

ENERGY STAR Homes Program – Former Participant Builder Survey

The purpose of the Former Participant Builder Survey was to gather information from builders who have participated in the NYSERDA ENERGY STAR Homes Program (ESH) in the past, but are not currently participating (see definition below). The survey was designed by GDS Associates to contribute to the Market Characterization and Assessment evaluation of the ESH program. The survey was managed by APPRISE Incorporated. Interviews were conducted by Braun Research.

Sample

Target Population

The target population for the survey was builders who had participated in the ESH program in the past, but were not currently active (see definition below). The survey respondent was the individual listed as the ELSH Program contact in the CSG ESH Program database.

Sample Frame

Three data files were used to develop the sample frame. The files are:

1. NYESH Builders – A data file with 1,050 builders who participated in the ESH program since program inception (i.e., signed an ESH agreement with NYSERDA).
2. NYESH Active Builders – A data file with the 340 builders who built one or more projects during the target time period (1/1/2006 to 12/31/2007).
3. NYESH Projects – A data file with the 1,222 projects that have been constructed through the ESH program by 418 builders.

The NYESH Builder database was furnished by CSG. The NYESH Active Builder file and the NYESH Project file were downloaded from the Comprehensive Residential Information System (CRIS).

Working with the three data files a population of 1,090 builders was identified consisting of those who had participated in the ESH program at some time since program inception (1,050 found in File #1, 5 that were in File #2 only, and 35 that were in File #3 only). Of the 1,090 builders, 10 downstate builders were allocated to the Process Evaluation NYC study and were not eligible for selection. The population of 1,080 builders was sorted into six groups based on their NYSERDA Agreement status and the construction of ENERGY STAR Homes.

1. Group 1 – These builders have a current ELSH agreement with NYSERDA (2006/2007 Addendum signed) and built at least one home during the target analysis period (1/1/2006 through 12/31/2007). (Total = 300, Eligible =290)

2. Group 2 – These builders have a current ESH agreement with NYSERDA (2006/2007 Addendum signed), have previously built an ESH home, but did not build a home during the target analysis period (1/1/2006 through 12/31/2007). (N=45)
3. Group 3 – These builders did not sign the current ESH agreement with NYSERDA (2006/2007 Addendum), but built at least one home during the target analysis period (1/1/2006 through 12/31/2007). (N=40)
4. Group 4 – These builders did not sign the current ESH agreement with NYSERDA (2006/2007 Addendum), have previously built an ESH home, but did not build a home during the target analysis period (1/1/2006 through 12/31/2007). (N=356)
5. Group 5 – These builders have a current ESH agreement with NYSERDA (2006/2007 Addendum signed), but have never built an ESH home. (N=152)
6. Group 6 – These builders do not have a current ESH agreement with NYSERDA (2006/2007 Addendum) and have never built an ESH home. (N=197)

Group 1 is considered to be the Participating Builders for purposes of the target analysis period.

Groups 2, 3, and 4 are considered to be Former Participating Builders for purposes of the target analysis period.

Groups 5 and 6 are considered to be Nonparticipating Builders for purposes of the target analysis period.

Sample Selection

The sample frame consisted of 441 builders in Groups 2, 3, and 4 listed above. The Group 3 builders constructed 63 ESH homes during the analysis period. The Group 2 and Group 4 builders did not construct any ESH homes during the analysis period.

The survey budget allowed for 15 interviews with Former Participant Builders. A simple random sample of 146 Former Participant Builders was selected. Table 1 furnishes information on the sample size and the confidence interval for the sample.

Table 1 – Former Participant Builder Survey Sample Allocation

Stratum	Population	Targeted Number of Interviews	90% Confidence Interval
TOTAL	441	15	+/- 21%

Data Collection

Overview of Data Collection Procedures

The Former Participant Builder Survey was administered as a telephone interview with the NYSERDA project contact. Sampled contacts were mailed an advance letter from NYSERDA and one from APPRISE notifying them of the data collection effort and describing the study. Interviewers from Braun Research conducted the interviews using a computer-assisted telephone interview (CATI) survey instrument.

Survey Instrument

The survey instrument was designed to collect information on key performance indicators identified for the ESH in the Program Theory and Logic Model. One objective of the survey instrument was to update the time series measurements of market indicators obtained from previous surveys. So, it was important to ensure that questions were consistent with the prior surveys. However, the survey also addressed some new issues of interest to NYSERDA program staff. Those questions, in particular, needed to be pretested to ensure that they collected the required information and used clear and concise language.

One instrument was used for both the nonparticipating and former participating builders; the instrument was tested carefully to ensure that each type of builder was asked the appropriate set of questions. The grouping of positive and negative pre-coded responses in lengthy response lists also improved questionnaire administration.

Survey Administration

Interviewers called project contacts between 9 a.m. and 5 p.m. on weekdays. If they reached the contact's voice mail, they left a message on first contact. After the first contact, they left a message every other day. The study was in the field for one month. Attempts were made with each project contact at least once per day during the field period. Once the target number of interviews for a stratum was completed, interviewing was discontinued for that stratum. Survey administration averaged 16 minutes per completed interview. Table 2 shows the final disposition of the sample. The overall survey response rate was 27%.¹

¹ The survey was fielded in June 2008. We were informed by industry representatives that builders would have been more responsive during the period from January through March.

Table 2 – Former Participant Builder Survey Sample Disposition

Disposition		Number	Percent
Complete	Complete	16	11%
	Partial	6	4%
Contacted	Refused	9	6%
	Not Completed	52	35%
Not Contacted	Quota Met	0	0%
Excluded	Duplicate	0	0%
	Business or contact no longer available	0	0%
	Information not available for business/contact	52	35%
	Not Eligible	13	9%
TOTAL		146	100%

Data Processing

Coding

The survey included many “field-coded” questions. In these questions, the respondent was asked an open-ended question. The interviewer had the choice of coding the response as one (or more, for some questions) of a number of pre-coded categories coded from the open-ended responses for the prior surveys, or coding the response as “Other” and entering a text string to summarize the response. For each applicable question, staff reviewed each “Other” response and then selected one of the precoded responses or made the response eligible for development of a new code. After reviewing all questionnaires, text responses were grouped into categories. If a group represented at least three or more responses, a new code was created. If there were less than three responses, it was left as “Other.”

Data Processing

The survey data were checked for consistency with the CATI survey instrument. The survey data were combined with the sample frame data. A number of data file formats were developed, including SAS, SPSS, Stata, and Excel. All files were labeled with variable labels and value labels.

Weights

Since the survey was stratified and differential sampling rates were applied to each stratum, survey weights were developed and used for analysis of the data. Three weights were developed – a participant weight, a production weight, and a homes weight.

- **Participant Weight** – The same participant weight is computed for all completed interviews in the stratum. The formula for the participant weight (PW) is $PW = \# \text{ of Eligible Builders} / \# \text{ of Interviews}$. [See Table 5]
- **Production Weight** – The production weight is based on two factors – the stratum factor and the respondent production. The formula for the stratum factor (SF) is $SF = (\text{Sum of Stratum Production}) * (\text{Eligible Population Rate}) / \text{Sum of Production for Stratum Respondents}$. The formula for the production weight (PW) for each respondent is $PW = SF * \text{Production}$. [See Table 6] [Note: Since there were only 2 Group 3 respondents, these data should only be used with the Participating Builder data to get information on the entire population of builders who built homes during the analysis period. Since Group 2 and Group 4 builders did not construct any ESH homes during the analysis period, their Production weight was 0.]
- **Homes Weight** – The homes weight is based on two factors – the stratum homes population and the number of respondents. The formula for the stratum homes population (SHP) is $SHP = \text{the sum of } PW * \text{Homes Constructed for all respondents in the stratum}$. The formula for the homes weight (HW) is $HW = SHP / \text{Number of respondents}$. [See Table 7]

For the 2006 sample, a simple random sample of Former Participant Builders was selected. Since an SRS sample is self-weighting, the analysis for 2006 used unweighted data. The Participant Weight will yield comparable results to the 2006 procedures.

The purpose of the Production Weight is to allow analysts to compare respondents from the Participating Builder Survey and the Former Participant Builder Survey to represent all ESH homes construction during the analysis period.

The purpose of the Homes Weight (HW) is to allow analysts to compare respondents from the three ESH builder surveys - Participant Builders, Former Participant Builders, and Nonparticipant Builders. The Homes Weight for each of those surveys represents the share of all homes in NYS “represented” by this builder.

Table 5 – Former Participant Builder Survey Participant Weights

Stratum	Population	Number of Interviews	Participant Weight
TOTAL	146	16	9.12

Table 6 – Former Participant Builder Survey Production Weights

Stratum	Stratum Production Total	Respondent Production Total	Stratum Factor	Average Weight
Group 2	0	0	0	0

Stratum	Stratum Production Total	Respondent Production Total	Stratum Factor	Average Weight
Group 3	63	2	15.49	15.49
Group 4	0	0	0	0
TOTAL	63	2	15.49	15.49

Table 7 – Former Participant Builder Survey Home Weights

Stratum	Stratum Home Total	Respondents	Weight
TOTAL	1,050	16	65.63