



PROCESS EVALUATION OF ENERGY TRUST OF OREGON'S ENERGY STAR® NEW HOMES PROGRAM

Prepared for:

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EXECUTIVE SUMMARY

Energy Trust of Oregon (Energy Trust) promotes the construction of ENERGY STAR® Homes through a four-pronged, program approach aimed at targeting single family home builders, trade allies, manufactured home retailers and builders and home buyers. Through the ENERGY STAR New Homes Program, Energy Trust offers builders, manufactured home retailers and trade allies' financial incentives and technical assistance to encourage the construction ENERGY STAR homes. Dually, the program works to educate home buyers about the benefits of energy efficient homes and to encourage prospective buyers to seek out ENERGY STAR homes using rebate programs.

Energy Trust enlisted the help of Opinion Dynamics Corporation (ODC) to conduct a process evaluation of the ENERGY STAR New Homes program. The ODC evaluation assessed the efficacy of the ENERGY STAR New Homes Program through in-depth interviews of program staff and strategic partners and through telephone interviews conducted with recent ENERGY STAR home buyers. The evaluation focused on the ENH program from January 2006-March 2007. The new manufactured home buyer survey was conducted between December 21, 2006 and February 12, 2007 and the new home buyer survey was conducted between December 21, 2006 and April 2, 2007. All Program Management Contractor staff (PMC) and strategic partner interviews were conducted between May and September 2007. This process evaluation is intended to be forward-looking and to provide actionable recommendations in order to guide Energy Trust's future program efforts.

Overall Recommendations

When considering the future of the ENERGY STAR New Homes (ESH) program, ODC believes that the program's continued success lies in its ability to disseminate education-based ESH messaging, enhance consumer and market actor's knowledge of ENERGY STAR's benefits, and re-align the ESH program goals to promote intrinsic program value by moving away from an incentive-based system.

To assist Energy Trust in this forward-looking, education-based approach, ODC has provided four key recommendations: Revive Marketing and Target Strategies; Simplify Program Delivery and Structure; Refocus on Quality Assurance and Satisfaction; Move Away from an Incentive-Based System.

Revive Marketing and Target Strategies

Many market actors reported that customers do not actively seek out ENERGY STAR homes. Moreover, less than two-thirds (67%) of current ENERGY STAR home owners are even aware that they have purchased an ENERGY STAR home. From this information, it is clear that growth opportunities exist for ENERGY STAR homes. However, Energy Trust faces intrinsic marketplace barriers evinced through home buyers' lack of program awareness, and builder and market actors' reported confusion between the program messaging, specifications, and requirements of other programs in the marketplace (NEEA, LEED, Earth Advantage) and ENERGY STAR. In order to maximize ENERGY STAR homes market potential, ODC recommends that Energy Trust:

- *Capitalize on program synergies, and where possible align ESH program specifications, messaging and promotion with other Programs:* Revisit current program offerings and determine key synergistic areas. For example, review Earth Advantage's requirement for their builders to build homes to ENERGY STAR specifications.
- *Increase Marketing Efforts through Consumer Education Initiatives:* Focus marketing efforts on educating home buyers about the benefits of ENERGY STAR homes by demonstrating clear, quantified differences between ENERGY STAR homes and others on the market. This effort will not only increase demand but also counteract potential disincentives builders may have in participating in the program if builders perceive an increase in consumer awareness. Increased training and support of real estate agents is key in getting the word out to consumers.
- *Provide Marketing Materials to Collaborating Market Actors:* Energy Trust currently has market actors eager and willing to disseminate awareness-raising materials to consumers. Realtors and builders want additional marketing materials to provide to their customers. Energy Trust should continue to take advantage of these pre-existing channels to communicate the benefits of the ESH program to prospective home owners.

Simplify Program Structure and Delivery

- *Reassess Program Structure:* Under the current program structure, the program's savings goals are determined by the quantity of ENERGY STAR homes built, rendering goals unobtainable in a slow housing market. In order to combat this problem, Energy Trust should consider new goals independent of market trends through redefining success in terms of market share (i.e. - number of ENERGY STAR homes built as a percent of all homes built). This revised approach allows for fluctuation in the marketplace without creating intrinsic implementation disincentives.
- *Align Programs:* Currently, the differences between Energy Trust, Earth Advantage and NEEA creates marketplace confusion and the perception of duplication. In order to remedy this problem, Energy Trust should attempt, where possible, to align itself to other program specifications.
- *Clarify and Streamline the Participation Process:* While the interviewed builders reported high levels of satisfaction with the ESH program, there is still room for improvement. The ESH participation process appears to be a source of confusion for some market actors. Paperwork is sometimes perceived as duplicative and cumbersome, often having to be filled out multiple times for different programs. Where practical and possible, ESH should align and streamline forms. Dually, the respective roles of and channels of communication between PMCs and builders and verifiers is obscure. One suggestion is to create a specific website for builders to simplify, illuminate, and clearly delineate the participation process and how to get in touch with a Building Outreach Specialist.

Refocus on Quality Assurance and Customer Satisfaction

ODC's research has revealed that quality assurance is a growing concern for consumers. Several single-family home buyers do not feel that their home meets the ENERGY STAR construction standards citing high utility bills, air coming through the windows, and the presence of non-ENERGY STAR appliances in their homes. To remedy these concerns, ODC recommends that the ESH program:

- *Require Builder Training:* Under the current system, builder training is optional. Energy Trust should address quality control concerns by requiring builders to take part in ESH trainings
- *Provide Purchasers with a Better Understanding of the Program Benefits:* Currently ENERGY STAR homes do not require appliances in the home to be ENERGY STAR. This is confusing for purchasers. It is recommended that Energy Trust considers offering ESH purchasers a total ENERGY STAR package (BOP). Also, with or without the inclusion of this package, consumers should be made aware of the fact that while the house is being certified as ENERGY STAR, the appliances in the home are not necessarily ENERGY STAR.

Move Away From Incentive-Based System

ODC believes that Energy Trust needs to cast a wider net and move away from an incentive-based system in order to maintain and increase market presence.

- *Cast a Wider Net:* Currently the ESH program works with a fraction of its potential collaborators. ENERGY STAR should work with market actors whose business interests align with its goals and objectives, including, but not limited to, real estate agents, builders or any other entity that sells or markets homes.
- *Consider Moving Away From an Incentive Based System:* ODC's research revealed that many ENERGY STAR manufactured home buyers are not submitting their rebate forms. This finding may demonstrate that the rebate itself may not be the primary incentive for purchasing an ENERGY STAR manufactured home. ODC believes that Energy Trust should move away from providing incentives to market actors, builder, and home buyers and focus instead on developing materials to educate builders and consumers on the benefits of ENERGY STAR.

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MEMO

Date: February 13, 2008
To: Board of Directors
From: Philipp Degens, Evaluation Manager
Kendall Youngblood, Residential Sector Manager
Subject: Staff Response to ENERGY STAR Homes Evaluation

The evaluation of the Energy Trust's ENERGY STAR homes program provides only a snapshot in time of a dynamic program operating in a very dynamic market place. The change in the Oregon energy code set to take place in April 2008 will have a major impact on the Energy Star program. As of that date, all homes built in Oregon will be built to a level comparable to the current Northwest Energy Star specification. The Program's success in builder recruitment and achieving a high market share helped support the decision to increase the Oregon residential building energy code. Improving energy code was a long-term program market transformation goal that was achieved many years earlier than anticipated.

This market transformation success comes with its own program challenges. Changes in energy codes will require new Energy Star specifications. Incorporation of a new more advanced building specification for Oregon into the Energy Star program will take time it will require negotiations with NEEA and EPA. The types and cost effectiveness of new specifications and features also need to be worked out and agreed upon by the multiple parties involved.

Energy Trust will retain the current Energy Star specification in the program to assist in the transition to the new energy code and plans to introduce the more advanced Energy Star specification in 2009 as a program requirement. The new advanced Energy Star specification will be developed and piloted during the 2008 program year. This experience will help in designing the 2009 builder support services (training, marketing etc.) as well as the builder option packages that will be offered.

The program has also been successful in aligning its program goals with many of its partners. As of 2008, Earth Advantage is requiring that all Earth Advantage homes be Energy Star compliant. In 2007 the Portland area Multiple Listing Services has also decided to include a field in its database that identifies a home as Energy Star. This MLS feature will help home buyers to identify energy efficient homes as well as enable realtors to sell homes based on Energy Star features.

Staff is in agreement that program marketing needs to be improved to increase the home buyer awareness of Energy Star and its' associated benefits. In keeping with our contractor

driven model, staff views outreach to realtors and coop advertising with and marketing support for builders to be the major channels for marketing. In the 2008 transition period marketing will focus on the 3rd party verification aspect of the program and builders building to the new advanced Energy Star specification. During this time of transition staff does not believe that the program would benefit by restricting Earth Advantage from carrying out its present roles of verifier and Builder Outreach Specialist. In 2009 the results of NEEA's impact evaluation of Energy Star homes will also be available for use in marketing. In the mean time the program is rewriting the ENERGY STAR home owner manual and updating the website.

The slow down in the housing market is affecting the ENERGY STAR homes program. Staff agrees that program goals should be supplemented with a penetration goal to reflect a percentage of the new homes market, in addition to energy savings goals.

Energy Trust is phasing out buyer incentives for Energy Star manufactured homes in 2008. The program is focusing its efforts on providing support to participating retailers and manufacturers.

I. INTRODUCTION AND METHODOLOGY

Energy Trust of Oregon (Energy Trust) promotes the construction of ENERGY STAR homes by offering builders and trade allies' financial incentives and technical assistance. Through their program implementation contractors, Energy Trust recruits builders into the program to construct single-family homes. Through the program, these builders can apply for incentives that encourage energy efficient measures and label their homes as ENERGY STAR homes. Energy Trust also works with the manufactured home industry to get manufacturers to build to ENERGY STAR specifications and help home retailers sell ENERGY STAR homes to potential home buyers. The program also seeks to educate home buyers about the benefits of energy efficient homes, and encourages buyers to seek them out in the marketplace. In 2006, 1,590 single family homes and 222 manufactured homes were built or sited through the program. In 2007 the programs goals included building 1,723 single family homes and 580 manufactured homes. As of October 2007, 437 single family homes and 137 manufactured homes have been provided incentives. This evaluation focuses on the ENERGY STAR homes program from January 2006 through March 2007. The new manufactured home buyers survey was conducted between December 21, 2006 and February 12, 2007 and the new home buyer survey was conducted between December 21, 2006 and April 2, 2007. All PMC and strategic partner interviews were conducted between May and September 2007.

Energy Trust hired Opinion Dynamics Corporation (ODC) to document the ESH Program and gather Program feedback and market intelligence that will result in actionable recommendations. To do this ODC conducted a quantitative effort comprised of 67 telephone interviews with customers that recently purchased a new single family ENERGY STAR home and 100 interviews with customers that recently purchased a new ENERGY STAR manufactured home. ODC also conducted in-depth interviews with program staff. Program staff interviews were conducted with Energy Trust program manager, and implementation contractors and subcontractors (three from PECL, one from CSG, five from Earth Advantage and three from APT). In addition to speaking with program staff, ODC interviewed strategic partners (one from ODOE, one from NEEA, three from Fluid Market Strategies, one from Smashing Ideas), manufactured home retailers (four), manufactured home builders (five), duct sealers (ten), participating builders (three), real estate agents (seven), and a representative of the national ENERGY STAR New Homes program from EPA and ICF.

2. OVERVIEW OF FINDINGS AND RECOMMENDATIONS

Reflecting trends found throughout the country, the demand for housing in Oregon has declined by about 30% in the past two years. According to builders and program implementers, the recent decline in housing demand is affecting the program because builders are not building as many new homes due to excess inventory. One implementer stated, “*We are signing up builders to build ENERGY STAR homes, the problem is that they aren’t building new homes because they still have inventory that they need to sell. And so financially they don’t have the ability to actually build any new homes until they sell their existing inventory. So because of that the homes aren’t being built so we’re not able to realize the savings we had expected from those homes being built.*” Consequently, program managers are unsure if they will meet the kWh and therm savings goals the program.

Despite obstacles created by a deflating housing market in Oregon, feedback from our qualitative research shows that major program achievements occurred between January 2006 and March 2007. Some of these accomplishments included:

- Achieving 9% market share as of January 2007
- Pushing the state of Oregon to strengthen energy efficiency codes in the building code
- Increasing the number of builders participating in the program, and
- Transitioning to market-based verification.

Feedback from our quantitative research showed that some of the major achievements included:

- Vendor driven strategy seems to be working
- Almost one-third (27%) of homeowners who are aware that their home is ENERGY STAR, state that they were *specifically* looking for an ENERGY STAR home during their housing search. This percent is even higher in the manufactured new home market where two-thirds (66%) of those who were aware that their home is an ENERGY STAR/Super Good Cents home stated that they specifically looked for an ENERGY STAR /Super Good Cents home.
- Homeowners who know that their home is an ENERGY STAR home would overwhelmingly recommend an ENERGY STAR home purchase to other prospective home buyers.

In the sections below we lay out our findings on:

- Roles and Responsibilities
- Strengths and Weaknesses of the Program
- Interactions between National and Regional Programs and Labels
- Recent Changes to Energy Trust’s ENERGY STAR New Homes Program
- Recruitment, Retention and Satisfaction of Trade Allies
- Consumer Findings

We also present market actor and program participant recommendations on:

- Program Delivery and Structure.
- Marketing and Targeting Strategies
- Recruitment, Retention and Satisfaction of Trade Allies

- Market Based Verification and Market Transformation
- Satisfaction of Program Participants

2.1. ROLES AND RESPONSIBILITIES

Energy Trust of Oregon funds and oversees an ENERGY STAR New Homes program that incorporates new construction, both single family and multifamily, and manufactured homes. The program also relies on several other key players, including PECEI, Conservation Services Group (CSG), Earth Advantage and Applied Proactive Technologies (APT). The roles, reporting structure, and responsibilities for each key player are captured in the table below.

In addition to the key players listed above, the Northwest Energy Efficiency Alliance (NEEA) and the Oregon Department of Energy (ODOE), play a central role in the promoting of ENERGY STAR homes in this area, NEEA promotes the Northwest ENERGY STAR New Homes program in Oregon, Washington, Idaho and Montana. NEEA offers co-op advertising and additional services from a supporting role. They help Energy Trust collaborate with other utilities. ODOE is responsible for certifying homes as ENERGY STAR and performing quality assurance. ODOE also is the primary trainer of verifiers. These other organizations and their interactions with the program are also captured in the table below.

Table 1: Roles and Responsibilities

Actor	Reports to	Brief Description of Role in Program or Influence on Program
ENERGY TRUST-Program Manager	-	Funds program and oversees PECEI
Program Implementation		
PECEI-Program management contractor	ENERGY TRUST	Oversees APT, CSG, Earth Advantage, provides marketing services, rebate processing
CSG- Builder Outreach Specialist (Subcontractor to PECEI)	PECEI	Recruits builders into the program and provides training.
APT-Retailer support for manufactured home retailers (Subcontractor to PECEI)	PECEI	Visits manufactured home retailers to ensure understanding of ENERGY STAR benefits, provides marketing materials.
Implementers of Other Programs		
Earth Advantage- Builder Outreach Specialist (Subcontractor to PECEI) Also acts as an independent verifier and LEED provider in OR		Recruits builders for its Earth Advantage label and gets them to co-label ENERGY STAR. Provides trainings
NEEA		Runs the regional Northwest ENERGY STAR New Homes Program.
ODOE		Responsible for certifying homes as ENERGY STAR, training verifiers and performing quality assurance for the Northwest ENERGY STAR New Homes Program (NEEA and Energy Trust)
Trade Allies		
Builders		Build ENERGY STAR single family homes through Energy Trust program
Duct Sealers		Provide duct sealing for new single family homes

Manufactured Home Builders		Build ENERGY STAR Manufactured homes
Manufactured Home Retailers		Sell ENERGY STAR Manufactured Homes
Realtors		Sell homes and attended training provided by Earth Advantage
Homebuyers		
Single Family New Construction		Customer
Manufactured Homes		Customer

2.2. STRENGTHS AND WEAKNESSES OF THE PROGRAM

Based on our in-depth interviews, program staff and market actors mentioned numerous strengths of the program. Overall program implementers and trade allies are very satisfied with the program. Trade allies are especially satisfied with the marketing support.

Strengths of the program mentioned include:

- marketing support provided to builders and trade allies
- ability to work directly with the builders
- direct communication between the program staff and builders
- third party inspection and performance testing
- the educational tools provided to the builders
- the fairly simple list of program requirements
- the amount of funding
- experience of the team
- Energy Trust's historical background
- Energy Trust's builder recruitment
- ability to market the program
- the fact that Energy Trust represents gas and electric utilities so they can claim savings on most homes built
- builders ability use the ENERGY STAR label to distinguish their homes from those of other builders

There were, however, a few areas of possible concern that were mentioned including issues relating to program specifications, program administrative processes, and how goals are set from program implementers.

Based on the interviews with Program Market Actors, the areas for possible improvement include:

- *Specifications*: the different specifications that are required by the different programs (Energy Trust, Earth Advantage and NEEA) appear to cause confusion for builders
- *Administrative processes*: the administrative part of the program is seen by some as too complex. Reasons given include: duplication of paperwork, too many meetings, and difficulty making changes on the website with respect to changing information that was previously entered.

- The inability to predict market activity and the fact that goals and incentives are attached to the housing market.
- The focus on savings instead of market transformation. Since savings is tied to the number of homes built it is difficult to meet savings goals when the housing market is down. If the goals were based on the percent market share a decrease in the housing market would have less of an impact on meeting program goals. This concern is also discussed in the next section.

2.3. PROGRAM COMMUNICATION

Program implementers are all satisfied with the internal communications and the support they receive from Energy Trust's various departments. One program implementer describes the internal communication as "a lot of face-to-face, one-on-one group meetings for communications to get the message out through the group and to make sure that everybody has a strong sense of teamwork".

Formal reporting includes monthly program updates and quarterly implementation manuals. PECl submits these reports to Energy Trust. The monthly program update report summarizes what PECl, CSG, Earth Advantage and APT did in the past month. The quarterly implementation manual allows Energy Trust to understand exactly how the program is being implemented.

At the time of the interviews the program had multiple databases. PECl has its own database in addition to having access to Energy Trust's Fast Track database. They use their own database for tracking builder activity and forecasting builder activity it is also used to track applications that come in with missing information. There is also Energy Trust's Gold Mine database and an additional database run by NEEA. While it might be simpler if the number of databases needed to track the program were reduced or centralized; creation of a single database is not feasible due to the differing needs of each organization. It is however suggested that where practical, attempts to streamline or consolidate the databases is considered.

2.4. INTERACTIONS BETWEEN NATIONAL AND REGIONAL PROGRAMS AND LABELS

In this region, there are three overlapping programs:

- The Northwest ENERGY STAR New Homes program which is managed by the Northwest Energy Efficiency Alliance (NEEA). This program covers Oregon, Washington, Idaho and Montana.
- The Earth Advantage program is a regional program that promotes green building.
- Leadership in Energy and Environmental Design (LEED) homes are new to Oregon. LEED certified homes are designed to be energy efficient, environmentally sound, resource friendly, and healthy places for its occupants.

Northwest ENERGY STAR New Homes

The Northwest ENERGY STAR New Homes program is managed by NEEA. Although some strategic partners feel that efforts are being duplicated, the majority indicate that NEEA has a positive impact on Energy Trust's program. The main difference between Energy Trust's version of the ENERGY STAR New Homes program and the NEEA version is that Energy Trust's version of the program focuses on energy savings (kWh and therms), while the NEEA program focus on market transformation. That is, Energy Trust goals focus on achieving energy savings –i.e. attributable to the program. Energy Trust's implementation contractors report annual kWh and therm goals. While Energy Trust views market transformation as an important and long term goal, attributing energy savings to the program appears to be the primary goal. This difference is particularly evident given the current declining housing market. Based on our in-depth interviews, the program implementers are unsure about whether they could meet these goals due to the decrease in the number of homes being built in Oregon. However, since NEEA's goals, are based on market share of ENERGY STAR homes rather than savings, the program goals have not been affected by the decrease in the overall housing market.

Another difference in these two versions of the ENERGY STAR New Homes program is the use of Builder Outreach Specialist (BOS). Energy Trust uses Building Outreach Specialists to recruit builders into the program. Energy Trust hired, through PECL, Earth Advantage and CSG to perform this role. NEEA decided to not use Building Outreach Specialists and instead use the market verifiers to recruit builders. NEEA switched its focus to helping these verifiers get their home verification businesses started and educating them on how to get builders to see them as a valuable asset in helping them to get through the process of building a higher quality home. However, there are also many similarities between these programs in that, similar to ESH's BOS' role, NEEA also recruit larger builders that build across markets and territories through their Market Development Leads.

Building Outreach Specialists provide a valuable service. They are out in the field recruiting and training builders to build ENERGY STAR homes. Some market actors are concerned however, that Energy Trust funding of these specialists could discourage the "market" to carry these specialists. Energy Trust recognizes this concern but feels the current level of support is needed for this to be viable. Energy Trust goal is to make the market self-sustainable and allow it to operate competitively in the future.

Earth Advantage Program

As mentioned above, this region also has an Earth Advantage program and many of the ENERGY STAR homes built are also co-labeled as Earth Advantage homes. Energy Trust hired Earth Advantage, through PECL, to recruit builders for the ENERGY STAR New Homes program. Earth Advantage recruits most of the builders for Energy Trust's version of the ENERGY STAR New Homes program. Some see Earth Advantage as promoting their own agenda with Energy Trust's money since Earth Advantage also recruits builders for their own program. While Earth Advantage will sign up builders that only want to build Earth Advantage homes and not ENERGY STAR homes, ENERGY STAR can be incorporated into an Earth Advantage home so that builders can co-label their homes. Energy Trust and PECL should

encourage Earth Advantage to promote the ENERGY STAR label to the same degree they promote their own label and strive for 100% co-labeled homes.

There are some issues with Earth Advantage being a Builder Outreach Specialist *and* a market verifier (see Section 2.5). Energy Trust should weigh the advantages and disadvantages of having Earth Advantage as a Builder Outreach Specialist. One of the advantage of having Earth Advantage as a Builder Outreach Specialist is that they recruit, by far, the most builders into the program. So the removal of them as a Builder Outreach Specialist could potentially lead to fewer ENERGY STAR builders being recruited and therefore fewer ENERGY STAR homes being built. Disadvantages include the perception of the program being unfair and possible discouragement of independent verifier business start-ups.

Leadership in Energy and Environmental Design (LEED) Program

The LEED program for the residential sector is relatively new and currently appears to have little interaction with Energy Trust's program. Earth Advantage is the LEED provider in Oregon. LEED homes incorporate many sustainable and green aspects including energy efficiency. Many, if not all, LEED homes would meet the ENERGY STAR guidelines. Energy Trust may want to encourage LEED certification since LEED incorporates Energy Star and is becoming a nationally recognized brand.

Table 2: Programs and Labels

Program or Label	Similarities	Differences	Interactions with ENERGY TRUST Program	Areas for Improvements or Other
ENERGY TRUST ENERGY STAR New Homes		Uses BOS to recruit builders; focuses on energy savings more than MT; Additional technical requirements than NEEA		
NEEA	Promotes ES Homes	No longer promotes ES products in the homes; does not use BOS but relies on verifiers to recruit builders; focuses on MT more than savings	Energy Trust is a financial supporter of NEEA	
LEED	Incorporates ES	More green focused, takes into account location, materials, energy use and other things	Very little	Earth Advantage is the provider of LEED. Very little activity so far
Earth Advantage	Promotes both ES and EA homes. Co-label	Green focused regional program	Most EA homes are ENERGY STAR but not all; some builders don't like the furnace and/or lighting requirements	Require Work to have all EA homes meet the ENERGY STAR energy efficiency standards

2.5. VERIFICATION

There have been some important changes in the program in the past year. The biggest change in the program has been the move toward market based verification which requires that the builder, rather than Energy Trust, pay for the home to be verified. According to Earth Advantage, which does verifications, builders don't seem to mind paying for the verification. Most builders in the program come through Earth Advantage and those builders have always had to pay a fee for the Earth Advantage verification. When Energy Trust stopped paying for verification Earth Advantage just explained what was happening with the program and raised their fees.

Prior to this change Earth Advantage was paid by Energy Trust to do verifications for their program. Earth Advantage continues to do the verification as an independent entity. Some view Earth Advantage's role as a Builder Outreach Specialist and an independent verifier as a conflict of interest and preventing other verifiers from entering the market. Since Earth Advantage is paid by Energy Trust to recruit builders they have an advantage of getting these builders to use them as the verifier whereas other verifiers are not paid by Energy Trust to recruit builders.

2.6. RECRUITMENT, RETENTION AND SATISFACTION OF TRADE ALLIES

In this section, we describe our major findings from key program trade ally groups including:

- Single Family Participant Home Builders
- Manufactured Home Retailers
- Manufactured Home Builders, and
- Real Estate Agents.

The findings detailed below are based on qualitative research, as described in Section I.

Single Family Participant Home Builders

The evaluation for this period did not focus on builders as this group was heavily interviewed the previous year, and it was felt that extensive interviewing would be onerous.

Table 3: Homes built by the three builders interviewed

Years building SF Homes	# of homes built in OR in 2006	# of homes plan to build in 2007	% that will be ES in 2007	% that will be ES in 2008
16	12	27	~50%	95%
12	12	8-10	100%	100%
6	94	80	~88%	100%

However, the a follow-up with three builders showed that overall builders are satisfied with Energy Trust's program and their Builder Outreach Specialist, Earth Advantage. The builders interviewed came into the program through a Builder Outreach Specialist or did their own

research after hearing about the program. While the builders were able to identify the specific person that assisted them (Earth Advantage employees) they were not aware of the term 'Builder Outreach Specialist'. One builder found out about the program through an HVAC contractor.

Overall the interviewed builders were very satisfied with the overall program and reported no difficulties in completing the application. The builders were also very satisfied with the level of marketing support and the marketing materials that they have access to. The builders would like to see the financial and environmental benefits of ENERGY STAR homes quantified and compared to a standard home. They reported no problems with the new verification process.

Builders reported that 95 to 100% of the homes they build in 2008 will be ENERGY STAR and most reported planning to use more co-op advertising and attend more training.

Other information obtained during these interviews indicates that:

- Builders may not be currently (2007) building 100% ENERGY STAR. One builder said this was because houses with electric resistance heat cannot be ENERGY STAR.
- Builders may not know the term "Builder Outreach Specialist". However, they do know that their representative from Earth Advantage is the person to go to with questions or issues.
- Builders appear to have had no problems with the new verification system. None of the three builders surveyed mentioned anything about the fee. Earth Advantage is probably their verifier so they may not have even noticed that there was a change in the system.
- Builders interviewed report that they plan to use more co-op advertising in 2008.
- Builders may see value in third party certification, as it appears to be viewed as a sign of quality.

Manufactured Home Retailers

Three of the manufactured home retailers we spoke to stated they have been selling ENERGY STAR homes since the program began and before that sold Super Good Sense Homes. The one other retailer stated that they began selling ENERGY STAR homes in 2006.

Manufactured home retailers are aware that the market share for ENERGY STAR homes continues to increase. They report seeing more factories start to convert to ENERGY STAR as a standard feature. The retailers plan to continue to advertise with the ENERGY STAR brand and continue to sell ENERGY STAR homes.

Our in-depth interviews with Retailers show that overall:

- Retailers are happy with the new field representatives (APT) and the frequency of their visits and with the marketing materials they provide.
- Retailers feel training provided by APT is meeting their needs and had no recommendations for improving it.
- Retailers are happy with the marketing materials provided by APT and the frequency of visits by APT. They particularly liked the floor mats, brochures and displays.
- Retailers thought the incremental cost of ENERGY STAR manufactured home is between \$1,400 and \$2,500.

- Retailers would like to see spiffs brought back so their staff would be more inclined to get homebuyers to complete the forms.
- Retailers would also like consistent incentive levels across utilities to reduce confusion when trying to sell a home.

Manufactured Home Builders

All of the home manufacturers interviewed are heavily involved in the ENERGY STAR New Homes Program. While manufactured home builders report that the market for manufactured homes is down, for 2007, all builders have at least 50 percent of their homes built to ENERGY STAR specifications, with two building at least 75 percent to ENERGY STAR specifications. Compared to 2006, builders maintained or increased the production share of ENERGY STAR homes. However like the single family home market the builders feel the manufactured home market has declined.

Most of the manufacturers have been with the ENERGY STAR program since the beginning of the program, and two of the manufacturers worked with Super Good Cents before the ENERGY STAR Program was developed. One manufacturer has only been in the program since January of 2006, but has plans to continue meeting market demand. All plan to continue expanding or maintaining the number of ENERGY STAR homes they build for the next three years.

In Summary, when asked to rate the overall satisfaction of the program:

- All manufacturers say that they are satisfied, with two of the five manufacturers giving the program the highest satisfaction rating.
- Manufactured home builders were very satisfied with the program and the technical support provided by the program.
- Manufactured home builders were not aware of the overall market share of ENERGY STAR but estimated their own share between 35 and 75 percent.

Duct Sealers

Duct sealers were mixed on their satisfaction with Energy Trust's program. Those that were dissatisfied tended to be dissatisfied with the administrative process. About half the duct sealers we spoke with are satisfied with the program while the other half is dissatisfied. Reasons for dissatisfaction included the administrative process, program requirements and standards changing too often. Since many duct sealers work on both the new homes program and the existing homes program their dissatisfaction may be more due to the existing homes program than the new homes program.

In-depth surveys with duct sealer participants indicate that – in general -

- Many of the duct sealers work on other Energy Trust programs.
- Duct sealers receive between 10% and 80% of their revenue from Energy Trust projects.
- Duct sealers who work through more than one Energy Trust program would like to see the forms be the same for all programs

- Duct sealers that have had contact with Energy Trust staff were satisfied with their interactions with the staff.

Real Estate Agents

Our interviews were conducted with real estate agents who had recently attended Earth Advantage training for continuing education credit. In general, real estate agents did not have contact with Energy Trust so their knowledge of the program was limited. However, many agents said they were aware of ENERGY STAR New Homes program. Real estate agents said they found out about the program from a variety of sources that include builders, network meetings where Earth Advantage was present, their contacts, MLS listings and various associations. None of the agents had an interaction with the program or Energy Trust so were unable to comment on satisfaction with the program. All were interested in incorporating more ENERGY STAR homes into their sales in the future.

In general, in-depth interviews with real estate agents who had recently attended EA training show that:

- Agents stated that homebuyers are not asking for ENERGY STAR homes yet; need to increase awareness of benefits by offering more marketing materials
- Agents are mixed about the incremental cost of ENERGY STAR, some say it is more, some say same price, some say minimal, it depends on the customer
- Agents see themselves as the primary contact and information source and if provided more training they would be better able to promote ENERGY STAR homes
- Energy Trust should provide more training to real estate agents and provide marketing/educational materials to them to pass along to potential home buyers. Over one-quarter (27%) of new home buyers found their ENERGY STAR home through a real estate agent.
- Real estate agents feel that the value they got out of the training is how to speak to customers about the benefits, the correct language, what “green” actually means

2.7. CONSUMERS

In this section, we describe our major findings from telephone interviews conducted with new home buyers who purchased homes that were processed through the ENERGY STAR Homes (ESH) program and new manufacturing home buyers. These findings are based on telephone interviews conducted between December 21, 2006 and April 2, 2007 with 67¹ single-family new home buyers and between December 21, 2006 and February 12, 2007 with 100 new manufactured home buyers. For new single family homes it is the builder who applies for the incentive and participates in the ESH program so the program database only has contact information for the builder and not the home buyer. We did a reverse lookup on the addresses in the database in order to get names and phone numbers of the home buyers but our search only matched 12% of the names in the sample. We subsequently sent out postcards to all of the addresses. The postcards included a phone number that the new home buyers could call into as well as the option of returning the postcard with their name and phone number. Of the 1,235 postcards that we sent out, 87 came back as undeliverable (or 7%), and 157 came back as vacant (or 13%).

Table 4: Survey Sample Dispositions

ODC Disposition Code	Description	Single Family Number of Sample Records	Manufactured Homes Number of Sample Records
Commercial Customer			
5	Business phone	2	24
Telephone Codes			
0	Untouched	0	0
<i>No Contact Made</i>			
1	No answer	5	3
3	Busy	1	1
2	Answering machine	16	14
4	Disconnected phone	20	20
7	Computer tone	2	2
14	Privacy line/Number blocked	14	14
<i>Wrong Number/Language Problem</i>			
15	Wrong number	2	0
8	Language problems	4	4
<i>Contact Unavailable</i>			
6	Initial refusal	16	27
16	Non-specific callback/secretary/NTG	3	16

¹ Due to the small sample size, especially on some questions where respondents who were not aware that their home was an ENERGY STAR home were removed from the analysis, care should be taken in interpreting and using these results.

ODC Disposition Code	Description	Single Family Number of Sample Records	Manufactured Homes Number of Sample Records
<i>Screener Failed</i>			
18	Not a new home purchaser	4	13
19	Not a home owner	1	2
20	Not a single family home	10	0
<i>Complete</i>			
10	Completed interview	67	100
11	Mid-interview terminate	1	11
<i>Do Not Contact</i>			
17	Hard refusal	2	2
	Total	170	253

Single Family Home Buyers

Awareness of the Program, ENERGY STAR Label, and Earth Advantage

- In all, 76% of the home buyers with whom we spoke had heard of ENERGY STAR homes.
- A little less than two thirds (61%) of respondents know that their home is an ENERGY STAR home.
- Awareness of the ENERGY STAR label generally among these home owners is higher than awareness among the general population in other high ENERGY STAR publicity areas.
- Ten percent of the respondents report that Earth Advantage had an impact on their decision to buy their home.

Value of the Program and Satisfaction with Homes

- 90% of those respondents who know that their home is an ENERGY STAR home said that they would recommend an ENERGY STAR purchase to others.
- In general, most of these home-buyers feel that the major benefit of their ENERGY STAR homes is the reduced energy costs (76%).
- Interestingly, one-third of respondents who were aware that their home was ENERGY STAR (32%) do not see a great deal of value in the ENERGY STAR home certification (providing a rating of less than 8 on a 10-point scale)
- Thirteen percent of respondents said that they do not feel that their home meets the ENERGY STAR construction requirements. The reasons given by more than one respondent include high utility bills and air coming through the windows.
- Twenty-two percent of respondents said there are ENERGY STAR home features in their home that they do not like. Several respondents mentioned issues related to lighting including:

- The light being dull,
 - Difficulty finding replacement bulbs, and
 - Not enough available stylish lighting fixtures,
- Other features mentioned included issues related to the water heater and the limited selection of windows available.

Influence of Program on Purchase/Decision Making Process

- Almost three-quarters of respondents (73%), who knew their home was ENERGY STAR, said that their real estate agent or builder promoted their home as an ENERGY STAR home.
- Thirty-seven percent of *all* respondents who knew that their home is an ENERGY STAR home state that ENERGY STAR was influential in their purchase decision (providing a rating of 8 or higher on a 10-point scale), while 39% of respondents are not aware that they have an ENERGY STAR home. Consequently, if they *knew* their home was ENERGY STAR rated, then it was influential in the majority of purchasers. However, the large number of unaware homeowners is disturbing and requires further investigation in the future.
- Almost one-third (27%) of those who are aware that their home is an ENERGY STAR home state that they were specifically looking for an ENERGY STAR home during their housing search. These respondents all indicate that to them ENERGY STAR means “energy efficient”.
- Among these 27% of home buyers, the most important attributes are passing inspection; cost, quality of materials, and the overall design of the home (mean scores of 8.3 or above).

Manufactured Home Buyers

Awareness of the Program and ENERGY STAR Label

- In all, 91% of the manufactured-home buyers with whom we spoke had heard of either Super Good Cents or ENERGY STAR qualified homes (and all of those respondents knew that their home was an ENERGY STAR/Super Good Cents home). Based on survey responses, these customers were more aware of the Super Good Cents (87%) than of the ENERGY STAR homes (67%). While awareness of the ENERGY STAR homes is not as high as awareness of Super Good Cents, awareness of the ENERGY STAR label among ENERGY STAR/Super Good Cents manufactured-home buyers is higher than awareness among the average population in other high publicity areas; and as is expected, these consumers are much more likely to associate the ENERGY STAR label with “new homes.”

Value of the Program and Satisfaction with Homes

- Our findings demonstrate that manufactured-home buyers perceive great value in ENERGY STAR /Super Good Cents homes, with overall satisfaction with the homes being very high.
 - On a 10-point scale where 1 is not at all valuable and 10 is extremely valuable, 81% gave a rating of 8 or higher, with just over half (51%) of all program

- participants feel that having an ENERGY STAR/Super Good Cents home is “extremely” valuable (i.e., a rating of 10).
- 97% of those who knew that their home is an ENERGY STAR/Super Good Cents home said that they would recommend it to others.
- In general, most of these home-buyers feel that the major benefit of these homes are the reduced energy costs (85%).

Influence of Program on Purchase/Decision Making Process

- The ENERGY STAR/Super Good Cents certification is influential in decision making, with many actively searching for these homes.
 - Almost three-quarters of respondents (74%) said that their manufactured home retailer did promote the fact that their home is an ENERGY STAR/Super Good Cents home. This promotion rate matches the rate found in the single family home new construction market and indicates that retailers are a powerful outreach market actor for this program.
 - Seventy percent of the respondents state that the fact that their home is a ENERGY STAR/Super Good Cents home was influential in their purchase decision (providing a rating of 8, 9, or 10 on a 10-point scale where 1 is not at all influential and 10 is extremely influential) with 36% giving the highest rating of 10.
 - In addition, 66% of those who were aware that their home is an ENERGY STAR/Super Good Cents home stated that they specifically looked for an ENERGY STAR/Super Good Cents home. This is an important finding that should be communicated to the manufacturers of these new homes.
- However, energy efficiency, while important, is not as important as home size or quality of the home. The most important factors among these home buyers are passing inspection, quality of materials, and the overall design of the home (mean scores of 8.8 for each factor)—these are all factors that are promoted through the ENERGY STAR New Homes program.

The Home Buying Process

- Manufactured-home buyers tend to be well-informed (having received information from multiple sources) and feel that the ENERGY STAR/Super Good Cents rating is one of the pieces of information that leads them to purchase their home.
 - In general, manufactured home buyers visited numerous manufactured home retailers and/or model homes. All respondents were choosing between multiple homes.
- Timing of the home purchase does not seem to be as important of an indicator as other demographic features (such as income) given the variation in the length of their housing search.

3. SUMMARY OF RECOMMENDATIONS

Recommendations on program delivery and structure:

- Clarify on Trade-ally website pages (for builders and verifiers) information needed to become a participant builder or verifier. These pages should also show how to reach the PMC's and clear links to other program pages that provide information on how they can participate in the ESH program.
- Improve communications and messages to clarify program differences (Energy Trust ENERGY STAR New Homes, NEEA ENERGY STAR New Homes, Earth Advantage, LEED) to reduce market place confusion.
- Review how program goals are set and consider going towards a market share goal or one based on the number of builders recruited for the program and the number of trainings given.
- It appears that many homeowners are buying their manufactured homes but not bothering to submit the rebate form. More research into this issue is needed to determine if the problem lies in the required paperwork or lack of retailer promotion of incentives. Either way, it does not appear that the incentive is a key motivator in the manufactured home purchase decision. Energy Trust may want to look into issues related to:
 - Spillover,
 - Increased incentive promotion, or possibly,
 - Moving the incentives from the customer side to the manufactured builder or retailer side.
- When and where practical, Energy Trust should consider consolidating data systems. PMCs now use their own databases. However, work is underway towards creating more compatibility and synergies with Energy Trust databases.
- Require builders to attend training in order to participate in the program. Training is currently optional.
- It appears there might be a quality assurance issue, as several single-family home buyers do not feel that their home meets the ENERGY STAR construction requirements. The reasons given include high utility bills, air coming through the windows, and appliances are not ENERGY STAR. Since ENERGY STAR appliances are not part of the program, to improve quality Energy Trust should consider adopting a BOP that includes ENERGY STAR appliances.

Recommendations on marketing and targeting strategies:

- Market more to consumers to increase demand
- Focus more on educating home buyers about the benefits of ENERGY STAR homes. Many market actors (real estate agents, manufactured home retailers, program implementers) stated that customers do not ask for ENERGY STAR.
- However, there is a market for ESH homes. Target the significant number of consumers that *are* in the market to purchase an ENERGY STAR home.
- Increase consumer awareness and demand for ENERGY STAR homes to overcome builder participation barriers. This higher awareness would likely result in greater

program participation from smaller builders, who would participate in order to meet the demand of their clients who ask for more energy efficient homes.

- Real estate agents want more marketing materials to give to customers

Recommendations on recruitment, retention and satisfaction of trade allies:

- When and where possible, streamline and simplify forms for all programs (retrofit and new construction and across service territories).
- Provide real estate agents with training on the benefits of ENERGY STAR and marketing and educational materials they can distribute to potential home buyers
- Work to have consistent incentive levels across programs
- Bring back spiffs for manufactured home retailers

Recommendations on ENERGY STAR New Homes Progress towards market-based verification and market transformation:

- Successful programs need an independent rating infrastructure and they need to work with people whose business interests align with ENERGY STAR's interests. Energy Trust should work with whoever is selling and marketing homes to promote the program. This could be real estate agents, builders or any other entity that sells or markets homes.
- Move away from providing incentives to market actors, builder, verifiers, or home buyers. Las Vegas is the most transformed market and they never had incentives. The goal should be to educate builders and consumers on the benefits of ENERGY STAR. "The value is not in the incentive. And the message by giving incentives is that is the value. There are lots of other ways that the utilities can spend their money cost effectively and increase their goals."
- Energy Trust should continue to recruit additional verification companies into their program.

Recommendations (from single family home buyer survey):

- Several respondents mention that their home is not as energy efficient as they thought it would be. While the sample is small, it is suggested that future impact and process evaluations should consider this issue and determine if this disconnect is due to:
 - Overly optimistic homeowner expectations - And if so, how are program benefits being portrayed to prospective buyers by program actors (i.e. – program implementers, new home builders, realtors et al.), or
 - Operational issues – Are the expected savings being realized or are there issues such as below standard appliance installations occurring?
- Energy Trust should review inspection and certification processes to help understand the causes of these complaints. Energy Trust might also consider doing a handful of post occupancy surveys to determine reasons if there are reasons the home is not as energy efficient as the new homeowner expected.

- Energy Trust might wish to work with the builders to increase their awareness and understanding of the value of an ENERGY STAR home. With 39% of respondents being unaware that their home is ENERGY STAR it does not seem that the builders are properly communicating the value
- In their marketing efforts, Energy Trust should also promote the quality of ENERGY STAR homes (e.g., passing inspection, quality of materials, and overall design). Sustainable or green features appear less important to buyers. However, this later finding could change due to the increased emphasis on global warming prevalent in media today.

Recommendations (from manufactured home buyer survey & retailer interviews):

- Consumers report value in owning ENERGY STAR manufactured homes. Energy Trust should continue to work with manufactured home retailers to effectively promote ENERGY STAR homes.
- Energy Trust should continue to stress the energy savings associated with these homes, and may want to consider whether other factors (such as reduced draftiness or increased comfort) need to be emphasized more.
- Energy Trust should also continue to promote the quality of these homes (e.g., passing inspection, quality of materials, and overall design). Sustainable or green features appear less important to buyers.
- While manufactured home retailers are very satisfied with the program they offered a few suggestions for how they feel the program could be improved:
 - Bring back SPIFFS for sales people
 - Work with manufactures to lower the cost of the ENERGY STAR package and/or make ENERGY STAR standard
 - Have consistent incentive levels across the utilities

Recommendations (from Program staff interviews):

The following are some of the recommendations made by the program staff to improve the program.

- Actively work to increase consumer awareness and demand for ENERGY STAR homes to overcome builder participation barriers. NEEA is currently targeting consumers so Energy Trust could expand on this effort.
- Consolidate data systems. PMC use their own databases and it would helpful if Energy Trust's databases worked with the PMCs databases.
- PMC goals should include more than just kWh and therms. The market share of ENERGY STAR homes, the number of builders recruited for the program, and the number of trainings given should be considered as a measurement of success.
- Require builders to attend training in order to participate in the program. Training is currently optional.



**Energy Trust of Oregon's (ETO)
Efficient New Homes Program (ENH)**

**MASTER INSTRUMENT: Survey of Energy Star
New Home and Manufactured Home Buyers**

Draft 12-20-06

NOTE: An 'N' after a question number indicates the question is for New Homes sample; 'M' is for manufactured homes

INTRODUCTION

Hi, my name is ____ and I'm calling from Opinion Dynamics on behalf of the Energy Trust of Oregon (ETO). We are conducting a study with recent home buyers to discuss their decision to purchase a new home. I want to assure you that this is not a sales call and that the information that you provide will be kept strictly confidential. This will only take about 20 minutes of your time.

[SCREENERS]

I1N. Our records show that your home was recently built as a newly constructed home (within the past two years or so). Is this correct?

1. Yes [CONTINUE]
2. No

I1M. Our records show that you recently purchased a new manufactured home (within the past two years or so). Is this correct?

1. Yes [CONTINUE]
2. No [THANK AND TERMINATE]

I2. Are you the owner of this home?

1. Yes [CONTINUE]
2. No [ask to speak to owner, ELSE T&T]

[NEW HOMES RESPONDENTS ONLY]

I3. Is the home a single family detached home? (IF NECESSARY: A single family detached home is free-standing residential building.)

1. Yes [CONTINUE]
2. No [THANK AND TERMINATE]
3. DK/Ref [THANK AND TERMINATE]

[ASK OF NEW HOMES RESPONDENTS]

I4N. A spec home is pre-built, and was not under contract to you when construction started. A custom designed home is one that you either designed yourself or worked with the builder to design from start to finish. Is your home purchase a spec home or a custom designed home?

(IF NECESSARY: A spec home includes those where you may or may not have had some say in the choices if you purchased the home before construction was finished.)

1. (Spec/Pre-Built Home)

2. (Custom Designed home)
3. DK/Ref

[NEW HOME - BACKGROUND]

I would like to start by asking you some questions about the characteristics of the house you purchased.

1. In what month did you move into your new house? [NOTE TO INTERVIEWER: If respondent indicates that it is a vacation home or that they have not moved in yet, ask what month the home was READY to be moved into]

1. January
2. February
3. March
4. April
5. May
6. June
7. July
8. August
9. September
10. October
11. November
12. December

2. How many bedrooms does it have?

1. 1
2. 2
3. 3
4. 4
5. 5 or more

3. What is the approximate square footage of the house?

1. (Less than 1,000 sq ft)
2. (1000- 1500 sq ft.)
3. (1501-2000 sq ft.)
4. (2001-3000 sq ft)
5. (3001-4000 sq ft)
6. (4001-5000 sq ft)
7. (more than 5000 sq ft)
8. (DK/Refused)

3aM. What type is your manufactured home? Is it...

1. A Double wide home, which is 20 feet or more wide and consists of two units joined together; or
2. A Triple wide home, which consists of three units joined together?
3. (single-wide home, which is 16 feet or less in width and consists of just one unit)
4. (4+ units)
5. DK

[NEW HOME – PURCHASING DECISION PROCESS]

4N. How long did you search for your home before you purchased it?

1. Less than a month
2. One to two months
3. Two to six months
4. Six months to a year
5. Over a year
6. (Designed own home) [skip to 6aN]
7. (Don't remember)

4M. How long did you search for your home before you purchased it?

1. Less than a month
2. One to two months
3. Two to six months
4. Six months to a year
5. Over a year
6. (Don't remember)

4Ma. How did you determine where to site the home? Did you...

1. Own the land where the home is sited (NOTE TO INTERVIEWER: ownership can be obtained through purchasing or inheriting land)
2. or was the home part of a development?
3. (Other, specify)
4. (DK/Refused)

[IF Q4Ma=1]

4Mb. How long have you owned the land where the home now is sited? (NOTE TO INTERVIEWER: ownership can be obtained through purchasing or inheriting land)

1. Less than a year
2. More than a year
3. (DK/Refused)

4Mc. How many different retailers did you visit before purchasing your home?

1. 1
2. 2
3. 3
4. 4
5. 5 or more
6. (Visited development)
7. (DK/Refused)

5. About how many OTHER home models did you consider before deciding to purchase this home?

1. (None – this is the only home I looked at)
2. 1
3. 2
4. 3
5. 4
6. 5
7. 6
8. 7
9. 8
10. 9
11. 10
12. More than 10
13. (Don't remember)

6N. Did you only look at newly constructed homes?

1. Yes
2. No
3. Don't know

[ASK IF Q6N=1]

6aN. Why did you only consider purchasing a new construction home and not an older home? [don't read, MULTIPLE RESPONSE ACCEPT TO 5]

1. (New and clean)
2. (Ability to Customize)
3. (No need to remodel or upgrade)
4. (easier to maintain)

5. (Perception of better neighborhood)
6. (Other, Specify_____)

6M. When buying your new home what types of homes did you consider? [READ, MULTIPLE RESPONSE UP TO 3]

1. Manufactured home
2. New site built home
3. Existing older home

[ASK IF Q6M=1 ONLY]

6aM. Why did only consider purchasing a manufactured home? [don't read, MULTIPLE RESPONSE ACCEPT TO 5]

1. (New and clean)
2. (Ability to Customize)
3. (No need make upgrades)
4. (easier to maintain)
5. (Already owned the land)
6. (Cost)
7. (Construction time)
8. (Availability of skilled labor)
9. (hassle with contractor - time delays cost escalation)
10. (Manufactured in climate controlled environment)
11. (Other, Specify_____)

7. Is this the first [single family / manufactured] home you have purchased?

1. Yes
2. No
3. Don't know

8N. Is this the first home that you purchased that is newly constructed?

1. Yes
2. No
3. Don't know

9N. How did you find your home? [DON'T READ. MULTIPLE RESPONSE, ACCEPT UP TO 3]

1. advertisement
2. visited websites
3. realtor
4. friends and family
5. Builder
6. Home show
7. Visited model home
8. Designed own home
9. other (specify)

9M. How did you find your home? [DON'T READ. MULTIPLE RESPONSE, ACCEPT UP TO 3]

1. Advertisement
2. Visited websites
3. Realtor
4. Friends and family
5. Manufactured Home Retailer
6. Home show
7. Visited model home
8. Other (specify)

If Q9N = 1 or Q9M=1

9a. Where did you see the advertisement for your home?

[OPEN END]

10N. What factors or features did you consider as very important when purchasing your new home? [Do not read – ACCEPT UP TO FOUR RESPONSES]

1. (size of the home/ use of the floor plan)
2. (school district)
3. (safe neighborhood)
4. (overall price of the home)
5. (location/ proximity to work)
6. (expected resale value)
7. (energy efficient, ENERGY STAR builder)
8. (quality of materials used)
9. (reputation of the builder)
10. (the home's exterior)
11. (features included in the home)
12. (open spaces in the neighborhood)
13. (cost)
14. (Don't know)
15. (Other, please specify _____)

10M. What factors or features did you consider as very important when purchasing your new home? [Do not read - ACCEPT UP TO FOUR RESPONSES]

1. (size of the home/ use of the floor plan)
2. (school district)
3. (safe neighborhood)
4. (overall price of the home)
5. (location/ proximity to work)
6. (expected resale value)
7. (energy efficient)
8. (quality of materials used)
9. (reputation of the manufacturer / builder)
10. (the home's exterior)
11. (features included in the home)
12. (open spaces in the neighborhood)
13. (Cost)
14. (ENERGY STAR or Super Good Cents)
15. (factory built - built under controlled circumstances)
16. (factory inspection)
17. (reduced Construction time - no weather delays)
18. (Availability of skilled labor)
19. (wide range of floor plans)
20. (hassle with contractor - time delays cost escalation)
21. Qualified Manufactured Home Inspections
22. (Don't know)
23. (Other, please specify _____)

11. Were there any specific features that you were looking for in a [manufactured] home that your house does not have?

1. Yes
2. No
3. Don't know

[ASK IF Q11=1]

11a. What were these features? [NOTE TO INTERVIEWER: Probe for construction or energy-related features]

- [Open End]
99. Don't know

12. Were there any specific features that your home has that you do not like?

1. Yes
2. No
3. Don't know

[ASK IF Q12=1]

12a. What are these features? [NOTE TO INTERVIEWER: Probe for construction or energy-related features]

[Open End]

99. Don't know

13. On a scale of 1 to 10 where 1 is *not at all a factor* and 10 is *an extremely important factor*, how important were the following factors in your home purchase decision? [READ AND ROTATE]

13a. Utility costs

13b. Ability to customize

13c. ability to locate at desired site

13d. Cost

13e. Resale value

13f. Central AC

13g. sustainable or "green" features (i.e., energy efficiency, solar panels, recycled materials used, certified wood low VOC materials, lower water use, reduced runoff)

13h. Size of home

13i. reputation of the [home builder/manufacturer or retailer]

13j. quality of materials

13k. overall design of home

13l. [MANUF SAMPLE ONLY] Ability to move in quickly

13m. [MANUF SAMPLE ONLY] Not having to hassle with contractors

13n. passed inspection

[AWARENESS OF ENERGY STAR - Unaided]

ES1. Have you ever seen or heard of the ENERGY STAR label?

1. Yes
2. No [SKIP TO ES6]
3. Don't know [SKIP TO ES6]

[IF ES1=1]

ES2. Where do you remember seeing or hearing about the ENERGY STAR label? [do not read - ACCEPT UP TO THREE RESPONSES]

1. (On an appliance)
2. (On a product)
3. (Builder)
4. (Lender)
5. (On new homes)
6. (Friends / family)
7. (On a television commercial)
8. (On your computer)
9. (In the newspaper)
10. (On a radio commercial)
11. (On a billboard)
12. (In a periodical or magazine)
13. (On the internet or email)
14. (Other, please specify _____)
15. (Don't know)

ES3. What does the term ENERGY STAR mean to you? [Do not read-UNAIDED - ACCEPT UP TO THREE RESPONSES]

1. (Energy efficient)
2. (Saves energy)

3. (Saves money)
4. (Costs more money)
5. (Good for the environment)
6. (Regulation)
7. (Comfort)
8. (Value)
9. (Other, please specify _____)
10. (Don't know)

[AWARENESS OF ENERGY STAR HOMES - Unaided]

[IF NEW HOMES SAMPLE, READ IN ONLY "ENERGY STAR"; IF MANUFACTURED HOMES SAMPLE, READ IN "ENERGY STAR or Super Good Cents"]

[IF ES2=5, SKIP ES5]

ES5. Have you ever seen or heard of ENERGY STAR Homes?

1. Yes
2. No
3. Don't know

[IF MANUFACTURED HOMES SAMPLE ASK ES5a, ELSE IF ES5=2,3 SKIP TO OPI]

ES5a. Have you ever seen or heard of Super Good Cents Manufactured Homes?

1. Yes
2. No
3. Don't know

IF ES5=2,3 and ES5a =2,3 SKIP TO OPI

ES6. Is your home an [ENERGY STAR / ENERGY STAR or Super Good Cents Manufactured] Home?

1. Yes
2. No [SKIP TO OPI]
3. Don't know [SKIP TO OPI]

ES7. Were you specifically looking for an [ENERGY STAR / Energy Star or Super Good Cents Manufactured] home when shopping for your new home?

1. Yes
2. No
3. Don't know

ES8. What do you consider to be the benefits of having an [ENERGY STAR / Energy Star or Super Good Cents Manufactured] home? (DO NOT READ LIST, Probe for multiple responses UP TO 5)

1. (Reduced draftiness)
2. (Better indoor air quality)
3. (Low energy bills)
4. (More energy efficient heating equipment (boiler, furnaces, heat pumps))
5. (More energy efficient cooling equipment (central AC))
6. ("Green" or environmentally friendly)
7. (House inspected by state energy office)
8. (No difference than in any new home)
9. (Other(s) specify_____)

ES9. Were there any [ENERGY STAR / Energy Star or Super Good Cents Manufactured] home features that you did not like?

1. Yes
2. No
3. Don't know

[ASK IF ES9=1]

ES9a. What were these features?

[Open end]

98. Don't know

ES10. Would you recommend others to consider buying an [ENERGY STAR / Energy Star or Super Good Cents manufactured] home?

1. Yes
2. No
3. Don't know

ES11. Did your [real estate agent or builder / manufactured home retailer] promote the fact that your home was [ENERGY STAR / Energy Star or Super Good Cents]?

1. Yes
2. No
3. Don't know

ES12. On a scale of 1 to 10 where 1 is *not at all influential* and 10 is *extremely influential* how influential was the fact that the home was [ENERGY STAR / Energy Star or Super Good Cents] in your purchase decision?

1. 1 – not at all influential
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10 – extremely influential
11. Don't know

ES13. Do you think you paid more for your house because it was [ENERGY STAR / Energy Star or Super Good Cents]?

1. Yes
2. No
3. Don't know

ES14. On a scale of 1 to 10 where 1 is *not at valuable* and 10 is *extremely valuable* how would you rate the value of having an [ENERGY STAR / ENERGY STAR or Super Good Cents] home?

1. 1 – not at all valuable
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
10. 10 – extremely valuable
11. Don't know

[IF MANUFACTURED HOMES, SKIP TO ES15]

Other Programs

OPI. Have you heard of Earth Advantage?

1. Yes
2. No
3. Don't know

[IF OPI=1]

OP2. Is your home an Earth Advantage Home?

1. Yes
2. No
3. Don't know

[ASK IF QOP2=1]

OP3. Did Earth Advantage have an impact on your decision to purchase your home?

1. Yes
2. No
3. Don't know

[ASK IF QOP3=1]

OP4. What impact did Earth Advantage have on your purchase decision?

- [Open End]
98. Don't know

AWARENESS OF ENERGY STAR / AND ENERGY STAR HOMES - Aided

[ASK IF ES6=2 or 3]

ES15. The ENERGY STAR Label is used to signify energy efficiency for appliances, lighting, new homes, and consumer products. The label has the word "energy" and a star symbol. Now that I've described ENERGY STAR label to you, do you recall seeing or hearing anything about it before this survey?

1. Yes
2. No
3. DK

ES16. What do you think it means to call a home an [ENERGY STAR / ENERGY STAR or Super Good Cents] Home? [ACCEPT UP TO THREE RESPONSES]

1. (Energy efficient)
2. (Saves energy)
3. (Saves money)
4. (Costs more money)
5. (Good for the environment)
6. (Construction standards)
7. (Better insulation)
8. (Higher performing windows)
9. (Efficient heating and cooling equipment)
10. (Increased comfort)
11. (Increased value)
12. (Other, please specify _____)
13. (Don't know)

ES17. An ENERGY STAR Home is built to strict construction standards and its energy performance is verified by a third party. They feature tighter home envelope, tighter duct sealing, better insulation, high-performance windows, and more efficient heating/cooling equipment, which contribute to lower utility bills, more favorable mortgage options, and a greater level of comfort. Does this description match your home?

1. Yes
2. No
3. Don't know

[IF ES17=2]

ES17a. Why doesn't the description match your home?

[OPEN END]

ES18. In the future, do you plan to purchase another newly constructed [manufactured] home?

1. Yes

2. No

[IF ES18=1]

ES19. Will you purchase an [ENERGY STAR / Energy Star or Super Good Cents Manufactured] home?

3. Yes
4. No

[DEMOGRAPHICS]

D1. Including yourself, how many people live in your household?

1. 1
2. 2
3. 3
4. 4
5. 5 or more
6. (Refused)

[ASK ONLY IF D1 DOES NOT = 1]

D2. And how many people live in your household under the age of 18?

1. 0
2. 1
3. 2
4. 3
5. 4 or more
6. (Refused)

D3. Approximately how much did you pay for your new home (not including the land)?

1. Less than \$50K (up to \$49,999)
2. \$50K - 74K (\$74,999)
3. \$75K - 99K (\$99,999)
4. \$100K - 149k (\$149,999)
5. \$150K - 199K (\$199,999)
6. \$200K - 249K (\$249,999)
7. \$250K - 299K (\$299,999)
8. \$300K - 399K (\$399,999)
9. \$400K - 499K (\$499,999)
10. \$500k or more
11. (refused)

D4. And finally, what is your annual household income?

1. (Less than \$30,000)
2. (\$30,000 to \$49,999)
3. (\$50,000 to \$74,999)
4. (\$75,000 to \$99,999)
5. (\$100,000 to \$149,999)
6. (Over \$150,000)
7. (Refused)

D5. [DO NOT READ; RECORD]

1. Male
2. Female

THANK YOU VERY MUCH FOR YOUR TIME AND CONSIDERATION!