF NEW HOMES BUILT TO INCENTIVES
Vancouver	48%	50%	.96
Camas	14%	9%	1.56
Other High-Gas-Use Areas	34%	38%	0.89
Other	4%	3%	1.33

[a] Data obtained from Clark County Community Development and various Clark County municipalities.

7 NONPARTICIPANTS

We conducted interviews with three of the six nonparticipants identified by program management contractors. All respondents were primarily residential contractors that did commercial work only about 5% of time.

Two HVAC contractors did over 90% of their work in SW WA and were familiar with Energy Trust incentives in SW WA. They said they planned to become trade allies but had not taken the webinars and familiarized themselves with the program. One HVAC respondent indicated that his company secretary had attended an Energy Trust meeting but did not report any greater familiarity than that.

An insulation contractor reported doing 50% of his work in SW WA and 50% in Oregon. He was familiar with Energy Trust's programs in Oregon, although he had done most of his Oregon work as a subcontractor, so he was aware of but had little experience with Energy Trust incentives in Oregon.

All respondents were familiar with the Clark County PUD efficiency programs. The interviewed HVAC contractors reported that the PUD program helped generate extra business. The insulation contractor agreed with the HVAC contractors on that point. However, that insulation contractor also said that the PUD incentive requirements increased the cost of his projects because of requirements for extra baffles, vent piping, and other steps: "It may cost $500 to blow insulation in an attic, whereas if you go through the PUD program, it will cost $1,500 to get a $400 incentive." This may indicate – in this one case, at least – that Clark County PUD did not effectively communicate to the contractor the energy saving advantages of those additional steps.

Both HVAC contractors reported that the reduction in the federal income tax credit from 2010 to 2011 had adverse effects on their business. One of these contacts said that his retrofit business had dropped 60% between the fourth quarter of 2010 and the fourth quarter of 2011. However, his company's overall revenue stayed about the same year over year because he did more new construction work in 2011. The other HVAC respondent reported he had not sold as many efficient furnaces in 2011 as he had in 2010 but could not estimate how much sales had declined.

When asked what suggestions they had to increase participation in Energy Trust programs, both HVAC respondents suggested using Energy Trust's relationship with NWN to make customers aware of programs, such as by increasing information about the programs in NWN bill inserts. One of these HVAC respondents suggested using traditional mailings to promote the program to contractors. The insulation contractor suggested Energy Trust should increase incentives and target low-income households and rental property owners.

8 CONCLUSIONS AND RECOMMENDATIONS

Results to date suggest that the three Energy Trust programs operating in NWN territory in SW WA are performing well. Even with barriers such as the decrease in the federal tax credit and the resulting decrease in installation of high efficiency gas furnaces for the Existing Homes program, all programs exceeded stretch goals for 2011.

Existing Buildings and Existing Single Family contractors generally offered positive comments about the programs. New Home builders also offered positive comments but they appeared less aware of Energy Trust in general, which is most likely a result of the limited scope of the program in Washington. Their feedback indicated customer interest in energy efficiency in SW WA and that the programs helped them sell energy efficiency projects. Contractors suggested that the application process is acceptable.

Several observations are offered here to inform future program development.

EXISTING BUILDINGS

Conclusion: Developing a network of trade allies in SW WA may help the program expand while keeping staff resources within required limits. The Existing Buildings program has begun developing a network of trade allies in SW WA and should continue that effort. A particular argument for working more with SW WA trade allies is the fact that, although we found a solid base of support for energy efficiency programs and specifically Energy Trust, some contractors seem unaware of the opportunities the program provides in SW WA, such as study assistance.

> **Recommendation:** To the extent possible within budgetary limits, the PMC should continue to expand recruitment and training efforts of commercial trade allies in SW WA to support program expansion in that area and provide additional training to Oregon-based trade allies on program services available in SW WA.
>
> **Recommendation:** If possible, Energy Trust should work with NWN and the WUTC to increase the budget for the Existing Buildings program SW WA, to increase staff resources for that program.

EXISTING SINGLE FAMILY

Conclusion: An analysis of the distribution of Existing Single Family projects across Clark County – repeating one done for the evaluation of the pilot SW WA program – suggests that the program still could tap additional gas savings in areas outside of Vancouver and Camas. However, penetrating areas with a lower density of gas households presents a challenge for contractors.

> **Recommendation:** Providing contractors with a list of ZIP Codes for NWN territory – and identifying the ZIP Codes with the highest density of gas households – may help them target customers more successfully.

Conclusion: Some contractor feedback supports the value of contractor training and ongoing communication. First, contractor uncertainty of the program's continuing status in SW WA could reflect a more general lack of program-related knowledge. Second, existing trade allies found program requirements complicated and non-trade ally contractors were prevented by program paperwork from becoming a trade ally.

> **Recommendation:** To the degree possible given current budgetary and regulatory constraints, continue and increase efforts to recruit and train trade allies.

Conclusion: The program may benefit from increasing NWN customers' awareness of the potential to "bundle" program incentives with additional incentives that NWN offers for high-efficiency furnaces. However, the ability to increase that awareness may be limited by the fact that the NWN incentives require use of a NWN certified contractor, of which only two are located in SW WA.

> **Recommendation:** Energy Trust should consider working with Washington-based trade allies to help them become NWN certified contractors, thereby providing opportunities to a greater number of NWN customers to bundle Energy Trust incentives with NWN incentives for high-efficiency furnaces.

NEW HOMES

Conclusion: The primary observation about the New Homes programs in SW WA is that there appears to be little connection between builders and the program. All of the interviewed builders were already building to ENERGY STAR standards, and it is not clear that the program is getting them to build to a greater level of efficiency than they already were achieving.

> **Recommendation:** It may be in Energy Trust's interest to carry out a more detailed investigation of the New Homes program as it is conducted in SW WA.

APPENDICES

APPENDIX A: PARTICIPANT CONTRACTOR GUIDE

APPENDIX B: PARTICIPANT BUILDING GUIDE

APPENDIX C: NONPARTICIPANT CONTRACTOR GUIDE

APPENDIX D: NONPARTICIPANT BUILDER GUIDE

A PARTICIPANT CONTRACTOR GUIDE

IDENTIFYING APPROPRIATE CONTACT AND SCHEDULING INTERVIEW

Hi, my name is __. I'm calling on behalf of Energy Trust of Oregon, a nonprofit organization that uses funds from utilities such as Northwest Natural Gas to support investments in energy efficiency and renewable energy. Energy Trust has hired my company to contact their main trade allies that work in Southwest Washington.

Can you tell me who the most appropriate person is to speak with at your organization? Can you connect me with that person?

What would be a good time to contact that person?

WHEN THE APPROPRIATE CONTACT IS REACHED, SAY FOLLOWING:

Hi, my name is __. I'm calling on behalf of Energy Trust of Oregon.

Energy Trust has hired my company to contact its main trade allies in SW WA to learn more about trade ally activity and understand how the Energy Trust could improve and expand its program in SW WA. Specifically, Energy Trust would like to learn the following 1) How can they engage/market better to Washington customers? 2) Are there any conditions in SW WA they should be aware of when designing their programs for that area? 3) How can they get homeowners to participate in programs more?

ANSWER ANY QUESTIONS ABOUT ENERGY TRUST – REFER TO WEBSITE: WWW.ENERGYTRUST.ORG

Do you have time right now to answer a few questions, or can you suggest a time I could speak with you?

[IF NEEDED: The interview should take about 10 - 20 minutes. Topics include your company's activities in SW Washington, your residential customers' energy efficiency-related needs and interests, any related trends you're aware of within that segment, anything you think might prevent residential customers from participating in Energy Trust's programs, and any recommendations you have about marketing Energy Trust programs to residential customers.]

IF YES, CONTINUE

IF NO, TRY TO RESCHEDULE

Role and Responsibilities

I'd like to start by getting a little information about you and the kind of work you do. This will help us interpret the other information you give me.

1. First, can you tell me your title?

2. What is your role in your organization?

3. Are you familiar with the Energy Trust of Oregon's incentive program for NW Natural customers in SW Washington?
    - ○ Yes
    - ○ No

[IF NOT FAMILIAR WITH INVOLVEMENT WITH NWN – WA CUSTOMERS, ASK WHO WOULD BE THE CORRECT CONTACT, THEN THANK AND TERMINATE. CONTACT THE NAMED PERSON AND START OVER. OTHERWISE, TERMINATE CALL.]

Energy Trust and SW WA Program Familiarity

4. What is the primary service you provide?
    - ○ New home building
    - ○ HVAC service and installation
    - ○ Plumbing
    - ○ Building shell improvements (Insulation, weatherization, air sealing)
    - ○ Design/build commercial properties
    - ○ Other, specify

5. What percent of your work in SW WA is for residential, commercial, and industrial customers?
    - ○ Residential
    - ○ Commercial/Institutional
    - ○ Industrial
    - ○ Other (government?)

6. Is your company an Energy Trust trade ally?
    - ○ Yes
    - ○ No
    - ○ Don't know

    a. [If yes] Did becoming a trade ally present any challenges for you?
        i. What was your experience in obtaining the right insurance?
        ii. How about attending the required webinars – any challenges?

iii. Any other challenges? How did you deal with these issues?

b. [If no] Why did you decide not to become a trade ally? *[Probes: Was acquiring correct insurance a problem? Were other Energy Trust requirements challenging for you? How so?]*

7. [If respondent is a Trade Ally] How long have you/your firm been an Energy Trust of Oregon trade ally?
   - ○ Less than 1 year
   - ○ More than 1 year

8. How much of your company's work (in terms of overall revenue) is conducted in SW WA?

Residential	Nonresidential
○ () Less than 20%	○ () Less than 20%
○ () 21-40%	○ () 21-40%
○ () 41-60%	○ () 41-60%
○ () 61-80	○ () 61-80
○ () 81-100%	○ () 81-100%

   c. What percent of your residential work in SW received Energy Trust incentives?
   d. What percent of your commercial work in SW received Energy Trust incentives?

9. What percentage of all your work (in terms of overall revenue) is conducted in Oregon?
   e. What percentage of that work receives Energy Trust incentives?

THE REST OF THE QUESTIONS WILL BE ABOUT THE WORK YOU DO IN THE [FILL IN ANSWER TO Q4 HERE] SECTOR

10. Are there any specific challenges to selling energy efficiency services or equipment in Washington? If so, what are they? [Probe: Is there a lack of awareness about energy efficiency, resistance to it, something else?]

11. How familiar were you with Energy Trust before you/your firm became an Energy Trust Trade Ally (started working with Energy Trust) Would you say that:
    - ○ You'd heard of Energy Trust but were not very familiar with what it does
    - ○ You knew something about what Energy Trust does
    - ○ You were already quite familiar with Energy Trust

12. What experience have you had, if any, with energy efficiency programs in SW WA other than those offered by Energy Trust? [Probe: This could be programs run directly through utilities or some other 3rd party.]
    f. Are you familiar with the energy efficiency programs run by Clark County PUD?

g. What experience have you had, if any, with utility programs? [*Clarification: This could be programs run directly through utilities or some other 3rd party and not related to energy efficiency.*]

i. Probes: Did you find these other programs helpful to your business? Were there any challenges in working with them?

13. What questions or concerns have you had, if any, about differences between the Energy Trust incentives available in WA and OR? [Probe: Do you need general information, specific forms for WA customers, lists of what qualifies for incentives, a representative to contact you?] [If relevant, probe for differences between residential and non-residential customers.]

14. On a scale of one to five, how often do you include Energy Trust incentives in your sales pitch, with 1 being never, and 5 being always? Please elaborate.
    - ○ 1 – never
    - ○ 2
    - ○ 3
    - ○ 4
    - ○ 5 – always

15. On a scale of one to five, how often do you include the federal tax credits ($500 total, $150 for furnaces) in your sales pitch, with 1 being never, and 5 being always?
    - ○ 1 – never
    - ○ 2
    - ○ 3
    - ○ 4
    - ○ 5 – always

    h. What effect, if any, did the reduction in the federal tax credit– from $1,500 in 2010 to $500 in 2011 – have on your business?

    i. *[If business went down].* Can you estimate what percent of your overall revenue declined due to the tax credit change?

16. What does your company do, if anything, to promote greater use of energy-efficient equipment or renewable technologies by your SW WA customers? [Probe for details – how, how often, when, etc. If relevant, probe for differences between residential and non-residential customers.]

    j. [IF ANYTHING MENTIONED:] How do they respond to your efforts?

    k. [IF NOTHING MENTIONED:] Why is that?

    l. Can Energy Trust provide any information/materials that would help you sell energy-efficient products or services to these customers?

17. Have you done work for any SW WA [residential OR nonresidential] customers for which an application for incentives was submitted to Energy Trust?
    - ○ Yes
    - ○ No

18. What have you heard about the Energy Trust's program's status in SW WA?
    m. Where did you hear that information?
    n. Do you anticipate using the Energy Trust program in the future to help you sell goods and services?

19. [For commercial contractors] Are you familiar with the study assistance Energy Trust provides for commercial customers in SW WA?
    o. Have your customers used that assistance?
        i. If not used assistance: Why haven't they used the assistance? *[Probes: Was the up-front cost a deterrent]*

20. Did you experience any challenges when you submitted a project to Energy Trust? [Probe: Was the customer resistant to energy efficiency programs or projects in general? How was the paperwork? Any other challenges?
    p. Have you ever had a customer tell you they were not interested in applying for incentives?

21. Who have you interacted with at Energy Trust, if anyone, regarding your Energy Trust-related work in SW WA? [Probe for name and title]

22. On a scale of one to five with 1 being not at all satisfied and 5 being very satisfied, how satisfied are you with your interactions with Energy Trust program representatives? Would you say:
    - ○ 1 – Not at all satisfied
    - ○ 2
    - ○ 3
    - ○ 4
    - ○ 5 – Very satisfied

23. Have you ever sought information or assistance from Energy Trust program representatives?
    q. What information or assistance were you looking for?
    r. Were you generally able to get the information or assistance you were looking for? [If relevant, probe for differences between residential and non-residential customers.]
    s. What additional assistance would have been helpful?

24. Have you been involved in completing Energy Trust paperwork for your (or your) customer's incentives in SW WA?
    - ○ Yes
    - ○ No

25. [If done work in OR:] How would you compare the incentive paperwork Energy Trust requires for its customers in Washington and those in Oregon? [Probe: Was it more involved, less involved, or about the same? If relevant, probe for differences between residential and non-residential customers]

26. [If done work in OR]How do the Energy Trust projects you have done for SW WA customers differ from those you have done for Oregon customers? [Probes: Are homeowners interested in replacing HVAC more than insulation because houses are newer and already have insulation. If relevant, probe for differences between residential and non-residential customers.]

27. What have you and your staff done, if anything, to try to convince SW WA customers to participate in ETO projects that would qualify for incentives? [Probe for details. If relevant, probe for differences between residential and non-residential customers.]

    [If any actions mentioned:]

    t. How have your customers reacted?
    u. Have you had any problems explaining that Energy Trust of Oregon incentives apply to people in WA, too?
    v. What are the challenges for promoting this program in SW WA?

28. What else, if anything, has made it difficult for you to promote Energy Trust programs in SW WA?

Conclusion

29. What could Energy Trust do to increase program participation among your customers and potential customers in SW WA?

30. What would be the most effective way for Energy Trust to inform businesses in your industry about its programs in SW WA?

31. How could they target their marketing and outreach to different types of customers?

32. Are there certain organizations ETO should work with in SW WA to better market the ETO programs?
33. Those are all of my questions. Is there anything else you'd like to mention, including any suggestions for Energy Trust?

B PARTICIPANT BUILDING GUIDE

IDENTIFYING APPROPRIATE CONTACT AND SCHEDULING INTERVIEW

Hi, my name is __. I'm calling on behalf of Energy Trust of Oregon, a nonprofit organization that uses funds from utilities such as Northwest Natural Gas to support investments in energy efficiency and renewable energy. Energy Trust has hired my company to contact their main trade contractors that work in Southwest Washington.

Can you tell me who the most appropriate person is to speak with at your organization? Can you connect me with that person?

What would be a good time to contact that person?

WHEN THE APPROPRIATE CONTACT IS REACHED, SAY FOLLOWING:

Hi, my name is __. I'm calling on behalf of Energy Trust of Oregon, a nonprofit organization that uses funds from utilities to support investments in energy efficiency and renewable energy.

Energy Trust has hired my company to contact its main trade allies in SW WA to learn more about trade ally activity and understand how the Energy Trust could improve and expand its program in SW WA. Specifically, Energy Trust would like to learn the following 1) How can they engage/market better to Washington customers? 2) Are there any conditions in SW WA they should be aware of when designing their programs for that area? 3) How can they get homeowners to participate in programs more?

ANSWER ANY QUESTIONS ABOUT ENERGY TRUST – REFER TO WEBSITE: WWW.ENERGYTRUST.ORG

Do you have time right now to answer a few questions or can you suggest a time I could speak with you?

[IF NEEDED: The interview should take about 10 - 20 minutes. Topics include your company's activities in SW Washington, your customers' energy efficiency-related needs and interests and any related trends you're aware of within that segment, anything you think might prevent residential customers from participating in Energy Trust's programs, and any recommendations you have about marketing to Energy Trust programs to residential customers.]

IF YES, CONTINUE

IF NO, TRY TO RESCHEDULE

INTERVIEW QUESTIONS

Role and Responsibilities

I'd like to start by getting a little information about you and the kind of work you do. This will help us interpret the other information you give me.

1. First, can you tell me your title?

2. What is your role in your organization?

3. Are you familiar with the Energy Trust of Oregon's incentive program for builders NW Natural customers in SW Washington?
   - ○ Yes
   - ○ No

4. How long have you received incentives from Energy Trust of Oregon for building new homes?
   - ○ Less than 1 year
   - ○ More than 1 year
   - ○ Don't know

[IF NOT FAMILIAR WITH INVOLVEMENT WITH NWN – WA CUSTOMERS, ASK WHO WOULD BE THE CORRECT CONTACT, THEN THANK AND TERMINATE. CONTACT THE NAMED PERSON AND START OVER. OTHERWISE TERMINATE CALL.]

Background

5. What is the primary service you provide?
   - ○ New home building
   - ○ Building shell improvements (Insulation, weatherization, air sealing)
   - ○ Design/build commercial properties
   - ○ Other, specify

6. In terms of overall revenue, how much of your company's work is done in SW WA?
   - ○ Less than 20%
   - ○ 21-40%
   - ○ 41-60%
   - ○ 61-80%
   - ○ 81-100%

THE REST OF THE QUESTIONS WILL BE ABOUT YOUR NEW HOME CONSTRUCTION WORK

Familiarity with Energy Trust and Incentive Programs

7. What experience have you had, if any, with energy efficiency programs in SW WA other than those offered by Energy Trust? [Probe: This could be programs run directly through utilities or some other 3rd party.]
    a. What experience have you had, if any, with utility programs? [*Clarification: This could be programs run directly through utilities or some other 3rd party.*]
    b. Probe: What was that experience like? Did you find these other programs helpful to your business? Were there any challenges in working with them?
8. How did you learn about the Energy Trust incentives available for building an ENERGY STAR home? [Probes: Was it advertisements, outreach from a WSU verifier, something else?]
9. Are you a member of the Building Industry Association in SW WA?
    a. [If yes] Have you seen advertisements or presentations about the Energy Trust program through your association with the BIA?
        i. Were those ads or presentations instrumental in getting you to seek out program information?

Experience with ESTAR

10. How long have you built ENERGY STAR homes?
11. Of all the homes you built within the last year, what percent were ENERGY STAR? homes?
12. What ESTAR homes programs, if any, have you participated in other than Energy Trust's program? [Probe: Clark Co. PUD, other utilities] _____
13. What about energy efficiency programs other than ESTAR – other new homes or existing homes programs?

IF NO OTHER PROGRAM EXPERIENCE, SKIP TO Q17

14. What has been your experience with ESTAR or other energy efficiency programs run by organizations other than Energy Trust? [Clarification: This could be programs run directly through utilities or some other 3rd party including incentivizing gas home construction] Probe: Did you find these other programs helpful to your business? Were there any challenges in working with them?
15. What specific challenges are there, if any, to selling energy-efficient homes in Washington? [PROBE: Is there a lack of awareness to energy efficiency, resistance, something else?]

Reasons for Participation in Energy Trust Program

16. You applied for the Energy Trust incentive for ___ new homes that you built in 2011. What were your reasons for building those homes to the ENERGY STAR standard?

17. Do you think you will continue to build ENERGY STAR homes? Why or why not?

18. Are you familiar with the new ENERGY STAR requirements that go into effect in 2012?
    a. [If yes] What concerns, if any, do you have about the new requirements?

19. Did you experience any challenges when you submitted the project to the Energy Trust?

20. How was the paperwork? [If cumbersome:] What was cumbersome?

Program Satisfaction

21. Who have you interacted with at Energy Trust, if anyone, about your Energy Trust-related work in SW WA? [Probe for name and title]

22. On a scale of one to five, with 1 being not at all satisfied and 5 being very satisfied, how satisfied are you with your interactions with Energy Trust program representatives? Would you say:
    - ○ 1 – Not at all satisfied
    - ○ 2
    - ○ 3
    - ○ 4
    - ○ 5 – Very satisfied

23. Have you ever sought information or assistance from Energy Trust program representatives?
    a. What information or assistance were you looking for?
    b. Were you generally able to get the information or assistance you were looking for? [If relevant, probe for differences between residential and non-residential customers.]
    c. What additional assistance would have been helpful?

Conclusion

24. What could Energy Trust do to help increase the sales of ENERGY STAR homes in SW WA?

25. What would be the most effective way for Energy Trust to inform other homebuilders about its programs in SW WA?

26. Are there certain organizations Energy Trust should work with in SW WA to better market the ENERGY STAR home programs?

27. What do you think is going well with the program?

28. That's all the questions I have. Is there anything else you'd like to mention, including any suggestions for Energy Trust?

C NONPARTICIPANT CONTRACTOR GUIDE

IDENTIFYING APPROPRIATE CONTACT AND SCHEDULING INTERVIEW

Hi, my name is __. I'm calling on behalf of Energy Trust of Oregon, a nonprofit organization that uses funds from utilities such as Northwest Natural Gas to support investments in energy efficiency and renewable energy. Energy Trust has hired my company to contact contractors that work in Southwest Washington.

Can you tell me who the most appropriate person is to speak with at your organization? Can you connect me with that person?

What would be a good time to contact that person?

WHEN THE APPROPRIATE CONTACT IS REACHED, SAY FOLLOWING:

Hi, my name is __. I'm calling on behalf of Energy Trust of Oregon.

Energy Trust has hired my company to contact contractors in SW WA to understand how the Energy Trust could improve and expand its program in SW WA. Specifically, Energy Trust would like to learn the following 1) How can they engage/market better to Washington customers? 2) Are there any conditions in SW WA they should be aware of when designing their programs for that area? 3) How can they get contractors to participate in programs more?

ANSWER ANY QUESTIONS ABOUT ENERGY TRUST – REFER TO WEBSITE: WWW.ENERGYTRUST.ORG

Do you have time right now to answer a few questions, or can you suggest a time I could speak with you?

[IF NEEDED: The interview should take about 10 minutes. Topics include your company's activities in SW Washington, your residential customers' energy efficiency-related needs and interests, any related trends you're aware of within that segment, anything you think might prevent residential customers from participating in Energy Trust's programs, and any recommendations you have about marketing Energy Trust programs to residential customers.]

IF YES, CONTINUE

IF NO, TRY TO RESCHEDULE

Role and Responsibilities

I'd like to start by getting a little information about you and the kind of work you do.

1. First, can you tell me your title?

2. What is your role in your organization?

3. Are you familiar with the Energy Trust of Oregon's incentive program for NW Natural customers in SW Washington?
   - ○ Yes
   - ○ No

Energy Trust and SW WA Program Familiarity

4. What is the primary service you provide?
   - ○ New home building
   - ○ HVAC service and installation
   - ○ Plumbing
   - ○ Building shell improvements (Insulation, weatherization, air sealing)
   - ○ Design/build commercial properties
   - ○ Other, specify

5. What percent of your work in SW WA is for residential, commercial, and industrial customers?
   - ○ Residential
   - ○ Commercial/Institutional
   - ○ Industrial
   - ○ Other (government?)

6. How much of your company's work (in terms of overall revenue) is conducted in SW WA?

Residential	Nonresidential
○ () Less than 20%	○ () Less than 20%
○ () 21-40%	○ () 21-40%
○ () 41-60%	○ () 41-60%
○ () 61-80	○ () 61-80
○ () 81-100%	○ () 81-100%

7. What percentage of all your work (in terms of overall revenue) is conducted in Oregon?

   a. What percentage of that work receives Energy Trust incentives?

Experience with Efficiency and Utility Programs

8. Prior to this call, had you heard that Energy Trust was offering incentives for energy efficiency improvements in SW WA?

b. *[If yes]* You indicated you were aware of the Energy Trust program but elected not to participate. Why? [PROBES: Program seemed to cumbersome, customers not interested in energy efficiency]

9. What experience have you had, if any, with energy efficiency programs in SW WA? [Probe: This could be programs run directly through utilities or some other 3rd party.]

    a. Are you familiar with the energy efficiency programs run by Clark County PUD?

        i. Do you participate in those programs?

    b. What experience have you had, if any, with utility programs or initiatives? [*Clarification: This could be programs run directly through utilities or some other 3rd party. Program does not have to be related to energy efficiency.*]

        i. Probes: Did you find these other programs helpful to your business? Were there any challenges in working with them?

10. What types of energy efficiency features or building practices do you sell?

11. Are you a member of the Building Industry Association of SW WA?

    a. Do you recall seeing any marketing about the Energy Trust incentives in SW WA?

        i. What were your reactions to those marketing efforts?

12. What effect, if any, did the reduction in the federal tax credit– from $1,500 in 2010 to $500 in 2011 – have on your business?

        ii. *[If business went down].* Can you estimate what percent of your overall revenue declined due to the tax credit change?

        iii. *[If HVAC contractor]* What effect did the decline in the federal tax credit have on your sales of efficient furnaces?

Conclusion

13. What could Energy Trust do to increase program participation in Energy Trust programs in SW WA?

14. What would be the most effective way for Energy Trust to inform businesses in your industry about its programs in SW WA?

15. How could they target their marketing and outreach to different types of customers?

16. Are there certain organizations ETO should work with in SW WA to better market the ETO programs?

17. Those are all of my questions. Is there anything else you'd like to mention, including any suggestions for Energy Trust?

D NONPARTICIPANT BUILDER GUIDE

IDENTIFYING APPROPRIATE CONTACT AND SCHEDULING INTERVIEW

Hi, my name is __. I'm calling on behalf of Energy Trust of Oregon, a nonprofit organization that uses funds from utilities such as Northwest Natural Gas to support investments in energy efficiency and renewable energy. Energy Trust has hired my company to contact contractors that work in Southwest Washington.

Can you tell me who is the most appropriate person to speak with at your organization? Can you connect me with that person?

What would be a good time to contact that person?

WHEN THE APPROPRIATE CONTACT IS REACHED, SAY FOLLOWING:

Hi, my name is __. I'm calling on behalf of Energy Trust of Oregon.

Energy Trust has hired my company to contact contractors in SW WA to understand how the Energy Trust could improve and expand its program in SW WA. Specifically, Energy Trust would like to learn the following 1) How can they engage/market better to Washington customers? 2) Are there any conditions in SW WA they should be aware of when designing their programs for that area? 3) How can they get contractors to participate in programs more?

ANSWER ANY QUESTIONS ABOUT ENERGY TRUST – REFER TO WEBSITE: WWW.ENERGYTRUST.ORG

Do you have time right now to answer a few questions, or can you suggest a time I could speak with you?

[IF NEEDED: The interview should take about 10 minutes. Topics include your company's activities in SW Washington, your residential customers' energy efficiency-related needs and interests, any related trends you're aware of within that segment, anything you think might prevent residential customers from participating in Energy Trust's programs, and any recommendations you have about marketing Energy Trust programs to residential customers.]

IF YES, CONTINUE

IF NO, TRY TO RESCHEDULE

Role and Responsibilities

I'd like to start by getting a little information about you and the kind of work you do.

1. First, can you tell me your title?

2. What is your role in your organization?

3. Are you familiar with the Energy Trust of Oregon's incentive program for NW Natural customers in SW Washington?
   - ○ Yes
   - ○ No

Energy Trust and SW WA Program Familiarity

4. What is the primary service you provide?
   - ○ New home building
   - ○ HVAC service and installation
   - ○ Plumbing
   - ○ Building shell improvements (Insulation, weatherization, air sealing)
   - ○ Design/build commercial properties
   - ○ Other, specify

5. What percent of your work in SW WA is for residential, commercial, and industrial customers?
   - ○ Residential
   - ○ Commercial/Institutional
   - ○ Industrial
   - ○ Other (government?)

6. How much of your company's work (in terms of overall revenue) is conducted in SW WA?

Residential	Nonresidential
○ Less than 20%	○ Less than 20%
○ 21-40%	○ 21-40%
○ 41-60%	○ 41-60%
○ 61-80	○ 61-80
○ 81-100%	○ 81-100%

7. What percentage of all your work (in terms of overall revenue) is conducted in Oregon?

   a. What percentage of that work receives Energy Trust incentives?

Experience with Efficiency and Utility Programs

8. Prior to this call, had you heard that Energy Trust was offering incentives for energy efficiency improvements in SW WA?

b. *[If yes]* You indicated you were aware of the Energy Trust program but elected not to participate. Why? [PROBES: Program seemed to cumbersome, customers not interested in energy efficiency]

9. What experience have you had, if any, with energy efficiency programs in SW WA? [Probe: This could be programs run directly through utilities or some other 3rd party.]

c. Are you familiar with the energy efficiency programs run by Clark County PUD?

i. Do you participate in those programs?

d. What experience have you had, if any, with utility programs or initiatives? [*Clarification: This could be programs run directly through utilities or some other 3rd party. Program does not have to be related to energy efficiency.*]

i. Probes: Did you find these other programs helpful to your business? Were there any challenges in working with them?

10. What types of energy efficiency features or building practices do you sell?

11. Are you a member of the Building Industry Association of SW WA?

b. Do you recall seeing any marketing about the Energy Trust incentives in SW WA?

i. What were your reactions to those marketing efforts?

12. Have you built ENERGY STAR homes in SW WA? OR?

c. [If built ENERGY STAR homes?] Why have you not sought incentives?

d. [If not built ENERY START homes] Have you considered building ENERGY STAR homes?

i. *[If yes]*, why have you chosen not to build ENERGY STAR homes?

1. Is there something Energy Trust can do to make building ENERGY STAR homes more attractive?

Conclusion

13. What could Energy Trust do to increase program participation in Energy Trust programs in SW WA?

14. What would be the most effective way for Energy Trust to inform businesses in your industry about its programs in SW WA?

15. How could they target their marketing and outreach to different types of customers?

16. Are there certain organizations ETO should work with in SW WA to better market the ETO programs?

17. Those are all of my questions. Is there anything else you'd like to mention, including any suggestions for Energy Trust?