

New Construction Program – Non-participating Owner Survey

The purpose of the Non-participating Owner Survey was to gather information from owners of newly constructed buildings that did not participate in the NYSERDA New Construction Program (NCP). The survey was designed by Summit Blue to contribute to the Market Characterization and Assessment evaluation of the NCP. Questions were added to the survey to contribute to the Impact Evaluation of the program. The survey was managed by APPRISE Incorporated. Interviews were conducted by Braun Research.

Sample

Target Population

The target population for the survey was owners of buildings that were constructed during the period from 1/1/2006 through 12/31/2007 who did not participate in a NYSERDA program during this time frame.

Sample Frame

The sample frame was the Dodge Players Database. This database is developed using information from the F.W. Dodge New Construction Reporting system. The Dodge Players Database is designed to furnish information on the market actors associated with individual new construction projects, including owners, architects, engineers, and other market actors.

The sample frame was restricted to owners of projects that would be eligible for NCP incentives. Projects were excluded for four reasons:

- Project Type – Dodge New Construction Reports include a number of project types that would not be eligible for NCP incentives. These included airports (non-building), bridges, communication systems, dams and reservoirs, gas systems, miscellaneous nonbuilding construction, power/heat/cooling plans, river/harbor/flood control, sewage and waste disposal systems, streets and highways, and water supply systems.
- Geography – Projects that were in Nassau County and Suffolk County were excluded.
- NYC Buildings - Since NYC government buildings do not participate in the SBC, all NYC government building projects were excluded.
- Duplicates – The Dodge frame had some duplicate records.

The original sample frame had 12,161 owners. After excluding ineligible projects types, 11,519 owners remained. After excluding Long Island owners, NYC government agencies, and duplicate records, the frame consisted of 8,038 owners.

From a construction value perspective, we found the following.

- Total Value – The total value of projects listed by Dodge was \$76.1 billion.
- Eligible Project Types – The total value of eligible project types was \$46.8 billion.
- Exclude Nassau/Suffolk – The total value of projects in eligible counties was \$44.5 billion.
- Exclude NYC – The remaining total value of projects was \$36.4 billion.

Based on the frame, the estimated total new construction value was \$36.4 billion. However, that estimate was further adjusted as a result of screening and interviewing sample cases [See Data Collection Section].

Sample Selection

The sample frame was stratified into four strata based on the total construction value reported for each owner. The definition of the strata was:

- Large – Owners with \$50 million or more in new construction value
- Moderate – Owners with \$15 million to less than \$50 million in new construction value
- Small – Owners with \$1 million to less than \$15 million in new construction value
- Very Small – Owners with less than \$1 million in new construction value.

Table 1 shows the number of owners, the percent of owners, and the percent of construction value for each stratum.

Table 1 – Non-participating Owner Survey Sample Stratification

Stratum	Number of Owners	Percent of Owners	Percent of Value
Large	105	1%	44%
Moderate	310	4%	25%
Small	2,222	28%	26%
Very Small	5,401	67%	5%
TOTAL	8,038	100%	100%

The survey budget allowed for 60 interviews. We chose to exclude the very small owners; they represent a small share of the total new construction market and are not representative of most projects that participate in the NCP, which tend to be larger construction projects. We allocated the interviews equally among the other three groups to allow for comparison among the population segments. Table 2 shows the sample allocation and estimated confidence intervals.

Table 2 – Non-participating Owner Survey Sample Allocation

Stratum	Number of Owners	Number of Interviews	90% Confidence Interval
#1 - Large	105	20	+/- 16%
#2 - Moderate	310	20	+/- 18%
#3 - Small	2,222	20	+/- 18%
TOTAL	2,637	60	+/- 11% ¹

Data Collection

Pre-Field Screening

The Dodge database included owners who are currently participants in the NCP. The list of sampled owners was reviewed to assess whether the owner was included on the program participant sample frame. A total of 15 sampled builders were excluded from the sample frame for that reason. [Note: In addition, screening questions were included in the survey to check on previous program participation.]

Data Collection Procedures

The Non-participating Owner Survey was administered as a telephone interview with the NYSERDA project contact. Sampled contacts were sent an advance mailing, including advance letters from NYSERDA and APPRISE regarding the study. Braun Research conducted the surveys 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 NCP 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 was addressing 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

¹ This is the confidence interval for statistics weighted with the Construction Value weight. For statistics weighted with the builder weight, the confidence interval is +/- 16%.

concise language. Pretests found that the questionnaire exceeded the target survey length and that the language for certain questions needed to be improved. Survey administration averaged 21 minutes per completed interview.

Survey Administration

Staff from APPRISE contacted owners between 9 am and 5 pm on weekdays to schedule interviews for Braun Research. If they reached the contact’s voice mail, they would leave a message on first contact. After the first contact, they would leave a message every other day. The study was in the field for four 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 reached, interviewing was discontinued for that stratum. Table 3 shows the final disposition of the sample and Table 4 shows the final disposition by sample stratum.

Table 3 – Non-participating Owner Survey Sample Disposition

Disposition		Number	Percent
Complete	Complete	62	25%
	Partial	3	1%
Contacted	Refused	15	6%
	Not Completed	89	36%
Not Contacted	Quota Met	0	0%
Excluded	Duplicate	0	0%
	Business or contact no longer available	0	0%
	Information not available for business/contact	5	2%
	Not Eligible	76	30%
TOTAL		250	100%

Table 4 – Non-participating Owner Survey Sample Disposition by Stratum

Disposition		Stratum #1		Stratum #2		Stratum #3	
		Number	Percent	Number	Percent	Number	Percent
Complete	Complete	21	41%	22	22%	19	19%
	Partial	1	2%	1	1%	1	1%
Contacted	Refused	1	2%	3	3%	10	10%
	Not Completed	16	31%	35	35%	38	39%

Disposition		Stratum #1		Stratum #2		Stratum #3	
		Number	Percent	Number	Percent	Number	Percent
Not Contacted	Quota Met	0	0%	0	0%	0	0%
Excluded	Duplicate	0	0%	0	0%	0	0%
	Contact not available	0	0%	0	0%	0	0%
	No contact information	0	0%	2	2%	3	3%
	Not Eligible	12	24%	38	37%	27	28%
TOTAL		51	100%	101	100%	98	100%

Table 5 shows the eligible sample size, the number of completed interviews, and the response rate by sample stratum. The overall response rate for the survey was 58%.

Table 5 – Non-participating Owner Survey Response Rate

Stratum	Eligible Sample Size	Number of Interviews	Response Rate
#1 - Large	32.5	21	65%
#2 - Moderate	35.8	22	61%
#3 - Small	38.0	19	50%
TOTAL	106.3	62	58%

Sample Eligibility Status

The estimated total value of eligible new construction based on information from the Dodge database was \$36.4 billion. During the interviewing, additional sample cases were found to be ineligible.

- Total Value of Included Sample - \$34.6 billion (excludes \$1.8 billion for owners with less than \$1 million in projects)
- Total Value of Confirmed Buildings - \$33.5 billion (excludes owners that did not build)
- Total Value of Eligible Sample - \$27.3 billion (excludes owners using nonSBC utilities)

Based on these factors, we estimate that in 2006 and 2007, about \$27.3 billion in new construction was eligible for the NCP program. Of that amount, we found about \$9.0 billion was associated with owners who reported participation in the NCP. So, the total weighted estimate of construction value for owners interviewed in the NCP Non-participating Owners Survey was \$18.3 billion.

Data Processing

Coding

The survey included a number of “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 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 all “Other” responses, the text was reviewed. The coder either 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 (3 or more), a new code was created. If there were less than 3 responses, it was left as “Other.”

Data Processing

The survey data were checked for consistency with the CATI survey instrument, then 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. Two weights were developed – a participant weight and a construction value weight.

- Owner Weight – The same owner weight is computed for all completed interviews in the stratum. The formula for the owner weight (OW) is $OW = \# \text{ of Owners} / \# \text{ of Interviews}$. [See Table 6]
- Construction Value Weight – The construction value weight is based on two factors – the stratum factor and the respondent construction value. The formula for the stratum factor (SF) is $SF = \text{Sum of Stratum Construction Value} / \text{Sum of Construction Value for Stratum Respondents}$. The formula for the Construction Value weight (CVW) for each respondent is $CVW = SF * \text{Construction Value}$. [See Table 7]

For the 2006 sample, a PPS sample based on construction value was implemented. Since a PPS sample is self-weighting with respect to the measure-of-size variable, the analysis for 2006 used unweighted data. The Construction Value weight furnishes statistics that are consistent with statistics from previous survey reports. The Market Assessment results presented in this report are weighted according to construction value.

Table 6 – Non-participating Owner Survey Participant Weights

Stratum	Eligible Population	Number of Interviews	Participant Weight
Large	72.2	20	3.61
Moderate	111.1	22	5.05
Small	945.6	20	47.28
TOTAL	1,128.9	62	18.21

Table 7 – Non-participating Owner Survey Construction Value Weights

Stratum	Stratum Value Total	Respondent Value Total	Stratum Factor	Average Weight
Large	11,047,719	2,568,954	4.30	553,690
Moderate	3,258,849	689,209	4.73	148,029
Small	4,018,078	103,534	38.81	200,885
TOTAL	18,324,646	3,361,697	15.59	295,938