

### ENERGY STAR Homes Program – Participating Homeowner Survey

The purpose of the Participating Homeowner Survey was to gather information from homeowners occupying homes certified by the NYSERDA ENERGY STAR Homes Program (ESH) during 2006 or 2007. 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 occupants of ESH homes. The targeted homes were those certified during the period from 1/1/2006 to 12/31/2007. The target survey respondent was an adult that is the original purchaser of the home who is still living in the listed home. The questionnaire includes screener questions to confirm that status.

##### *Sample Frame*

The sample frame was a file of 4,377 ENERGY STAR Homes that were certified in 2006 and 2007. The file downloaded from the NYSERDA Comprehensive Residential Information System (CRIS). The sample frame contained the address of each home. For about 30% of the sample frame records, the name of the homebuyer was included in the sample record.

##### *Sample Selection*

The sample frame was stratified into “Upstate” and “Downstate” homes. “Downstate” homes are those that are listed as being in the NYC Region or that have Consolidated Edison listed as their utility. A total of 74 records were coded as “Downstate.” All of the remaining records were coded as “Upstate.” All records with the “Downstate” designation were included in the sample to give NYSERDA more information about buyers in the New York City area. A simple random sample of 789 records from the “Upstate” stratum was selected.

**Table 1 – Participating Homeowner Sample Stratification**

Stratum	Number of ESH Homes	Percent of ESH Homes
Upstate	4,303	98%
Downstate	74	2%
TOTAL	4,377	100%

Homebuyer name and/or address information was missing for some records. APPRISE conducted address look-ups for those records and obtained name and telephone information. The fielded sample was 477 records.

The survey budget allowed for 150 interviews. The analysis plan proposed to oversample the “Downstate” stratum. However, since name and telephone number was available for only 20 of the 74 Downstate cases, it was not possible to interview a sample of Downstate participating homeowners that could be analyzed independently of the Upstate population. Table 2 furnishes information on the number of completed interviews and the confidence interval for the overall sample.

**Table 2 – Participating Homeowner Survey Completed Interviews**

<b>Stratum</b>	<b>Population</b>	<b>Number of Completed Interviews</b>	<b>90% Confidence Interval</b>
TOTAL	4,377	150	+/- 7%

**Data Collection**

*Overview of Data Collection Procedures*

The Participating Homeowner 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. Pretests found that the language for certain questions needed to be improved or shortened, and many skip instructions required revision.

*Survey Administration*

Interviewers called homeowners between 9 am and 9 pm on weekdays and weekends. If they reached the household’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 three weeks. 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 17 minutes per completed interview. Table 3 shows the final disposition of the sample. The estimated response rate was 44%.

**Table 3 – Participating Homeowner Survey Sample Disposition**

Disposition		Number	Percent
Complete	Complete	150	31%
	Partial	9	2%
Contacted	Refused	87	18%
	Not Completed	137	29%
Not Contacted	Quota Met	0	0%
Excluded	Duplicate	0	0%
	Homeowner no longer available	0	0%
	Information not available for homeowner	58	12%
	Not Eligible	36	8%
TOTAL		477	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 pre-coded 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 5% of responses (seven or more), a new code was created. If there were less than seven 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.

- Participant Weight – The same participant weight is computed for all completed interviews in the stratum. The formula for the participant weight (PW) is  $PW = \text{Stratum Population} * \text{Eligibility Rate} / \# \text{ of Interviews}$ . [See Table 4]

For the 2006 sample, an SRS sample was implemented. 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.

**Table 4 – Participating Homeowner Survey Participant Weights**

<b>Stratum</b>	<b>Eligible Population</b>	<b>Number of Interviews</b>	<b>Participant Weight</b>
Upstate	3,184	147	21.66
Downstate	55	3	18.25
TOTAL	3,239	150	21.59