

PROCESS EVALUATION and MARKET CHARACTERIZATION and ASSESSMENT

Green Jobs – Green New York Residential Program

Final Report

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ABSTRACT AND KEY WORDS

This report presents the results of an assessment of NYSERDA's Green Jobs-Green New York (GJGNY) program. GJGNY provides homeowners in New York State free or reduced-cost energy audits and encourages the installation of energy-efficiency measures using the existing infrastructure of the New York Home Performance with ENERGY STAR® program (HPwES). In addition to the cash-back incentives available through the HPwES program, GJGNY provides low-interest financing to homeowners for the installation of HPwES-eligible energy-efficiency measures. GJGNY also provides funding for workforce development and job placement and outreach to targeted communities by constituency-based organizations (CBOs). This process evaluation and market characterization and assessment (MCA) addresses the GJGNY elements that work with residential, one-to four-family homes.

For this evaluation, NMR gathered and analyzed information from primary and secondary data sources including a review of HPwES and GJGNY program documents and databases; in-depth interviews with program staff, implementation contractors, and HPwES contractors; surveys of program participants, general population non-participants, and low-moderate income non-participants; surveys of HPwES contractors; and reviews of secondary information.

The overall objectives of the process evaluation and MCA study were to document the experience of early changes to the program, provide input on the effectiveness of the program during summer/fall 2011, and assess the degree to which program activities were in alignment with program goals. The evaluation specifically assessed barriers to achievement of program goals, influences of program activities on program perceptions, and processes for each program component. The evaluation also assessed baseline conditions for energy audits, HPwES projects, financing of HPwES projects, and CBO outreach activities.

Key words

Green Jobs - Green New York (GJGNY)

Home Performance with ENERGY STAR (HPwES) program

Residential one- to four-family homes

Free or reduced-cost energy audits

Cash-back incentive

Low-interest loans

Process evaluation

Market Characterization and Assessment (MCA)

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EXECUTIVE SUMMARY

PROGRAM DESCRIPTION

The Regional Greenhouse Gas Initiative (RGGI) provides \$301.6 million of funding from the proceeds of selling CO₂ allowances to help launch a sustainable carbon mitigation plan while meeting the short-term needs of a healthy economy. The New York State Energy Research and Development Authority's (NYSERDA) Green Jobs Green New York (GJGNY) program has been allocated \$112 million of these funds to help create green jobs and stimulate investment in energy-efficiency improvements for residential, multifamily, small business, not for profit, and commercial buildings. GJGNY also leverages the investments and programs administered by NYSERDA and utilities funded by the System Benefits Charge (SBC), Energy Efficiency Portfolio Standard (EEPS), and Renewable Portfolio Standard (RPS).

The GJGNY Act of 2009 was signed into law on October 9, 2009¹. GJGNY is a statewide program that provides access to energy audits, installation services for eligible energy efficient measures, low-cost financing, and training for various green-collar careers. The GJGNY program also supports sustainable community development and creates opportunities for green jobs. Designed to leverage existing efforts, the GJGNY program aligns closely with and is largely delivered through the existing residential, commercial, multifamily, and workforce development program initiatives administered by NYSERDA. Among these initiatives is the New York Home Performance with ENERGY STAR (HPwES) program, which uses building science to identify and install cost-effective measures to reduce energy consumption in New York State's one- to four-family existing housing stock. The HPwES program offers the homeowner a cash-back incentive [known as a high-efficiency measures incentive (HEMI)], which the homeowner can utilize along with utility incentives. NYSERDA began operating GJGNY for the HPwES one-to four family program on November 15, 2010. Utilizing the existing infrastructure of the HPwES program, GJGNY provides free or reduced-cost energy audits, and provides low-interest financing to homeowners for the installation of HPwES-eligible energy-efficiency measures and eligible solar hot water systems. In addition, GJGNY provides funding for constituency-based organizations (CBOs) to conduct outreach to targeted communities for energy efficiency and workforce development opportunities available through GJGNY.

REPORT OBJECTIVES AND METHODOLOGY

This combined market and process evaluation addresses GJGNY activities for residential one- to four-family homes and the financing, outreach, and marketing efforts delivered through the New York HPwES

¹ Green Jobs - Green New York Act of 2009 (A.8901/S.5888 and chapter amendment A.9031/S.6032) Laws of New York, 2009.

program. Note that since GJGNY is not separately marketed or branded from the end user or contractor point of view, the focus of this process evaluation and market characterization and assessment (MCA) study was on the HPwES program, specifically the elements that are associated with the GJGNY program. This is the first process evaluation and MCA of GJGNY for the New York HPwES one-to four family program and focuses on project activity occurring under RGGI funding, which began in November 2010.

Overall objectives of the process evaluation and MCA study were as follows:

- Document the experience of early changes to the program
- Provide input on the effectiveness of the program features during summer/fall 2011
- Assess the degree to which program activities are in alignment with program goals
- Assess the barriers to achievement of program goals
- Assess the influence of program activities on perceptions of the program
- Assess the program processes for each program component
- Assess the value of services to program participants and non-participants
- Assess baseline conditions for energy audits, HPwES projects, financing of HPwES projects, and CBO outreach activities to facilitate market comparisons in the future²

For this evaluation, NMR gathered and analyzed information from numerous primary and secondary data sources including: a review of HPwES and GJGNY program documents and databases, in-depth interviews with program staff, implementation contractors, and HPwES contractors. Many groups were surveyed including: program participants, general population non-participants, low-moderate income non-participants, and HPwES contractors. The participants surveyed fell into one of three groups, depending upon their stage of involvement in the GJGNY and HPwES program:

1. GJGNY audit-approved: participants who had been approved for an audit but had not yet had the audit.
2. GJGNY audit-completed: participants who had had an audit but had not had any HPwES work done/measures installed.
3. HPwES work-completed: participants who had had a GJGNY energy audit and HPwES work done/measures installed.

The surveys of participants and general population non-participants targeted respondents across the three New York State regions:

- Upstate-A (Central, Western, and Finger Lakes³)

² According to the original work plan, NMR had planned to conduct and analyze five in-depth interviews with CBOs. However, as of October 2011, a majority of the CBOs were not at the contract or implementation stage, as a result, NYSERDA decided to exclude the GJGNY CBO effort from this evaluation.

- Upstate-B (other upstate⁴)
- Downstate⁵

The survey of low-moderate income non-participants targeted upstate (Upstate-A and B together) and Downstate respondents.

KEY FINDINGS

This section discusses the key findings of the MCA and process evaluation.

Market Characterization and Assessment Findings

The MCA findings described below include market awareness and customer⁶ interest in the New York HPwES and GJGNY funded offerings, GJGNY business and jobs impact, and competition for customers with utility rebate programs.

Market awareness. The non-participant survey assessed market awareness of the HPwES program and GJGNY energy audits and financing.⁷ Market awareness of HPwES appears to be low. A small fraction (2%) of surveyed non-participants reported unaided awareness of HPwES. After being prompted with a description of HPwES, a little more than one-third of non-participants (36%) reported awareness of this program. Among the non-participants who were aware of HPwES, nearly seven-tenths (69%) reported

³ Upstate-A (Central, Western and Finger Lakes) counties include: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming, Livingston, Monroe, Ontario, Seneca, Wayne, Yates, Cayuga, Cortland, Madison, Oneida, Onondaga, and Oswego.

⁴ Upstate-B counties include: Chemung, Schuyler, Steuben, Tioga, Tompkins; Broome, Chenango, Jefferson, Lewis, St. Lawrence, Albany, Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Washington, Warren, Columbia, Delaware, Dutchess, Greene, Putnam, Sullivan, and Ulster.

⁵ Downstate counties include: Orange, Rockland, Westchester, Bronx, Kings, New York, Richmond, Queens, Nassau and Suffolk.

⁶ The term “customer” is used to refer to utility customers who are eligible for the HPwES program. It includes the non-participants and low-moderate income respondents surveyed in this evaluation. The term “participant” refers to customers who have participated in the HPwES program, including those at the audit-approved, audit completed, and work-completed stages.

⁷ The non-participant survey screened for customers who would be likely participants in the program because they had done energy-efficiency work in the past year or planned to do so in the next year.

being aware of the GJGNY free or reduced-cost energy audits, and close to six-tenths (57%) reported being aware of the GJGNY low-interest loans. From the perspectives of those involved in administering or delivering the HPwES program, lack of awareness of the program was a significant barrier to participation in the audits. About one-fourth (24%) of HPwES contractors mentioned lack of awareness or knowledge of the program as the main barrier to homeowners participating in the audits. A review and analysis of the Comprehensive Residential Information System (CRIS), the program database and the participant survey findings suggests that HPwES contractors play a critical role in informing customers about the HPwES program and, importantly, also in providing options about how to make energy-efficiency improvements.

Customer interest in HPwES program offerings. Among non-participants, about one-fifth each indicated interest in the HPwES program (17%), GJGNY free or reduced-cost energy audit (19%), and the GJGNY low-interest financing (20%). About one-fourth of low-moderate income respondents indicated interest in the overall HPwES program (26%), but there was a stronger interest in the free or reduced-cost GJGNY energy audit (32%) as opposed to the HPwES financing (21%). Overall, the lack of interest in the HPwES program was driven by a perceived lack of need for it—for example, non-participants were not interested in participating in the overall HPwES program primarily because they had already installed most measures (21%) or perceive their home was already energy efficient (19%). Nearly a quarter (26%) of the low-moderate income respondents were not interested in participating in the HPwES program primarily because they perceive they cannot afford to install HPwES-eligible energy-efficiency measures.

GJGNY business and jobs impact. The HPwES contractors participating in HPwES and offering GJGNY free or reduced-cost energy audits reported that HPwES accounted for about one-third of their revenues in 2010 (36%) and 2011 (32%). Nearly one-half (46%) of contractors reported an increase in the number of their employees in the period following the introduction of the GJGNY components into the HPwES program in November 2010. The contractors who reported an increase in employees estimated that 24% of this increase could be attributed to the HPwES program since the introduction of the GJGNY components. Thus, overall, contractors attributed over one-tenth (11%) of new employees hired to the introduction of GJGNY components into HPwES.

Competition for customers with utility rebate programs. The surveyed homeowners indicated substantially higher levels of awareness of utility energy efficiency programs than of NYSERDA programs.⁸ Notably, the non-participant responses revealed nearly four times greater awareness of the

⁸ Respondents were asked if they were aware of any programs offered by NYSERDA that can help them save energy. Staff noted that there are not many other NYSERDA programs to serve them if they have already participated in HPwES.

utility programs⁹ (45%) than of NYSERDA programs (12%). Similarly, HPwES program participants expressed about three times greater awareness of the utility programs (26%) than of other NYSERDA programs (9%). Nearly one-fifth of audit-approved and audit-completed respondents (18%) reported having received non-HPwES program incentives or non-GJGNY financing to install energy-efficiency measures, most frequently citing the utilization of utility rebates (25% of that group).

Process Evaluation Findings

The following process evaluation findings address overall HPwES program marketing and outreach, marketing of GJGNY free or reduced-cost energy audits, marketing of GJGNY low-interest financing, future directions for marketing, administrative processes, changes to the HPwES and GJGNY programs, HPwES participation motivations and barriers, importance and use of financing and incentives, and satisfaction with HPwES and GJGNY.

Overall program marketing and outreach. NYSERDA staff thought that HPwES marketing has been effective and slightly over one-fifth (22%) of HPwES contractors were satisfied or very satisfied with HPwES marketing conducted by NYSERDA. However, over two-fifths (44%) of the HPwES contractors surveyed were somewhat dissatisfied with program marketing. As noted by NYSERDA staff, however, HPwES contractors are “the primary marketers of the program,” and the large majority of HPwES contractors (92%) reported doing their own marketing of HPwES. Staff reported that program marketing comprises a broad spectrum of channels including mass media, and contractors also reported marketing primarily through mass media.

Marketing of GJGNY free or reduced-cost energy audits. The implementation contractors¹⁰ reported that customers typically learned of the GJGNY free or reduced-cost energy audits through the HPwES contractor marketing and outreach efforts and, following the introduction of the GJGNY free or reduced-cost energy audits, over one-fourth of HPwES contractors (28%) indicated that they had adjusted their marketing efforts to include promoting these audits. A majority of the contractors (58%) thought that the introduction of GJGNY free or reduced-cost energy audits led to an increase in the installation of energy-efficiency measures through HPwES.

⁹ Respondents were asked about programs that help them save energy that are offered by their electric or gas utility. Respondents typically cited the utility name, without naming a specific program; they also commonly cited upgrade incentives/rebates for energy-efficiency measures/appliance retirement.

¹⁰ The implementation contractors include Conservation Services Group (CSG), which delivers the HPwES program; Energy Finance Solutions (EFS), which underwrites and originates GJGNY loans; Honeywell, which conducts quality assurance inspections; BrandCool, a marketing contractor, Building Performance Institute (BPI), which provides certification and credentialing services to HPwES contractors.

Marketing of GJGNY financing. According to NYSERDA program data from June, 2011 through December, 2011, over one-fifth (21%) of the HPwES work-completed participants used GJGNY low-interest financing during this time period. The implementation contractors also report that customers typically learned of the financing options from participating contractors, and about one-fourth (26%) of HPwES contractors reported promoting the added financing options in their marketing of the HPwES program. About two-fifths (39%) of participants reported that contractor advice had been influential or extremely influential to their decision on how to finance the installation of HPwES-eligible energy-efficiency measures. Practically all HPwES contractors surveyed (95%) reported providing financing recommendations to customers. Of these HPwES contractors, nearly all (96%) indicated that they recommended program financing. A majority of contractors (56%) thought that customers would have installed fewer measures or downsized projects had program financing not been available.

Administrative processes. At the time of the interviews in July 2011, the implementation contractors reported that the process for GJGNY free or reduced-cost energy audits generally ran smoothly. However, two areas were identified as occasional sources of delays: gathering the energy usage data from applicants and delayed delivery of the energy audit report by HPwES contractors. Suggestions for addressing these issues focused on emphasizing to the HPwES contractors the importance of their role in keeping information flowing to customers. Implementation contractors also reported that the process for program financing generally runs smoothly, but both program staff and implementation contractors reported that customers can have difficulties qualifying for financing, particularly in the downstate region where many customers have high debt-to-income ratios stemming from high housing costs. In response, NYSERDA developed Tier II financing with an alternative set of qualifying criteria. Additionally, NYSERDA is improving processes and underwriting criteria within legislation, to assist participants in obtaining financing with the introduction of on-bill recovery financing on January 30, 2012.

Program changes. NYSERDA has implemented a number of changes to the HPwES program that have affected program participation and, in turn, GJGNY-related activities. Most notably, cost-effectiveness tests have been put in place for the HPwES-eligible energy-efficiency measures. An April 1st, 2011 rule change mandated that qualifying HPwES projects would need to have a Savings-to-Investment Ratio (SIR) of greater than one. On July 1st, 2011, because of New York State Department of Public Service (DPS) requirements the SIR rule was changed to a Total Resource Cost (TRC) test that made approval for individual measures more stringent. Program staff report that the TRC test had reduced the number of HPwES-eligible energy-efficiency measures and thus the flexibility in terms of the work that could be done. They reported that while positive changes, such as the free or reduced-cost energy audits, had occurred, the other changes to measure screening had reduced uptake. Over two-fifths (44%) of HPwES contractors surveyed reported being familiar or very familiar with the recent program changes. A large majority of the HPwES contractors surveyed (79%) believed the changes to the program eligible measures would reduce the number of projects they could complete through the HPwES program.

Program participation motivations. The primary driver of the surveyed homeowners’ decisions to have their home evaluated by a Home Performance auditor was the desire to save on energy costs/bills, cited by nearly one-half of participants (47%); this was particularly important for Downstate customers (61%), who pay higher electricity rates than Upstate customers pay. An additional factor driving the decision by some customers to actually go ahead and have the energy audit appeared to be an interest in finding out how efficient their home was—audit-completed participants (19%) were significantly more likely than audit-approved participants (12%) to be motivated to have the energy audit because they wanted to find out how efficient their home was. An additional factor driving the decision by some participants to install measures after having the energy audit appeared to be a need to replace broken equipment, which was the primary motivation cited by work-completed respondents for the decision to install measures (21%).

Program participation barriers. A major barrier to program participation was the difficulty associated with timing or scheduling the energy audit. Twenty-three percent of non-participants who had heard of HPwES had not participated because they did not have the time or were too busy to participate in the program; 32% of audit-completed and work-completed respondents who indicated encountering participation barriers cited difficulties associated with timing or scheduling; 32% of HPwES contractors surveyed also cited timing or scheduling as the primary barriers to having the energy audit. Gathering energy usage data for the application also was a notable barrier cited by twenty-five percent of program participants.

Importance and use of financing and incentives. Around four-fifths of HPwES program participants accord high importance to the GJGNY free or reduced- cost energy audit (79%), incentives (80%), and financing (71%) in their decisions to install HPwES-eligible energy-efficiency measures.

Program satisfaction. A large majority of audit-completed (78%) and work-completed (95%) respondents were satisfied or very satisfied with the HPwES program. HPwES contractor satisfaction with the program was mixed, with around one-third each indicating satisfaction (36%) and dissatisfaction (31%). The reasons most often cited for dissatisfaction were: certain energy efficient measures were no longer eligible in the HPwES program, difficult or changing standards for measure qualification, and reduced program incentives.

CONCLUSIONS AND RECOMMENDATIONS

The following section discusses conclusions and recommendations based on findings from the process evaluation and MCA efforts. Where differences between the three regions exist, the conclusions and recommendations are categorized accordingly.

Market Characterization and Assessment

The MCA conclusions and recommendations address program outreach, and training and accreditation.

Program Outreach

CONCLUSION 1: In the general population, saving energy or saving on energy bills are a primary concern and motivation for customer participation. Over one-half of non-participants (55%) surveyed said they were concerned or extremely concerned about their electricity or natural gas bills. Nearly one-half of participants cited wanting to save on energy costs/bills (47%) as a motivation for participating in the HPwES program. Similarly, wanting to save on energy costs/bills (37%) was the customer motivation most commonly mentioned by HPwES contractors.

RECOMMENDATION 1: Ensure that the marketing message to homeowners emphasizes the program benefits of financial saving on energy bills or saving energy. In order to support this effort, NYSERDA could provide sample data on potential net savings, in terms of financing costs and monthly savings on energy costs for different types of homes. Designing interactive and educational tools to assist and engage the homeowner in understanding the potential efficiencies is another approach that may be taken.

CONCLUSION 2: The low-moderate income respondents who were not interested in HPwES and GJGNY indicated a perceived lack of need for the program. In the low-moderate income population, the most commonly cited reason for lack of interest in the HPwES program was a lack of money (26%) or financial resources to install measures. Additional reasons cited by these respondents included that they had already installed most measures (15%), they did not need or were not interested in the program (13%), or that their home was already energy efficient (13%).

RECOMMENDATION 2: Utilize the CBOs to promote the benefits of participating in the program by highlighting the GJGNY free or reduced-cost energy audits and financing of HPwES-eligible energy-efficiency measures. In addition, program staff, implementation contractors, HPwES contractors, and CBOs should promote the GJGNY free or reduced-cost energy audits as a way of helping customers determine how energy efficient their homes actually are. Program marketing and promotions should also emphasize that the audit provides an opportunity to educate customers about energy efficiency, that having the audit does not require further commitment, and that participants can learn about energy efficiency and health and safety measures for their homes.

CONCLUSION 3: Difficulties associated with finding and selecting a HPwES contractor can be a barrier to customer participation in HPwES. One program staff member noted that the barrier can be geographic, in that, in some areas it is hard to find contractors, such as in the North Country. Another barrier that staff cited is the difficulty homeowners have identifying which contractor to pick from the list that they receive because a number of the contractors on the list for a particular zip code are actually located outside of that area. Homeowners may face challenges with finding a contractor they are comfortable with. Also, one program staff member speculated that there may be language barriers for some customers, which affects their ability to work with the contractors.

RECOMMENDATION 3: Improve the tracking and presentation of HPwES contractor information to customers. Explore incorporating additional software functionality which would allow the NYSERDA website to list or sort contractors by distance from home and languages spoken. Examples of other search criteria that NYSERDA could consider include the number of HPwES projects completed, types of measures implemented, any Quality Assurance(QA) and Quality Control (QC) information that is not confidential, and customer satisfaction rating. For customers lacking web access, NYSERDA could provide such information over the phone or by mail.¹¹

Training and Accreditation

CONCLUSION 4: Field training, sector training, and advanced technical training for existing employees were important to HPwES contractors. A notable majority of HPwES contractors surveyed reported that field training¹² (78%) would be valuable or extremely valuable for their employees, and about seven-tenths also said that sector-based¹³ (69%) and advanced technical training¹⁴ (67%) would be valuable or extremely valuable.

RECOMMENDATION 4: Continue to leverage existing training resources and expand curriculum to incorporate more specific field, sector, and advanced technical training. Ensure the HPwES contractors are made aware of the trainings, training incentives, and have convenient access to training locations.

CONCLUSION 5: When hiring new employees, HPwES contractors placed a higher premium on work experience and Building Performance Institute (BPI) certification than on worker readiness or job readiness training. Asked to rate specific qualifications for new employees, HPwES contractors gave the highest ratings (extremely important or important) to residential building construction experience (58%) and BPI certification (53%), while worker readiness or job readiness training (42%) was rated relatively lower.

¹¹ CBOs are undertaking “aggregation,” bringing a collection of eligible homes into the program using the same contractor or contractor team, which should also help to address the issue of finding and selecting contractors.

¹² Field training includes support for HVAC, plumbing, electricians, etc.

¹³ Sector-based training includes building science and “whole-house approach” training.

¹⁴ Advanced technical training includes training in system design, and diagnostics: including lighting design and retrofits, heat pumps, steam and hot water system diagnostics, temperature control systems, energy management systems, indoor air quality and ventilation, high efficiency smart appliances, advanced insulation and air sealing techniques, and commercial cooling systems.

RECOMMENDATION 5: Continue to support contractor training for BPI certification. Worker or job readiness training should prepare participants for BPI certification by utilizing worker and job readiness trainings including hands-on training such as internships or other real-world experience. These trainings and subsequent certifications will help meet the HPwES contractor needs for experienced workers.

Process Evaluation

The process evaluation conclusions and recommendations address program administration, the GJGNY free or reduced-cost energy audits, residential financing (i.e., energy loans, incentives, etc), participation decisions, program changes, recommended and installed measures, quality assurance and quality control, and regional analyses.

Program Administration

CONCLUSION 6: While program staff and implementation contractors are collecting good data, some program databases are maintained independently and not integrated. At the time of the implementation contractor interviews, Energy Finance Solutions' (EFS) system was being updated to incorporate five to seven additional fields in order to track additional metrics for NYSERDA. The evaluation team was not able to evaluate HPwES project size by loan amount. This additional data could have helped to understand whether or not loans help to increase the number of energy efficiency measures completed.

RECOMMENDATION 6: Continue to enhance program data collection, tracking, and cross-contractor integration.

Green Jobs-Green New York Free or Reduced-cost Energy Audits

CONCLUSION 7: Pre-screening of customers by a program or contractor has been useful for increasing the proportion of people who install energy efficiency measures after completing an audit. CBOs have been trained in prescreening tools to assess customer need for energy-efficiency work and willingness and ability to finance retrofits. Staff reported that some HPwES contractors are informally pre-screening before conducting audits in order to confirm interest in the program and the likelihood that customers will move forward with the implementation of energy-efficiency measures. The secondary research conducted for this evaluation also found that in the New Hampshire HPwES program, which was implemented by multiple utilities, some of the utilities had higher closure rates (85-90%) than others

(40%), at least in part because of pre-screening of customers based on a Home Heating Index (HHI), which uses utility data to determine eligibility.¹⁵

RECOMMENDATION 7: Establish procedures to identify and more actively promote the program to customers who are more likely to need energy-efficiency work and are willing and able to finance retrofits. These procedures may be based on the prescreening tools already developed for the CBOs, input from the HPwES contractors, and measures such as HHI. This approach would result in a reduction in the number of participants who participate simply because the audit is offered at no or reduced cost but are less likely to install energy-efficiency measures.

Green Jobs-Green New York Residential Energy Loans

CONCLUSION 8: A notable share of HPwES contractors did not feel confident that they were knowledgeable enough about the GJGNY low-interest loans to effectively explain the loan products to customers. GJGNY was still in the early stages of development at the time of this evaluation and program changes on financing may have affected the ability of the surveyed contractors to promote the GJGNY loans effectively to customers. Nearly three-tenths (27%) of HPwES contractors said that the information they had received about the program financing options was not sufficient for them to be comfortable discussing with customers. An implementation contractor suggested providing contractors with more guidance and better tools to sell the loan and help their customers through the application process in order to overcome what he saw as a cumbersome and long loan application process. A program staff member suggested that an independent firm, such as EFS, might be better able to discuss GJGNY financing information because participants may not want to release their financial information to contractors.

RECOMMENDATION 8: Consider offering additional seminars and webinars to educate HPwES contractors about the GJGNY low-interest loans. NYSERDA could also provide HPwES contractors with more guidance and better tools to sell the loan and help their customers through the application process. Align these approaches with the CBO effort to educate customers about the loans as well. Although EFS offers customer service and pre-screening, consider using an independent firm, such as EFS, to discuss GJGNY financing information with participants directly.

¹⁵ “Process Evaluation: New Hampshire Home Performance with ENERGY STAR® Program.” NMR Group Inc./The Cadmus Group. June 13, 2011.

Program Participation Decision

CONCLUSION 9: Notwithstanding NYSERDA's effort to streamline the HPwES program and ease the time burden on customers, scheduling energy audits continues to be a notable barrier to participation. When asked about barriers to completing the energy audit, approximately one-third of audit-approved respondents cited a reason associated with timing or scheduling; eighteen percent of the respondents said they did not have time in their schedule to participate and an additional 14% indicated the hassle of scheduling the energy audit as a barrier. Similarly, non-participants who had heard of HPwES most frequently said that they had not participated because they did not have the time or were too busy to participate in the program (23%).

RECOMMENDATION 9: Identify ways for the HPwES contractors to ease the time burden for customers associated with scheduling or conducting the audit or installation of eligible measures. The program may achieve greater efficiencies by implementing processes to streamline program requirements, ensuring the effective scheduling of audits, simplifying paperwork, etc.

Program Changes

CONCLUSION 10: Lack of familiarity and frequency of program changes likely affected HPwES contractor ability to explain the program and encourage conversions from audits to work completed. One-quarter (25%) of contractors surveyed said that they were not very familiar or not at all familiar with recent HPwES changes. Slightly under one-third (31%) indicated that they were either not satisfied or not at all satisfied with the HPwES program. Among the most commonly cited reasons for dissatisfaction were: some measures were no longer eligible, difficult or changing standards for measure qualification, and reduced incentives.

RECOMMENDATION 10: Improve the conversion from GJGNY energy audits to work completed or measures installed by providing HPwES contractors and CBOs with clear and timely information about program changes. This information should, at a minimum, include the change, its impacts, and complete and uncomplicated rationale for the change. Review contractor awareness of, participation in, and perceived effectiveness of the monthly webinars, which cover program changes, details, opportunities, and offer a venue for feedback. Consider surveying contractors on the efficacy of the webinars and other informational tools.

Recommended and Installed Measures

CONCLUSION 11: Despite the HPwES incentives and GJGNY low-interest loans, a lack of money or limited budgets remains a barrier to homeowners installing energy-efficiency measures recommended in the energy audit. When asked why they did not install one or more of the recommended measures, over two-fifths (41%) of audit-completed and work-completed participants said

that the measures were too expensive. The majority (70%) of contractors surveyed thought that not having enough money or a lack of a budget for the measures was the primary barrier to customers implementing or installing measures recommended through the program.

RECOMMENDATION 11: Identify ways to address concerns of consumers regarding financing the installation of HPwES-eligible energy-efficiency measures. In addition to increased marketing of the GJGNY loan products, the program, CBOs, and individual HPwES contractors could provide customers with more information about the financial benefits of HPwES-eligible energy efficient measures. Increased use of testimonials and detailed explanations of benefits and costs might help to educate participants about the benefits of installing measures. Although constraints from existing funding and cost-effectiveness tests may limit the amount of incentives that can be provided, increasing the incentives for some measures would be a way to help reduce this barrier.

CONCLUSION 12: The decision by consumers to install HPwES-eligible energy-efficiency measures appears to have been triggered largely by needing to replace broken equipment. Work-completed respondents frequently cited wanting to replace broken equipment as the reason to install the energy-efficiency measures when they did (28%). Clearly, the benefits of the early replacement of energy consuming equipment is not realized or appreciated by the consumer.

RECOMMENDATION 12: Develop marketing and educational materials that promote the benefits of early replacement of energy consuming equipment. Educate HPwES contractors on how best to offer the consumer guidance about the benefits of early replacement through HPwES.

Quality Assurance and Quality Control¹⁶

CONCLUSION 13: Given that GJGNY is integrated into HPwES, the success or attractiveness of GJGNY depends on the quality of work performed in HPwES. One of the implementation contractors identified instances of sub-standard installations due to a lack of internal quality control by HPwES contractors. Where contractors had been observed to perform poorly, the implementation contractor believed it was often a result of the contractor's inadequate organizational skills or business practices. A few contractors have been repeatedly missing opportunities to recommend some measures.

RECOMMENDATION 13. The HPwES program should review quality control policies and procedures to make sure that mechanisms are in place to verify quality services and installations, according to program standards. The program should also review its contractor training and support to ensure the consistency and quality of installations.

¹⁶ The focus of this evaluation is on GJGNY. Quality control is not directly a GJGNY component, but rather a program policy included in HPwES. While these analyses and recommendations provide only general guidance, details on QC issues should be addressed in a future evaluation of the HPwES program.

CONCLUSION 14: Customers have an insufficient understanding or appreciation of the value of having the Quality Assurance inspections conducted by the program. Two implementation contractor interviewees indicated customer reluctance to have the QA inspections because customers feel they do not get anything out of it and because they have difficulties finding time for the inspection.

RECOMMENDATION 14: Reinforce the importance of the QA process with customers by indicating the homeowner can receive a free, independent third-party review of the work completed by the HPwES contractor through the program. HPwES program marketing and promotions to customers should also emphasize the value and benefits of QA inspections. HPwES contractors should also be encouraged to highlight the QA process when explaining the benefits of participation as it shows that HPwES contractors are held to a high standard.

Regional Analysis

As described in the evaluation methodology section, the customer surveys targeted respondents across three New York State regions. These conclusions and recommendations address the Upstate-A, Upstate-B, and Downstate regions.¹⁷

Upstate-A

CONCLUSION 15: Upstate-A customers appeared to be less inclined to implement HPwES-eligible energy-efficiency measures because they perceive their homes as already efficient, but they tend to participate in HPwES when equipment is broken. Upstate-A work-completed respondents were most likely to cite broken equipment (32%) as the primary reason for scheduling an audit and participating in HPwES when they did. Upstate-A non-participants most frequently said that their home is already energy efficient (23%) as a reason for not being interested in the GJGNY free or reduced-cost energy audit.

RECOMMENDATION 15: Develop targeted messages to educate Upstate-A homeowners on the benefits of energy efficient improvements and promote the benefits of early replacement and opportunities to install and finance eligible measures through HPwES.

Upstate-B

CONCLUSION 16: While many Upstate-B customers surveyed perceived their homes as already energy efficient, they indicated a strong interest in the free or reduced-cost energy audits further,

¹⁷ Upstate-A includes Central, Western, and Finger Lakes regions, while Upstate-B includes other upstate regions. See the Report Objectives and Methodology section for details on the counties included in each region.

participation in HPwES in the Upstate-B region was strongly motivated by costs of winter heating bills. The primary reason that Upstate-B non-participants were not interested in participating in HPwES was that they thought their homes were already energy efficient (31%). Upstate-B non-participants (18%) surveyed exhibited significantly stronger interest than those in other regions in receiving free or reduced-cost energy audits. Upstate-B work-completed respondents were most likely to cite concern about heating costs in the winter (30%) as the primary reason for participating in the GJGNY and HPwES program when they did.

RECOMMENDATION 16: Messaging to Upstate-B participants should emphasize that the free or reduced-cost energy audits could help to identify the specific measures that could make their homes more energy efficient which, in turn, would help reduce their winter heating costs. As suggested in Recommendation 1, NYSERDA could cite savings that have been achieved from the installation of energy efficient measures.

Downstate

CONCLUSION 17: Downstate customers are strongly motivated by the potential to save on energy bills, but are concerned whether or not they would qualify for the GJGNY free or reduced-cost energy audits. Downstate participants (61%) surveyed reported wanting to save on energy bills as the most important reason for deciding to apply for a free or reduced-cost energy audits significantly more frequently than do respondents in the upstate regions, particularly Upstate-A (40%). Downstate non-participants (42%) also were significantly more likely than Upstate-A (32%) or Upstate-B participants (24%) to be extremely concerned about their electric and natural gas bills. The most frequently cited reason by Downstate non-participants (26%) for not being interested in the free or reduced-cost energy audit was that they were not sure that they would qualify for it.

RECOMMENDATION 17: Promote the GJGNY program in the Downstate region with a focus on the easily achievable criteria for qualifying for the free or reduced-cost energy audit. In parallel, messaging to the Downstate consumer by the CBO, HPwES contractor and the program should concentrate on the benefits and opportunities to reduce energy bills by completing an audit and implementing measures.

Section 1

Introduction

The Green Jobs Green New York (GJGNY) Act of 2009 was signed into law on October 9, 2009¹⁸ and New York State Energy Research and Development Authority (NYSERDA) began operating the GJGNY program on November 15, 2010. GJGNY is funded by the Regional Greenhouse Gas Initiative (RGGI) which provides \$301.6 million of funding from the proceeds of selling CO₂ allowances to help launch a sustainable carbon mitigation plan while meeting the short-term needs of a healthy economy. NYSEDA's GJGNY program has been allocated \$112 million of these funds to help create green jobs and stimulate investment in energy-efficiency improvements for residential, multifamily, small business, not for profit, and commercial buildings. GJGNY also leverages the investments and programs administered by NYSEDA and utilities funded by the System Benefits Charge (SBC), Energy Efficiency Portfolio Standard (EEPS), and Renewable Portfolio Standard (RPS).¹⁹

GJGNY provides homeowners in New York State with free or reduced-cost energy audits for the Home Performance with ENERGY STAR program (HPwES) and permits the use of HPwES cash-back incentives and GJGNY financing for energy-efficiency measures. In addition, GJGNY provides funding for workforce development, and job placement and outreach to targeted communities by constituency-based organizations (CBOs).

This market characterization assessment (MCA) and process evaluation addresses the GJGNY elements that work with residential one-to four family homes.²⁰

This report adheres to the Department of Public Service and Evaluation Advisory Group Evaluation Guidelines (DPS, 2008, 2011), including the Process Evaluation Protocols (Johnson & Eisenberg, 2012).²¹

¹⁸ Green Jobs - Green New York Act of 2009 (A.8901/S.5888 and chapter amendment A.9031/S.6032) Laws of New York, 2009.

¹⁹ A US DOE EECBG Better Buildings (Retrofit Rampup) Grant has also provided funding to NYSEDA for a loan loss/debt service reserve. <http://www.ncsl.org/documents/energy/JeffPitkin.pdf>

²⁰ According to the original evaluation work plan, NMR planned to conduct an analysis to understand the experience of CBOs with delivering outreach services. However, as of October 2011, a majority of the CBOs were not at the contract or implementation stage, as a result, NYSEDA excluded the GJGNY CBO effort from evaluation.

²¹ Evaluation Plan Guidance for EEPS Program Administrators, August 7, 2008, Updated 2011; Johnson, K. and Eisenberg, G. New York State Process Evaluation Protocols. Department of Public Service, January 6, 2012.

1.1 PROGRAM DESCRIPTION AND HISTORY

GJGNY is a statewide program that provides access to energy audits, installation services for eligible energy efficiency measures, low-cost financing and pathways to training for various green-collar careers. The program supports sustainable community development and creates opportunities for green jobs. The GJGNY program elements align closely with and are largely delivered through NYSERDA's existing HPwES program. The GJGNY program includes the following components²²:

- 1) Workforce Development (WFD) – The GJGNY WFD activities engage existing contractors to immediately expand capacity to deliver services and provide direct-entry, on-the-job apprenticeship and internship incentives to help defray staffing costs. Initiatives also help build New York's training infrastructure by working with constituency based training organizations (CBOs), through the expansion of existing training centers, furnishing new training equipment, and expanding field testing and certification examination protocols to help ramp up workforce participation in training and certification. An important component of WFD is to offer career pathways for displaced workers to build skills and re-enter the workforce.²³
- 2) Residential One- to Four-Family Homes – GJGNY financing and free or reduced-cost energy audits for the one-to four-family homes sector are offered through the existing New York HPwES program administered by NYSERDA since 2001. HPwES is program that uses a "whole house" approach to building science and is used to identify and install cost-effective measures to reduce energy consumption in New York State's one- to four-family housing stock. Under GJGNY, households with incomes below 200 percent of Area Median Income (AMI) are eligible for free energy audits while those between 200 and 400 percent of AMI are eligible for reduced-cost energy audits. For example, a family in Albany making \$156,200 or less would be eligible for a free audit, while a family making from \$156,200 to \$312,400 would be eligible for a reduced-cost audit.²⁴

Independent contractors participating in HPwES perform a comprehensive home assessment. This comprehensive review takes into account many aspects of a home including the heating system

²² NYSERDA, *GJGNY Annual Report*, October 2010.

²³ For more details on workforce development see http://www.nyserda.ny.gov/en/Page-Sections/Green-Jobs-Green-New-York-Planning/~/_media/Files/EERP/Green%20Jobs%20Green%20New%20York/gjgny-wkforce-dev-op-plan.ashx.

²⁴ See the HPwES application for details on income ranges by county: http://www.nyserda.ny.gov/Page-Sections/Residential/Programs/Existing-Home-Renovations/~/_media/Files/EERP/Residential/Programs/Existing%20Home%20Renovations/Energy%20Audits/gjgny-energy-audit-app.ashx.

and hot water heater, windows, doors, weather-stripping and health and safety measures. The contractor also conducts a blower-door test to measure the air that leaks into and out of a home’s “envelope.” Other health and safety checks include air-quality assessments which test for natural gas leaks or other dangerous situations. These tests are conducted pre- and post-installation of the recommended eligible measures.

In addition to the free or reduced-cost energy audit, under GJGNY, participating homeowners are able to receive the homeowner cash-back incentive or utility rebates and finance the balance (less any NYSERDA HPwES program incentives or utility rebates) through a GJGNY loan. Income eligible homeowners may participate in the Assisted Home Performance with ENERGY STAR (AHPwES) program which provides a larger incentive for the installation of eligible energy efficient measures. Audits and energy services for GJGNY are carried out by HPwES contractors that have a current Contractor Partnership Agreement with NYSERDA.

- 3) Multifamily – GJGNY financing and co-financing of audits are offered through NYSERDA’s existing Multifamily Performance Program (MPP). MPP is a comprehensive, one-stop program, for all 5+ unit residential buildings. The Program includes both existing buildings and new construction program paths, that serves market-rate and low-to moderate- income projects using a common application process, and relies on a network of energy service contractors who have demonstrated their ability to provide building performance services to multifamily buildings (MPP Partners). MPP Partners assist participants with project implementation by completing an initial energy audit and developing an Energy Reduction Plan (ERP) - to reach a Source Energy use reduction target of 15%.²⁵ The MPP Partner is also responsible for verifying that the energy-related work scope is installed in compliance with GJGNY requirements.
- 4) Small Business / Not-for-Profit – Energy audits and GJGNY financing are available for buildings used or occupied by a small business or not-for-profits (NFPs).²⁶ The program targets small businesses with fewer than 100 employees and NFP with fewer than 10 employees. Loans are available to small businesses with up to 100 employees, and to NFPs regardless of the number of employees. The energy audits are provided through NYSERDA’s existing network of FlexTech and Business Partner providers, comprising qualified lighting and heating, ventilation, and air

²⁵ An Energy Reduction Plan (ERP) identifies the set of cost-effective energy-related improvements to be installed, and provides information necessary to guide installation of those measures. The ERP includes a detailed description of the proposed work scope, with the associated costs, projected energy saving, an outline for how costs will be financed, and a proposed schedule for construction.

²⁶ The Act defines small business and not-for-profits eligible participants as building owner, lessee, or manager of a structure (not a unit within a structure), and who has the legal authority to contract for the provision of qualified energy-efficiency services.

- conditioning (HVAC) contractors. Project Expeditors provide hands-on assistance to small business and NFPs to encourage implementation of energy audit recommendations. GJGNY funds go to expand the service territories beyond the current SBC program area.
- 5) Financing – The GJGNY legislation calls for the development of innovative financing mechanisms. GJGNY financing is available through unsecured direct loans financed by the Revolving Loan Fund through two accounts, first the one- to four- family residential buildings and multifamily buildings and a second for buildings occupied by small businesses and NFP organizations. An On-Bill Recovery option became available on January 30, 2012.
 - 6) Marketing – GJGNY plans call for a statewide marketing effort to promote awareness of the energy audit and loan program and target small businesses, NFPs, residential and multifamily building owners across New York. In addition to building and growing participation in GJGNY, marketing objectives include growing the number of accredited contractors and building the pipeline of New Yorkers participating in GJGNY and energy-efficiency related training.
 - 7) Outreach – In addition to statewide marketing, GJGNY is designed to deliver outreach services in targeted communities through a network of constituency-based organizations (CBOs). The primary goal of the customer outreach is to increase the number of individuals or businesses making efficiency improvements and to increase enrollment in workforce training programs. The CBOs encourage participation in energy-efficiency programs, facilitate awareness of workforce training opportunities available through GJGNY, and assist with enrollment in those efforts. CBOs delivering outreach, marketing, and education target residents, small businesses, not-for-profit organization, multifamily building owners, and potential workforce participants.

1.1.1 Green Jobs-Green New York and Home Performance with ENERGY STAR

Through HPwES, GJGNY provides funding for free or reduced-cost energy audits and low-interest loans, which participants may use to finance the installation of HPwES-eligible energy-efficiency measures.

Within the HPwES program, GJGNY provides funding for the following activities:

1. Third party and independent contractors accredited by the Building Performance Institute (BPI)- perform a comprehensive home assessment, which includes health and safety testing prior to performing work, and also retest the house after work is complete to ensure a safe and healthy environment after installation of energy-efficiency measures. Participating homeowners are able to receive the homeowner cash-back incentive²⁷ or utility rebates and finance the balance (less any NYSERDA incentives or utility rebates) through a GJGNY loan. Income eligible households may

²⁷ A detailed description of NYSERDA and utility benefits is available in the Incentives Matrix, provided in the appendix.

- participate in the AHPwES program which provides a larger incentive for the installation of eligible energy efficient measures. Audits and energy services are provided by HPwES contractors who have a current Contractor Partnership Agreement with NYSERDA.
2. Financing – The GJGNY legislation calls for the development of innovative financing mechanisms. GJGNY financing is available through unsecured direct loans financed by a Revolving Loan Fund; the loan cap was initially from \$3,000 (\$1,500 for AHPwES borrowers) to \$13,000 for the residential sector. However, the Power NY Act of 2011, which was signed by Governor Andrew Cuomo on August 4, 2011, allows on-bill financing up to \$25,000.²⁸ The interest rate is 3.99% for repayment by check, but is reduced to 3.49% for those paying by Automated Clearing House (ACH) payments. As described in the Program Logic Model, “Loan repayment terms of 5, 10 or 15 years are available, but the term of the loan may not exceed the weighted useful life of the financed measures.”^{29,30} Energy Finance Solutions (EFS) originates the unsecured energy-efficiency improvement loans. Tier I borrowers are subject to stringent underwriting criteria based on Fannie Mae Energy Loan standards, but a Tier II option, based on reliable utility bill payment and good standing on outstanding mortgage obligations³¹, was developed to make loans available to homeowners who did not qualify under Tier I.
 3. Marketing– Marketing builds awareness of the energy audit and loan program and targets residential homeowners across New York.
 4. Outreach – GJGNY is designed to deliver outreach services in targeted communities through CBOs. The CBO activities are in economically distressed communities with high energy costs

²⁸ On-bill financing became available on January 30, 2012. Source:

http://www.nysERda.ny.gov/en/Statewide-Initiatives/Statewide-Initiatives/On-Bill-Recovery-Financing-Program.aspx?sc_database=web Accessed January 30, 2011.

²⁹ “Green Jobs – Green New York: Program Logic Model Report.” GDS Associates, Inc. September 29, 2011: <http://www.nysERda.ny.gov/Page-Sections/Program-Evaluation/NYES-Evaluation-Contractor-Reports/2011-Reports/~media/Files/EDPPP/Program%20Evaluation/2011ContractorReports/2011%20GJGNY%20PLM%20Final.ashx>.

³⁰ Property Assessed Clean Energy (PACE) financing was considered but rejected by Fannie Mae and Freddie Mac.

³¹ See Appendix C for details.

relative to median household income, or areas that have not attained identified pollutant reduction plans.³²

1.1.2 Program Changes

NYSERDA has implemented changes to the HPwES program in April 2011, and July 2011 that have affected program participation and, in turn, GJGNY-related activities. Most notably, cost-effectiveness tests have been put in place for the energy-efficiency measures. While the AHPwES program always required a Savings-to-Investment Ratio (SIR)³³ of greater than one, a rule change (made April 1st of 2011) mandated that market rate HPwES customer projects would also need to have an SIR of greater than one.

On July 1st of 2011, a Total Resource Cost (TRC) test was introduced for HPwES and AHPwES, in accordance with the requirements of the Energy Efficiency Portfolio Standard, that made approval for measures even more stringent. In interviews in June and July of 2011, program staff reported that most significantly, insulation measures were no longer pre-approved, and require a site-specific TRC analysis; program staff have since reported that this issue was resolved by the fall of 2011. Additionally, central air conditioning also now requires a site-specific TRC analysis, except for Con Edison and Central Hudson customers. Staff also reported that another consequence of the rule change is that water heaters (including instantaneous models) and hard-wired lighting are no longer considered to be cost-effective.

As discussed above, new financing options will emerge as a result of the Power NY Act of 2011. When implemented, the new rules will allow on-bill financing up to \$25,000, in an attempt to increase the base of participants eligible for financing.

³² As described in “Green Jobs – Green New York Program Logic Model Report” GDS Associates, Inc.; citing section 107 of the U.S. Environmental Protection Agency, The Clean Air Act, Regulation 40 CFR 50-88.

³³ “The SIR is equal to the present value of anticipated energy savings over the weighted useful life of measures installed divided by the total cost of the project.” Source: “Green Jobs-Green New York Program: Underwriting Criteria for Unsecured Residential Energy Efficiency Loans.”

Source:http://naseo.org/resources/selfs/documents/NYSERDA-Underwriting_Criteria_Residential_Direct_Loans.pdf. Accessed September 28, 2011.

Section 2

EVALUATION METHODOLOGY

This combined market characterization assessment and process evaluation addresses GJGNY activities for residential one- to four family homes and the financing, outreach, and marketing efforts delivered through the HPwES program. Note that since GJGNY is not separately marketed or branded from the end user or contractor point of view, the focus of this process evaluation and market characterization is on the HPwES program, specifically the elements that are associated with the GJGNY program. This is the first process evaluation and MCA of the program and focuses on project activity occurring under RGGI funding, which began in November 2010.

The MCA evaluation is intended to help program staff and administrators understand baseline market conditions. The objectives of the process evaluation are to help staff to understand program efficiency and effectiveness, the degree to which program activities are in alignment with program goals, the barriers to achievement of programs goals, and the influence of program activities on participant and non-participant perceptions of the program. Specific objectives of the MCA and process evaluation and of the are as follows:

- Document the experience of early changes to the program
- Provide input on the effectiveness of the program features during summer/fall 2011
- Assess the degree to which program activities are in alignment with program goals
- Assess the barriers to achievement of program goals
- Assess the influence of program activities on participant and non-participant perceptions of the program
- Assess the program processes for participants and partial participants for each program component
- Assess the value of services to program participants and non-participants
- Assess baseline conditions for audits, HPwES projects, financing of HPwES projects, and CBO outreach activities as early as possible to facilitate market comparisons in the future.³⁴

As described in the work plan, specific overall topic areas to be addressed in the MCA were as follows:

- Level of market awareness of NYSERDA, GJGNY elements (audits and financing), and HPwES and specific features of the programs
- Customer interest in HPwES program offerings

³⁴ According to the original work plan, NMR had planned to conduct and analyze five in-depth interviews with CBOs. However, as of October 2011, a majority of the CBO's were not at the contract or implementation stage; as a result, NYSERDA decided to exclude the GJGNY CBO effort from evaluation and will incorporate the evaluation of CBO's into future evaluations.

- Customer interest in GJGNY-funded offerings: free/reduced-cost audits and financing
- Program participation decision-making considerations for contractors and participants
- Level and type of market-actor activity
- Competition for customers with utility rebate programs
- Level and type of program activity

As described in the work plan, specific overall topic areas to be addressed in the process evaluation were as follows:

- Key roles and responsibilities of program and implementation staff involved in program delivery
- Communications and outreach
- Program administration
- Program delivery and implementation
- Overall program strengths and areas for improvement

As part of the process evaluation, program staff expressed a need for obtaining early feedback on the reasons for the high number of HPwES project completions between January and March of 2011. To understand this, NMR conducted a series of in-depth interviews with HPwES contractors and presented staff with a memo summarizing the preliminary findings from these in-depth interviews. These findings are provided in Appendix B of this report.

2.1 INTERVIEW POPULATIONS AND SAMPLES

This MCA and process evaluation report is based on in-depth interviews with program staff, implementation contractors, and HPwES contractors, as well as surveys of participants, non-participants, and low-moderate income non-participants (Table 1).

Table 1: Report Data Sources

Information Sources	Sample size	Description
Program staff interviews	8	In-depth interviews with six NYSERDA and two utility staff members
Implementation contractor interviews	7	In-depth interviews with implementation contractors who work on behalf of NYSERDA on the HPwES/GJGNY program
HPwES contractor interviews	10	In-depth interviews with contractors who conduct home energy audits and install energy-efficiency measures
Participant surveys	536	Telephone survey
Non-participant surveys	212	Telephone survey
Low-moderate income respondent surveys	106	Telephone survey
HPwES contractor surveys	59	Telephone survey
NYSERDA GJGNY database	14,069	NYSERDA Comprehensive Residential Information System (CRIS) database
Secondary data sources	Various	Additional sources on Home Performance programs, and energy-efficiency attitudes and behaviors

2.1.1 Program Staff Interviews

NMR staff conducted in-depth interviews by phone with six NYSERDA staff members and two utility staff members. Each interview took between 30 and 120 minutes to complete.

2.1.2 Implementation Contractor Interviews

The project team distinguishes “implementation contractors” (who implement the program for NYSERDA) from “HPwES contractors”(who conduct the audits and install the energy-efficiency measures). In July of 2011, NMR staff conducted in-depth interviews by telephone with seven individuals representing five

implementation contractors for the HPwES program. The interviewees included two managers from Conservation Services Group (CSG) (the contractor that delivers the HPwES program), one manager with EFS (the contractor that underwrites and originates GJGNY loans), and one manager with Honeywell (the organization that provides independent quality assurance inspections on HPwES projects). The interviewees also included two individuals from BrandCool, a marketing contractor that was hired to develop and execute marketing strategies for both the HPwES and GJGNY programs. The final interviewee was a manager from BPI, the firm that provides certification credentialing, and accreditation services to HPwES contractors (Table 2).

Table 2: Implementation Contractors Interviewed

Implementation Contractors Interviewed	Sample size	Role
Conservation Services Group (CSG)	2	Delivers the HPwES program
Energy Finance Solutions (EFS)	1	Underwrites and originates GJGNY loans
Honeywell	1	Conducts quality assurance inspections
BrandCool	2	Marketing Contractor
Building Performance Institute (BPI)	1	Provides certification and credentialing services to HPwES contractors

2.1.3 HPwES Contractor Survey

The target population for this survey was contractors who are participants in NYSERDA's HPwES program. The initial sample frame for this survey was a list of 171 participating contractors in the HPwES Program database who had completed work through the HPwES program as of April 24, 2011. This list of 171 contractors was sorted based on work completed through the program (number of jobs) and each contractor was assigned a priority based on their relative level of activity.³⁵ After cleaning the sample to

³⁵ The most active contractor had completed 83 jobs as of April 24, 2011. There was a sharp drop off in activity between the most active and the second most active contractor, who completed 37 jobs. Only 20 HPwES contractors completed work on ten or more homes using GJGNY funding as of April 24, 2011 and an additional 50 HPwES contractors completed work on one to nine homes. The remaining 101 HPwES contractors had either completed at least one audit or had one or more loans approved through the program.

eliminate duplicates, companies called in the pre-test, and companies on NYSERDA's Do Not Call list, a total of 161 records remained. The final sample for this study comprised 90 of the most active contractors selected from the cleaned sample frame based on the assigned priority number.

The survey was administered by NYSERDA's survey contractor vendor, APPRISE, who used this sample to complete surveys with a total of 59 HPwES contractors. After adjusting for the finite population of contractors, this sample of 59 contractors yields data that carry an error margin of $\pm 6.3\%$ at the 90% confidence level.

The survey was administered as a telephone interview with the contractor at the selected firm who was most knowledgeable about the firm's experience with the HPwES Program. The data collection period ran from November 22, 2011 through December 7, 2011. The average interview length was 21 minutes.

2.1.4 Participant and Non-participant Surveys

The methodologies for the surveys of program participants and non-participants are described in this section.

2.1.4.1 Participant Survey

The participants fell into one of three groups, depending upon their stage of involvement in the GJGNY program:

1. Audit-approved: participants who had been approved for an audit but had not yet had the audit.
2. Audit-completed: participants who had had an audit but had not had any HPwES work done/measures installed.
3. HPwES work-completed: participants who had had an audit and HPwES work done/measures installed.

The sample for this survey was drawn from the CRIS database of program participants between November 15, 2010 and July 19, 2011. The final sample consisted of 2,934 audit-approved participants, 4,265 audit-completed participants, and 1,077 HPwES work completed participants. The survey targeted respondents across the three New York State regions detailed below:

- **Downstate.** Orange, Rockland, Westchester, Bronx, Kings, New York, Richmond, Queens, Nassau, and Suffolk counties.
- **Upstate-A.** Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, Wyoming, Livingston, Monroe, Ontario, Seneca, Wayne, Yates, Cayuga, Cortland, Madison, Oneida, Onondaga, and Oswego counties.

- **Upstate-B.** Chemung, Schuyler, Steuben, Tioga, Tompkins, Broome, Chenango, Jefferson, Lewis, St. Lawrence, Albany, Clinton, Essex, Franklin, Fulton, Hamilton, Herkimer, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Washington, Warren, Columbia, Delaware, Dutchess, Greene, Putnam, Sullivan, and Ulster counties.

The original sample plan was to complete 210 total interviews for the 3 Statuses – the required interviews would be distributed equally in each Status across the 3 regions (70/70/70 completes for Downstate/Upstate A-/Upstate-B). Upon closer review of the work-completed sample frame, we determined that it did not have enough Downstate sample records to obtain the original target of 70 completes. We therefore reduced the target quotas for work-completed respondents.

The participant survey was administered as a telephone interview by NYSERDA's field work vendor, APPRISE. The participant survey was conducted from September to November, 2011 and averaged 15 minutes per completed interview. In allocating the sample to appropriate quota groups, APPRISE used flags for participant status in the sample which was based on information in the CRIS database. However, owing to the time lag between drawing the sample from the CRIS database and conducting the interviews, the status of some of the participants had changed; i.e., some participants went from being audit-approved to audit-completed or work-completed, and some went from being audit-completed to work-completed. While this information was captured in the screening questions in the questionnaire and the respondents were administered the battery of questions that was appropriate to their current status, the quotas were filled based on the sample flag. Thus, Table 3 shows the final sample sizes based on the true participation status of the survey respondents as well as the sampling error at the 90% confidence level after applying the finite population correction factor.

Table 3: Sample Size and Sampling Error

Population Group	Estimated Population	Completed Interviews	Sampling Error at 90% Confidence Level
Downstate	1,798	154	+6.3%
Upstate-A	4,270	207	+5.6%
Upstate-B	2,208	175	+6.0%
Total	8,276	536	±3.4%
Audit-approved	2,480	132	±7.0%
Downstate	651	41	+12.4%
Upstate-A	1,015	49	+11.5%
Upstate-B	814	42	+12.4%
Audit-completed	4,366	257	±5.0%
Downstate	1,013	82	+8.7%
Upstate-A	2,133	92	+8.4%
Upstate-B	1,220	83	+8.7%
HPwES Work-completed	1,430	147	±6.4%
Downstate	134	31	+13.0%
Upstate-A	1,122	66	+9.8%
Upstate-B	174	50	+9.9%

2.1.4.2 Non-participant Survey

The non-participant survey was administered as a telephone interview with the individual in the household who is primarily responsible for or shares equally in the household's energy-related decisions. Five screening questions determined the type of dwelling in which the respondent lived, homeownership, past participation in the NYSERDA HPwES program, and whether or not the respondent had taken any action to improve the energy efficiency of his/her home in the past year or has plans to do so in the next year. The survey was designed to identify respondents who would be likely to participate in the HPwES program based on recent behavior or near term plans.³⁶ The sample frame was a random digit dial (RDD) sample of landline telephone numbers serving New York State. Sample was drawn separately for three regional breaks: Upstate-A, Upstate-B, and Downstate. The counties included in each of these regions were the same as those for the participant survey, described in the previous section.³⁷

The non-participant survey was conducted from September 20 to October 24, 2011. The survey interview length averaged 15 minutes. The final sample of non-participants is shown in Table 4.

Table 4: Non-participant Sample

Population Group	Completed Interviews	Sampling Error at 90% Confidence Level
Total non-participant sample	212	±5.7%
Downstate	69	±9.9%
Upstate-A	71	±9.8%
Upstate-B	72	±9.7%

2.1.4.3 Notation for Statistical Significance Testing

The survey responses were tested for statistical significance by region and by status. Throughout the report the following notations are used to indicate statistical significance:

Significantly different at the 90% confidence level:

α = from audit-completed;

β = from work-completed;

γ = from audit-approved;

ε = from total;

³⁶ A survey of the general population likely would have resulted in very low levels of interest in HPwES.

³⁷ In Appendix A, the counties of the non-participant and low-moderate income respondents are presented.

δ = from non-participants.³⁸

2.1.5 Low-Moderate Income Survey

The methodology for the survey of low-moderate income residents in New York State is described in this section.

2.1.5.1 Interview Populations and Samples

The low-moderate income survey was administered as a telephone interview with the individual in the household who is primarily responsible for or shares equally in the household's energy-related decisions. A series of screening questions determined the type of dwelling in which the respondent lived, homeownership, past participation in NYSERDA's Home Performance program, and whether or not the respondent had taken any action to improve the energy efficiency of his/her home in the past year or has plans to do so in the next year. As with the non-participant survey, the low-moderate income survey was designed to identify respondents who would be likely to participate in the HPwES program based on recent behavior or near term plans. All respondents owned single family homes (detached or attached), or owned units in buildings with 2-4 units. Respondents had not participated in the HPwES program offered by NYSERDA.

The low-moderate income survey targeted respondents who have between 60% and 80% of Area Median Income (AMI) based on those who would not qualify for the Weatherization Assistance program (below 60% of AMI) but would qualify for Assisted HPwES (below 80% of AMI). Based on lower limit for a household size of 2 persons and the upper limit for a household size of 4 persons, the resulting income range is approximately \$25,000 to \$50,000 for upstate counties and \$35,000 to \$60,000 for Downstate counties.^{39,40} However, APPRISE encountered substantial difficulties finding qualified respondents in the Downstate region using a simple random sample. To address this, APPRISE obtained a sample from Survey Sampling that was targeted to specific census tract and block groups set to pinpoint *verified* homeowners of single family residences with an estimated annual household income between \$25,000 and \$75,000. Note further that the sample did not include any respondents in the borough of Manhattan in New

³⁸ The statewide low-moderate income sample is only compared to the statewide non-participant sample.

³⁹ See the "Revised Work Plan for NYSERDA GJGNY Residential Process Evaluation and Market Characterization and Assessment." NMR Group, Inc., Navigant, Research Into Action, Inc. October 2011.

⁴⁰ The AHPwES program application indicates that applicants below 60% of state median income may be eligible for the Weatherization program or the EmPower New York Program.

<http://www.nysERDA.ny.gov/~media/Files/FO/Current%20Funding%20Opportunities/AHPPL/AHPPLApplication.pdf>? Accessed February 28, 2012.

York City. However, note that given the small number of single-family homes in Manhattan and their high average value, it is very unlikely that respondents from such homes would fall within the income criteria for the low-moderate income population targeted by CBOs. However, the survey responses provided by the Downstate sample tended to be generally similar to those given by the upstate sample. Thus, to provide a unified picture of the low-moderate income population surveyed, NMR developed weights for the upstate and Downstate samples to produce data for the total sample of respondents. These weights were based on three year American Community Survey (ACS) data from 2008-2010.⁴¹ The reference population was the total number of 1-4 family unit owner-occupied households with income data. The Upstate populations included households with \$25,000-\$50,000 in annual income, while the Downstate population included households with \$25,000-\$75,000 in annual income.⁴²

Table 5: Low-moderate Income Sample Weighting

Population Group	Completed Interviews	Population	Weight
Downstate	46	490,441	1.301
Upstate	60	378,160	0.769

The survey was conducted from December 7, 2011 to March 18, 2012. The survey interview length averaged 15 minutes. The interviews are described in Table 6. For the total sample the sampling error at the 90% confidence level is $\pm 7.99\%$.

Table 6: Low-moderate Income Sample

Population Group	Completed Interviews	Sampling Error at 90% Confidence Level
Total sample	106	+7.99%
Downstate	46	+12.13%
Upstate	60	+10.62%

⁴¹ <http://factfinder2.census.gov>

⁴² Appendix A presents the counties of the respondents.

2.2 REPORT CONTENTS AND ORGANIZATION

This report is a documentation of the MCA and process evaluation and includes conclusions and recommendations for GJGNY and inherently the HPwES program. This section, Section Two, provided an overview of the evaluation methodology. Section Three provides perspectives on the market in terms of market actors, opportunities, and market and program awareness. Section Three also analyzes participant awareness and participation in other programs as well as non-participant energy-efficiency attitudes, behaviors, and plans. Section Four provides an analysis of program participation, including motivations and barriers and program participation decision-making. Section Five evaluates program delivery and Section Six presents information on program participation, including customer satisfaction. Section Seven provides an overview of the demographic make-up of survey respondents. Section Eight provides summary process and MCA findings. Section Nine presents conclusions and recommendations for the GJGNY program going forward.

This report shows the total survey responses for each of the three participant groups (audit-approved, audit-completed, and HPwES work completed), total participants, total non-participants, and low-moderate income respondents. Any significant regional level differences within these groups are noted in the supporting text for each table. Further, in the interests of keeping this report to a manageable length, some of the tables show just the highest mentioned and other noteworthy responses. Detailed tables showing the breakouts of all survey responses by user group and/or region are provided in Appendix A.

Section 3

PERSPECTIVES ON THE MARKET

3.1 KEY FINDINGS SUMMARY

Awareness of NYSERDA programs in the market appears to be low. About one in eight non-participants (12%) and about one in seven low-moderate income survey respondents (14%) reported being aware of NYSERDA programs. HPwES participants exhibited relatively low awareness of other NYSERDA programs with about one in ten (9%) reporting awareness of other energy-efficiency programs. Over one-fifth of all participants (22%) reported that they were aware of the NYSERDA renewable energy program, followed by over one-tenth (13%) who said that they were aware of the appliance rebate or replacement program. Across all participant groups, nearly one-eighth of respondents (11%) reported participating in other NYSERDA programs in general.

Awareness of HPwES also appears to be very low. A small fraction of non-participants (2%) and low-moderate income respondents (3%) reported unaided awareness of HPwES. However, after being prompted with a description of the program, about one-third of non-participants (36%) and low-moderate income respondents (31%) in total reported awareness of HPwES. Among the respondents and low-moderate income respondents who were aware of HPwES, over two-thirds of non-participants (69%) and about three-fifths of low-moderate income respondents (61%) reported being aware of the GJGNY free or reduced-cost energy audits; and close to three-fifths each of non-participants (57%) and low-moderate income respondents (57%) reported being aware of the low-interest loans. Staff recognized that increased awareness is likely needed for the program and thought that changing market conditions, such as increased fuel prices, would encourage more project activity. HPwES program implementation contractors, in contrast, reported both residential end use customers and contractors have moderate awareness of the HPwES program.

Among the non-participants who reported being aware of NYSERDA programs, the most frequently mentioned sources of information were TV ads (35%), followed by word-of-mouth (26%), and newspaper ad or story (23%). The non-participants who were aware of the GJGNY free or reduced-cost energy audits and the low-interest loans also reported TV ads, word-of-mouth, and newspaper ad or story as their top three sources of information for each of these program elements. Among the low-moderate income respondents, word-of-mouth was an important source of program, audit and loan information.

In the survey of participants, over one-half of respondents (56%) reported being aware that GJGNY offered energy audits that were free or reduced-cost.⁴³ Compared to participants, non-participants who were aware of HPwES reported a higher level of awareness (69%) of the free or reduced-cost energy audits. Low-moderate income survey respondents who were aware of HPwES also reported a relatively high level of awareness (61%) of free or reduced-cost energy audits. About three-fifths of participants (59%) reported being aware, either before or after participation, that GJGNY offered low-interest loans; and about two-fifths (41%) reported being aware of the low-interest loans prior to participation. Again, compared to participants aware of the low-interest loans prior to participation (41%), non-participants who were aware of HPwES reported a higher level of awareness (57%) of the loans. Low-moderate income survey respondents who were aware of HPwES reported a similarly high level of awareness (57%) of the low-interest loans.

The review and analysis of the Comprehensive Residential Information System (CRIS) database and the participant survey findings suggested that HPwES contractors play a critical role in informing customers about the HPwES program and, importantly, also in encouraging participants to complete HPwES projects. While word-of-mouth was most the commonly cited source of program information in the participant survey, HPwES contractors were the second most cited source. In both the CRIS database and participant survey HPwES contractors were the most commonly cited source by HPwES work-completed participants. Other frequently mentioned sources of program information for participants, in both the CRIS database and the survey included TV ads, newspaper ad or story, NYSERDA, and the Internet.

In general, participants exhibited relatively low awareness of other NYSERDA programs—about one-tenth (9%) of participants reported awareness of the other programs. Across all participant groups, nearly one-eighth of respondents (11%) reported participating in other NYSERDA programs. Participants reported higher awareness of utility energy-efficiency programs, with about one-fourth (26%) saying that they were aware of such programs. Non-participants also reported higher awareness of utility energy-efficiency programs (45%) than of NYSERDA programs (12%). Similarly, low-moderate income respondents reported higher awareness of utility energy-efficiency programs (29%) than of NYSERDA programs (14%). Among the customers who were aware of utility programs, about one-fourth (24%) each of non-participants and participants, and about one-fifth of low-moderate income respondents (19%), reported having participated in the programs. Non-participants who had participated in a utility energy-efficiency program most commonly reported participating in one that offered upgrade incentives/rebate for energy-efficiency measures/appliance retirement (38%). Participants who had participated in utility energy-efficiency programs most commonly reported participating in a utility program in general (31%) or

⁴³ Note that the sample for this survey was drawn from the CRIS database of program participants between November 15, 2010 and July 19, 2011. However, some may have retained HPwES information that pre-dates information about the GJGNY free or reduced-cost audits and low-interest loans.

programs with upgrade incentives/rebates for energy-efficiency measures/appliance retirement (23%). When asked about their reasons for participating in the utility programs, over four-tenths of participants (43%) said that they wanted to save energy or natural gas bills. Over three-tenths (36%) said that they planned to make improvements anyway or that they participated in utility programs because they offered rebates or were free (32%).

Over one-half of surveyed non-participants (55%) and low-moderate income respondents (57%) were concerned or extremely concerned about their electricity or natural gas bills. These respondents reported that, in the past year, the most frequent energy saving action they had taken was air sealing⁴⁴ (43% of nonparticipants, 44% of low-moderate income respondents). Non-participants also reported installing ENERGY STAR qualified cooling equipment (34%) and adding or upgrading insulation (28%). Around one-third of low-moderate income respondents (32%) each also reported having installed energy efficient windows, ENERGY STAR qualified cooling equipment, or having had structural repairs done. Non-participants reported that in the next one year they would be most likely to install air sealing (19%), conduct structural repairs (15%), install energy efficient doors (14%), install energy efficient windows (13%), and add or upgrade insulation (13%). Low-moderate income respondents reported that in the next year they would be most likely to install air sealing (33%), add or upgrade insulation (29%), install energy efficient windows (27%), and conduct structural repairs (25%). Two-thirds each of non-participants (67%) and low-moderate income respondents (67%) said that the most important reason they took or plan to take action is because they want to save on energy bills or to save energy. Over one-quarter of non-participants (29%) and two-fifths of and low-moderate income respondents (40%) cited barriers to taking energy saving actions (29%), with about four-fifths of non-participants (79%) and the vast majority of low-moderate income respondents (91%) mentioning the high cost of measures.

3.2 MARKET AND PROGRAM AWARENESS

The program and market awareness section discusses awareness and participation in NYSERDA and utility programs, and non-participant energy-efficiency behaviors and plans.

⁴⁴ The survey asked respondents about “air sealing.” If necessary, interviewers explained that air sealing “includes caulking windows, etc.” Note that respondents may have a different understanding of air sealing than the definition used by BPI-certified contractors. Respondents might conceive of air sealing in terms of isolated measures such as caulking and weatherstripping, rather than the more thorough air sealing done by BPI-certified contractors.

3.2.1 NYSERDA CRIS Database

The following analyses present information from the NYSERDA CRIS database of program activity. These data suggest that contractors play a critical role in informing customers about the HPwES program and, importantly, also in encouraging participants to complete HPwES projects.

Table 7 presents the source of HPwES program information by project status. Statewide, two-fifths of participants (42%) indicated that they learned about the program from a HPwES contractor. By contrast, two-thirds of participants (67%) who had HPwES work-completed said that they heard about the program from HPwES contractors. However, only one-third of audit-approved participants (33%) heard about the program from a contractor.⁴⁵

Around one in ten participants overall heard about the program from a friend or neighbor (12%) or from NYSERDA (11%). About twice as many participants in the audit-approved group (15%) as in the audit-completed group (8%) or the work-completed group (7%) heard about the program from NYSERDA.

- Participants in the Upstate-A region were most likely to have heard about the program from a contractor (51%), compared to 35% for Upstate-B participants and 32% for Downstate participants (See Appendix A, section 3.2.1 for regional details).

⁴⁵ According to program staff, the finding that audit-approved participants were less likely to have heard about the program from contractors may be a reflection of the timing of the introduction of advertising and CBOs rather than the status of the respondent in terms of being at the audit-approved rather than work-completed stage of the program.

**Table 7: Source of HPwES Program Information by Project Status (CRIS Database)
(participants; multiple response⁴⁶)**

Source of information	Audit-approved (N=5,391)	Audit-completed (N =6,892)	HPwES work-completed (N =1,786)	All Participants (N =14,069)
Contractor	33%	43%	67%	42%
Neighbor/Friend	13%	12%	9%	12%
NYSERDA	15%	10%	7%	11%
Home Show	6%	7%	6%	7%
Internet	9%	7%	4%	7%
Newspaper	7%	8%	5%	7%
Television	5%	6%	5%	6%
Constituency Based Organization	5%	5%	1%	4%
Energy \$mart Coordinator	5%	4%	2%	4%
Circular/Flyer	3%	4%	2%	3%
Municipality	4%	3%	1%	3%
Radio	2%	2%	1%	2%
Other	24%	19%	10%	20%

3.2.2 NYSERDA Programs: Awareness and Participation

3.2.2.1 Key Findings Summary

In the survey of non-participants, about one in eight respondents (12%) reported being aware of NYSERDA energy-saving programs and a small fraction (2%) reported unaided awareness of HPwES. Survey respondents who were unaware of HPwES were aided with a description of the program; combining the unaided and aided awareness, over one-third of all non-participants (36%) reported being aware of

⁴⁶ Note that multiple response answers add to more than 100%.

HPwES.⁴⁷ Among the non-participants who were aware of HPwES, over two-thirds (69%) reported being aware of the free or reduced-cost energy audits and close to three-fifths (57%) reported being aware of the low-interest loans.

Among the non-participants who reported being aware of NYSERDA programs, over one-third most frequently reported hearing about the programs from TV ads, followed by about one-fourth each who reported hearing about the programs through word-of-mouth or from a newspaper ad or story. The non-participants who were aware of the free or reduced-cost energy audits and the low-interest loans reported similar primary sources of information—TV ads, followed by word-of-mouth and newspaper ad or story (Table 8).

Table 8: Non-participant Sources of Information

Sources of information	NYSERDA Programs (n=89)	Free/Reduced-cost Audit (n=46)	Low-interest Loans (n=42)
TV ad	35%	30%	29%
Word-of-mouth	26%	15%	20%
Newspaper ad or story	23%	24%	19%
Bill inserts	10%	--	--
The internet (general)	7%	9%	5%
Radio ad	7%	9%	10%
Contractor/auditor	6%	6%	2%
NYSERDA banner ad	3%	2%	2%
Constituency Based Organization (CBO)	2%	4%	5%
NYSERDA website	1%	--	--

⁴⁷ In contrast, in a 2009 HPwES MCA study conducted for NYSERDA, participating contractors reported that eight percent of customers were very or somewhat aware of HPwES. Source: “New York Home Performance with ENERGY STAR Program: Market Characterization and Market Assessment Evaluation.” Summit Blue Consulting, LLC. February 2009.

In the low-moderate income survey, unaided awareness of HPwES was very low (3%) but the combined unaided and aided awareness was moderate (31%). About three-fifths of respondents who were aware of HPwES each reported knowing that the program offered free or reduced-cost energy audits (61%) and low-interest loans (57%). In terms of the total target population awareness of the GJGNY components (as a baseline for CBO activity), projecting to the total sample base of low-moderate income respondents:

- Unaided awareness of the free or reduced-cost energy audits was at about 2% in the Downstate region, 3% in the Upstate region, and 3% Statewide. Among respondents who reported unaided and aided awareness of HPwES, the awareness levels of the free or reduced-cost energy audits was at about 18% Downstate, 20% Upstate, and 19% Statewide.
- Unaided awareness of the low-interest loans was at about 2% in the Downstate region, 2% in the Upstate region, and 2% Statewide. Among respondents who reported unaided and aided awareness of HPwES, the awareness levels of the low-interest loans was at about 18% in the Downstate region, 17% in the Upstate region, and 18% Statewide.

Word-of-mouth was an important source of program, audit and loan information. Nearly one-third of low-moderate income respondents became aware of NYSERDA programs by word-of-mouth (29%). Nearly one-fifth cited word-of-mouth awareness of free or reduced cost audits (18%), and three out of nineteen respondents indicated so for the low-interest loans (12%). Respondents also said that newspapers ads or stories were important sources of program (24%), audit (8%), and loan (15%) information.

Table 9: Low-moderate Income Respondent Sources of Program Information

Sources of program Information	NYSERDA Programs (n=39)	Free or Reduced-cost Audit (n=20)	Low-interest Loans (n=19) (percent (count))
Word-of-mouth	29%	18%	12% (3)
Newspaper ad or story	24%	8%	15% (3)
The internet (general)	10%	19%	7% (1)
TV ad	10%	4%	8% (2)
Radio ad	8%	8%	8% (2)
Home show	8%	14%	15% (3)
Bill inserts	6%	8%	8% (2)
Contractor/auditor	6%	8%	8% (2)
General mailing/flyer	4%	7%	7% (1)
Local government sources	4%	7%	7% (1)
Constituency Based Organization (CBO)	--	7%	7% (1)
National Grid	--	7%	7% (1)
Other	6%	--	--
Don't know	11%	--	7% (1)

In the survey of participants, over one-half of respondents (56%) reported being aware that GJGNY offered free or reduced-cost energy audits. Note that compared to participants, non-participants who were aware of HPwES reported a higher level of awareness (69%) of the free or reduced-cost energy audits.

About three-fifths of participants (59%) reported being aware, either before or after participation, that GJGNY offered low-interest loans; and about two-fifths (41%) reported being aware that GJGNY offered low-interest loans prior to participation. Reported awareness of the loans prior to participation was much higher among the more recent, audit-approved participants (71%) than among the audit-completed (27%) and work-completed (33%) participants. Note that compared to the percentage of participants aware prior to participation (41%), non-participants who were aware of HPwES reported a higher level of awareness (57%) of the low-interest loans.

Overall, participants most frequently reported that word-of-mouth was their top source of program, audit, and loan information. This was followed by a contractor or auditor, newspaper or magazine ads or stories, and TV ads.

Table 10: Participant Sources of Information

Sources of information	HPwES Program (n=536)	Free or Reduced-cost Audit (n=284)	Low-interest Loans (n=338)
Word-of-mouth	23%	22%	35%
Contractor/auditor	15%	13%	13%
TV ad	13%	14%	5%
Newspaper ad or story	11%	15%	9%
NYSERDA website	5%	6%	11%
The internet (general)	5%	5%	4%
Oil/gas/utility company	4%	5%	2%
NYSERDA banner ad	3%	2%	2%
CBO - Constituency Based Organization	2%	2%	1%

In general, participants exhibited relatively low awareness of other NYSERDA programs—about one-tenth (9%) reported awareness of the programs. Over one-fifth of all participants (22%) reported that they were aware of the NYSERDA renewable energy program, followed by over one-tenth (13%) who said that they were aware of the appliance rebate or replacement program. Across all participant groups, nearly one-eighth of respondents (11%) reported participating in other NYSERDA programs.

3.2.2.2 Non-participant Awareness of NYSERDA Energy-saving Programs

The non-participant and low-moderate income survey asked respondents if they were aware of NYSERDA programs that can help them save energy. Twelve percent of non-participants and 14% of low-moderate income respondents indicated being aware of such programs (Table 11).

Table 11: Awareness of NYSERDA Energy-saving Programs (non-participants, low-moderate income survey respondents)

Aware	Non-participants (n=212)	Low-moderate Income (n=106)
Yes	12%	14%
No	83%	85%
Never heard of NYSERDA	4%	1% $\bar{\delta}$
Don't know	<1%	1%

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

The non-participant survey asked respondents who were aware of NYSERDA energy-saving programs which programs they were aware of. Seventeen percent of respondents indicated awareness of HPwES, followed by lighting programs (10%), New York ENERGY STAR Homes (7%), and appliance programs (7%). Among the low-moderate income survey respondents who were aware of NYSERDA programs, three out of fifteen respondents (19%) indicated unaided awareness of HPwES; respondents also indicated unaided awareness of Home Energy Assistance Program (HEAP) and Assisted HPwES (Table 12).

Table 12: NYSERDA Energy-saving Programs Aware of
 (respondents aware of NYSERDA energy-saving programs; multiple response)

Programs	Non-participants (n=29)	Low-moderate Income (n=15) (percent (count))
HPwES	17%	19% (3)
Lighting programs	10%	--
New York ENERGY STAR Homes	7%	--
Appliances	7%	--
Weatherization	3%	--
HEAP	--	14% (2)
Assisted HPwES	--	5% (1)
Other	10%	8% (1)
Don't know	55%	53% (8)

In order to determine aided awareness, the non-participant and low-moderate income surveys then described the HPwES program to respondents who had not indicated awareness of HPwES. The respondent was then asked if they had heard of the program. Combining their responses with those who had reported unaided awareness of the program resulted overall in over one-third (36%) of non-participants who indicated awareness of the program. Similarly, in the low-moderate income population survey nearly one-third (31%) of respondents indicated awareness of HPwES (Table 13).

Table 13: Awareness of HPwES
 (non-participants, low-moderate income respondents)

Aware of HPwES	Non-participants (n=212)	Low-moderate Income (n=106)
Yes	36%	31%
No	61%	66%
Don't know	3%	3%

The non-participant and low-moderate income survey asked respondents who were aware of NYSERDA programs how they became aware of those programs. Over one-third (35%) of non-participants cited TV ads, followed by word-of-mouth (26%), and newspaper ad or story (23%). Low-moderate income respondents were significantly less likely to have cited TV ads (10%) (Table 14).

Table 14: Sources of NYSERDA Program Information¹
(respondents aware of NYSERDA Programs; multiple response)

Sources of program Information	Non-participants (n=89)	Low-moderate Income (n=39)
TV ad	35%	10% δ
Word-of-mouth	26%	29%
Newspaper ad or story	23%	24%
Bill inserts	10%	6%
The internet (general)	7%	10%
Radio ad	7%	8%
Contractor/auditor	6%	6%
NYSERDA banner ad	3%	-- δ
General mailing/flyer	3%	4%
Constituency Based Organization (CBO)	2%	--
NYSERDA website	1%	--
Home show	1%	8%
Local government sources	1%	4%

¹Table shows the highest mentioned responses and other noteworthy responses. See Appendix A for detail on all responses that were provided.

Significantly different at the 90% confidence level: δ = from non-participants.

3.2.2.3 Participant Sources of HPwES Program Information

The participant survey asked respondents how they first heard about HPwES (Table 15). Statewide, across all participant groups, nearly one-fourth (23%) of respondents most frequently reported hearing about HPwES through word-of-mouth, followed by a contractor or auditor (15%), a TV ad (13%), and a newspaper ad or story (11%).

- Word-of-mouth was the most frequently mentioned source of program information in all three regions.
- Upstate-A respondents were as likely to cite word-of-mouth (20%) as a contractor (20%). They were significantly more likely to report having heard of the program from a contractor than were Downstate respondents (12%) and Upstate-B respondents (9%).
- Upstate-B respondents were significantly more likely to have heard about the program through word-of-mouth (27%) than were Upstate-A respondents (20%).
- Downstate respondents (8%) were significantly less likely to have heard about the program from a TV ad than were Upstate-A (15%) and Statewide respondents (13%).

Statewide, audit-approved respondents (23%) and audit-completed respondents (24%) most frequently reported hearing about HPwES through word-of-mouth. Work-completed respondents (26%) heard about it most frequently from a contractor or auditor— significantly more frequently than did audit-completed respondents (14%) and audit-approved respondents (12%).

Among audit-approved respondents, the most frequently cited sources of program information were word-of-mouth (23%), newspaper ad or story (12%), contractor or auditor (12%), and TV ad (9%).

- Within the audit-approved respondent group, Downstate (12%) and Upstate-A (20%) respondents were significantly more likely than were Upstate-B respondents (2%) to have learned about the program from a contractor or auditor.

Among audit-completed respondents, the most frequently cited sources of program information were word-of-mouth (24%), contractor or auditor (14%), TV ad (13%), and newspaper ad or story (12%).

Among work-completed respondents, the most frequently cited sources of program information were contractor or auditor (26%), TV ad (19%), and word-of-mouth (18%).

- Downstate work-completed respondents were most likely to have heard about the program through word-of-mouth (33%), more frequently than Upstate-A (17%) or Upstate-B (11%) respondents.

**Table 15: Sources of HPwES Program Information¹
(participants)**

Sources of HPwES program information	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)
Word-of-mouth	23%	24%	18%	23%
Contractor/auditor	12% β	14%β	26% ε	15%
TV ad	9% β	13%	19% ε	13%
Newspaper ad or story	12% β	12% β	6% ε	11%
NYSERDA website	4%	6% β	2% ε	5%
Oil/gas/utility company	6% β	4% β	1% ε	4%
NYSERDA banner ad	2%	3%	2%	3%
CBO - Constituency Based Organization	3%	1%	2%	2%

¹Tables show the most frequently mentioned responses and other noteworthy responses. See Appendix A for detail on all responses that were provided.

Significantly different at the 90% confidence level: β = from work-completed; ε = from total.

3.2.2.4 Awareness of Green Jobs Green New York Free or Reduced-cost Energy Audits

The customer surveys asked respondents who were aware of the HPwES program if they were aware that GJGNY offers free or reduced-cost home energy audits (Table 16). Across all participant groups, over one-half of respondents (56%) were aware that GJGNY offered free or reduced-cost energy audits.

Nearly twice as many audit-approved respondents (83%) as audit-completed (44%) and work-completed respondents (43%) reported being aware that GJGNY offered free or reduced-cost energy audits. This may, at least in part, be a reflection of the fact that the audit-approved respondents were closer to the time of making the participation decision. Interestingly, compared to participants, non-participants who were aware of HPwES reported a higher level of awareness (69%) of free or reduced-cost energy audits. This was consistent with the perceptions of a NYSERDA staff member who thought that customer awareness of the free or reduced-cost energy audits was good.

Low-moderate income survey respondents who were aware of HPwES also reported a relatively high level of awareness (61%) of the GJGNY free or reduced-cost energy audits. In terms of the total target

population awareness of the free reduced-cost audits (as a baseline for CBO activity), projecting to the total sample base of low-moderate income respondents:

- Among respondents who reported unaided awareness of HPwES, awareness levels of the free or reduced-cost energy audits was at about 2% in the Downstate region, 3% in the Upstate region, and 3% Statewide
- Among respondents who reported unaided and aided awareness of HPwES, the awareness levels of the free or reduced-cost energy audits was at about 18% Downstate, 20 % Upstate, and 19% Statewide.

Table 16: Percent Aware of GJGNY Free or Reduced-cost Energy Audits (respondents aware of HPwES)

Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=76)	Low-moderate Income (n=34)
83% $\alpha\beta\epsilon\delta$	44% $\epsilon\delta$	43% $\epsilon\delta$	56% δ	69%	61%

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed; ϵ = from total; δ = from non-participants.

The participant survey asked respondents who had heard of GJGNY free or reduced-cost energy audits where they learned about the audits (Table 17). Similar to the sources of program information, across all participant groups, respondents reported hearing about the free or reduced-cost energy audits most frequently through word-of-mouth (22%), followed by newspaper or magazine ads or stories (15%), TV ads (14%), and from a contractor or auditor (13%).

- Downstate respondents (10%) were significantly less likely than Upstate-B respondents (19%) to have heard about the audits from a newspaper or magazine ad or story. Downstate respondents (9%) also were significantly less likely than Upstate-A respondents (17%) to have cited TV ads and contractors or auditors as sources of awareness.

Audit-approved respondents (22%) and audit-completed respondents (24%) reported hearing about the free or reduced-cost energy audits most frequently through word-of-mouth. Work-completed respondents heard about it most frequently from a contractor (25%) or a TV ad (20%). Work-completed respondents (25%) were significantly more likely than audit-approved (13%) and audit-completed (9%) respondents to have heard about the audits from a HPwES contractor or auditor.

Table 17: Sources of Information about the Free or Reduced-cost Energy Audits (participants who had heard of the free or reduced-cost energy audits)

Sources of Audit Information	Audit-approved (n=110)	Audit-completed (n=114)	HPwES Work-completed (n=60)	All Participants (n=284)
Word-of-mouth	22%	24%	15%	22%
Newspaper/magazine ad or story	15%	16%	18%	15%
TV ad	14%	16%	20%	14%
Contractor/auditor	13% β	9% β	25% ε	13%
NYSERDA website	6%	6%	3%	6%
Oil/gas/utility company	5% β	6% β	--	5%β
The Internet (General)	5%	5%	5%	5%
Community based/Non-Profit Organization	2%	1%	<1%	2%
NYSERDA banner ad	2%	1%	3%	2%

Significantly different at the 90% confidence level: β = from work-completed; ε = from total.

As with program information, non-participants relied on somewhat different sources from participants for information on the free or reduced-cost energy audits. Nearly one-third of non-participants cited TV ads (31%), followed by newspaper ads or stories (28%), and word-of-mouth (22%). In contrast to the general non-participants and similar to the participants, the low-moderate income survey respondents reported relying most frequently on word-of-mouth (18%) and the Internet (19%) for information on the free or reduced-cost energy audits. Notably, only one low-moderate income survey respondent (7%) mentioned having heard of the free or reduced-cost energy audit from a CBO—this was a respondent from the Downstate sample and none of the Upstate respondents cited a CBO as a source of information. Low-moderate income respondents were significantly less likely than non-participants to have cited TV ads (4%) and newspaper ads or stories (8%) as sources of audit information (Table 18).

Table 18: Sources of Information about the Free or Reduced-cost Energy Audits (those who had heard of the free or reduced-cost energy audits; multiple response)

Sources of Audit Information	Non-participants (n=46)	Low-moderate Income (n=20)
TV ad	31%	4% $\bar{\delta}$
Newspaper ad or story	28%	8% $\bar{\delta}$
Word-of-mouth	22%	18%
Radio ad	10%	8%
General mailing/flyer	8%	7%
Oil/gas/utility company	5%	7%
The internet (general)	4%	19%
NYSERDA banner ad	3%	--
Contractor/auditor	2%	8%
CBO	2%	7%
Bill inserts	3%	8%
Home show	--	14% $\bar{\delta}$
Local government sources	--	7%

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

3.2.2.5 Awareness of Green Jobs Green New York Low-interest Loans

The homeowner or participant surveys asked respondents who were aware of the HPwES program if they were aware that GJGNY offered low-interest loans to finance HPwES-eligible energy-efficiency measures.⁴⁸ About two-fifths (41%) of all statewide participants and nearly three-fifths of non-participants (57%) reported that they were aware of the low-interest loans. This was consistent with the perceptions of a NYSERDA staff member who thought that customer awareness of the loans was good, though they need not be aware of the loan details initially because that information can be provided when they participate in the program.

Nearly three-quarters of audit-approved respondents (71%), one-fourth of audit-completed respondents (27%), and one-third of work-completed respondents (33%) indicated that they were previously aware of the low-interest loans. As with the higher awareness of the free or reduced-cost energy audits, the higher awareness of low-interest loans by audit-approved respondents may, at least in part, be a reflection of the fact that the audit-approved respondents were closer to the time of making the participation and loan decision.

- Among the work-completed respondents, Upstate-A respondents (38%) were significantly more likely than Downstate (13%) and Upstate-B (9%) respondents to have been aware of the low-interest loans (Table 19).

Similar to the non-participants, low-moderate income survey respondents who were aware of HPwES also reported a relatively high level of awareness (57%) of the low-interest loans. In terms of the total target population awareness of the low-interest loans (as a baseline for CBO activity), projecting to the total sample base of low-moderate income respondents:

- Among respondents who reported unaided awareness of HPwES, awareness levels of the low-interest loans was at about 2% in the Downstate region, 2% in the Upstate region, and 2% Statewide.
- Among respondents who reported unaided and aided awareness of HPwES, the awareness levels of the low-interest loans was at about 18% in the Downstate region, 17% in the Upstate region, and 18% Statewide.

⁴⁸ Respondents who had work completed and respondents who had audits performed, but did not install any measures, were asked to try to think back to before they participated in the program.

Table 19: Percent Aware of GJGNY Low-interest Loans Prior to Participation (respondents aware of HPwES)

Audit-completed (n=257)	Audit-approved (n=132)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=76)	Low-moderate Income (n=34)
27% $\epsilon\delta$	71% $\alpha\beta\epsilon\delta$	33% $\epsilon\delta$	41% δ	57%	57%

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed; ϵ = from total; δ = from non-participants.

The survey sought to find out from respondents who reported being unaware of the low-interest loans prior to program participation if they had subsequently become or been made aware of these loans. Over two-fifths of participants who were unaware of the loans (45%) became aware of the low-interest loans after participating in the program, but over one-half (55%) did not become aware of the loans following participation.

Over two-fifths of audit-completed (45%) and HPwES work-completed (45%) respondents became aware of the low-interest loans after participating in the program.

- Among work-completed respondents, Upstate-B respondents (70%) were significantly more likely than Upstate-A (39%) and Downstate (50%) respondents to have become aware of the loans following participation (Table 20).

Table 20: Percent Aware of Low-interest Loans Following Participation (participants previously unaware of the low-interest loans)

Aware of loans after participation	Audit-completed (n=184)	HPwES Work-completed (n=111)	Total (n=295)
Percent aware	45%	45%	45%

The participant survey asked respondents who had heard of about the GJGNY low-interest loans where they learned about them (Table 21). About one-third of respondents (35%) heard about the low-interest loans from a HPwES contractor or auditor. About one-eighth (13%) of respondents reported hearing about the loans by word-of-mouth. Nearly one-eighth (11%) reported hearing about the loans from the NYSERDA website.

About one-fourth of audit-approved respondents (24%) and two-fifths each of audit-completed (40%) and work-completed (39%) respondents heard about the low-interest loans from a HPwES contractor or auditor. Work-completed and audit-completed respondents were significantly more likely than were audit-approved respondents to have learned about the loans from a HPwES contractor or auditor.

Audit-approved participants most frequently learned about the low-interest loans from a HPwES contractor or auditor (24%), through word-of-mouth (19%), and a newspaper or magazine ad or story (11%).

- Among audit-approved respondents, those from Downstate (14%) were significantly less likely than those from Upstate-A (32%) to have learned about the loans from a contractor or auditor.
- Also, Downstate audit-approved participants were equally likely to mention a contractor or auditor (14%) and the Internet (14%) as their most frequent source for hearing about the low-interest loans.

Audit-completed respondents most frequently learned about the low-interest loans from a HPwES contractor or auditor (40%), the NYSERDA website (11%), a newspaper/magazine ad or story (9%), and through word-of-mouth (9%).

- Among audit-completed respondents, Downstate respondents (5%) were significantly less likely than Upstate-B respondents (17%) to have learned about the loans from the NYSERDA website.

HPwES work-completed respondents most frequently learned about the low-interest loans from a contractor or auditor (39%), a TV ad (16%), through word-of-mouth (14%), and from the NYSERDA website (11%).

- Upstate-B respondents (71%) were twice as likely as Statewide (39%) and Upstate-A (34%) respondents to have learned about the loans from a HPwES contractor or auditor.

**Table 21: Sources of Information for Participants about the Low-interest Loans
(participants who were aware of the low-interest loans)**

Sources of information	Audit-approved (n=93)	Audit-completed (n=152)	HPwES Work-completed (n=93)	All Participants (n=338)
Contractor/auditor	24% $\alpha\beta\epsilon$	40%	39%	35%
Word-of-mouth	19% α	9%	14%	13%
NYSERDA website	10%	11%	11%	11%
Newspaper/magazine ad or story	11% β	9% β	2% ϵ	9%

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed; ϵ = from total.

The surveys asked non-participants and low-moderate income respondents who had heard of the low-interest loans where they learned about them. Again, non-participants relied on somewhat different sources of information on the low-interest loans than did participants. Nearly one-third of non-participants cited TV ads (29%), followed by word-of-mouth (20%), and newspaper ads or stories (19%). In contrast, low-moderate income respondents most frequently cited newspaper ads or stories (15%) and home shows (15%) (Table 22).

Table 22: Sources of Information for Non-participants about the Low-interest Loans (respondents who had heard of the low-interest loans; multiple response)

Sources of Loan Information	Non-participants (n=42)	Low-moderate Income (n=19)
TV ad	29%	8%
Word-of-mouth	20%	12%
Newspaper ad or story	19%	15%
Radio ad	10%	8%
CBO	5%	7%
The internet (general)	5%	7%
Contractor/auditor	2%	8%
NYSERDA banner ad	2%	--
Home show	2%	15%
Bill inserts	4%	8%
General mailing/flyer	3%	7%
Local government sources	--	7%
National Grid	--	7%
NYSERDA website	3%	--

3.2.2.6 Staff Perspectives

When asked for observations about the free or reduced-cost energy audits from GJGNY, a utility representative said that, while the program has great potential, awareness needs to be built and its benefits need to be conveyed better to customers. Commenting on the benefits of the program, a NYSERDA staff member said that energy efficiency may be a hard sell for homeowners who are reluctant to borrow money because they do not yet see the value of energy savings. However, the respondent indicated that changes in market conditions, such as increases in fuel prices, would likely trigger a shift in customer behaviors. The respondent concluded by saying that program staff and contractors bear the responsibility for explaining the benefits to customers and that the best opportunity for this is while the contractor is “in the home, sitting down, showing people.” To facilitate contractors’ effectiveness with sales, staff said that they are working to obtain better software that can help contractors show customers the savings they can obtain from making energy-efficiency improvements.

3.2.2.7 Implementation Contractor Perspectives

Implementation contractors reported that awareness among residential contractors of NYSERDA programs overall was low, but that awareness of the HPwES program was moderate. In addition, they reported that awareness of the GJGNY legislation and GJGNY related services such as the free or reduced-cost energy audits and financing was high among participating HPwES contractors, and lower among non-participating contractors. Other than simply being aware of the HPwES program, the implementation contractors reported that non-participating residential contractors were not very knowledgeable about the program. Additionally, they reported that participating contractors had moderate to high knowledge about the GJGNY-related services such as the free or reduced-cost energy audits and financing, while non-participating residential contractors had low to moderate knowledge about these services.

Implementation contractors had mixed opinions regarding the level of awareness among residential end use customers of NYSERDA programs overall, of the HPwES program, and of the GJGNY related services such as the free or reduced-cost energy audits and financing. On the whole, they believed that residential end use customers had moderate awareness of NYSERDA programs overall and of the HPwES program. One of these contractors believed that awareness of NYSERDA programs overall was probably lower than the level of awareness for HPwES. While one contractor reported that awareness of the free or reduced-cost energy audits and financing was low among the general public, another reported that it was high, commenting, "It's almost impossible for someone to go out and say, 'Hey, I'll do an audit. You have to pay us \$200 to do an audit,' because most consumers are like, 'Hey, I thought I could get a free audit.'" Beyond simply being aware of the HPwES program, the HPwES contractors surveyed believed that residential end use customers were moderately knowledgeable about the HPwES program, the financing options available for HPwES projects, and the GJGNY financing and free or reduced-cost energy audits.

3.2.2.8 Awareness and Participation in Other NYSERDA Programs

The participant survey asked respondents if they were aware of any other programs provided by NYSERDA that can help save energy in the home (Table 23). In general, these respondents exhibited relatively low awareness of other NYSERDA programs. About one-tenth (9%) reported awareness of any other NYSERDA programs. However, audit-approved (12%) and audit-completed (8%) respondents were at least twice as likely as work-completed respondents (4%) to report awareness of other NYSERDA programs.

Table 23: Awareness of Other NYSERDA Programs (participants)

Awareness of NYSERDA Programs	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)
Percent aware	12% β	8% β	4% ε	9%

Significantly different at the 90% confidence level: β = from work-completed; ε = from total.

The participant survey asked respondents who reported being aware of other programs offered by NYSERDA what other energy-saving programs they had heard of (Table 24). Over one-fifth (22%) of all participants reported that they were aware of the NYSERDA renewable energy program. Slightly over one-tenth (13%) said that they were aware of the appliance rebate or replacement program. About one out of ten participants each cited EmPower New York (10%), AHPwES (11%), and Weatherization (10%).⁴⁹

⁴⁹ While respondents cited Weatherization, program staff noted that Weatherization is not implemented by NYSERDA.

Table 24: Participant Awareness of Other NYSERDA Programs
(participants who are aware of other NYSERDA programs; multiple response)

Other NYSERDA Programs	Audit-approved (n=16) (percent (count))	Audit-completed (n=21)	HPwES Work-completed (n=16) (percent (count))	All Participants (n=53)
Renewable energy program	31% (5)	18%	--	22%
Appliance rebate/replacement program	13% (2)	10%	20% (4)	13%
Assisted Home Performance with ENERGY STAR	18% (3)	7%	--	11%
EmPower New York	14% (2)	8%	10% (2)	10%
Weatherization	14% (2)	8%	5% (1)	10%
New York ENERGY STAR HOMES	5% (1)	9%	--	6%
Don't Know	19% (3)	44%	59% (8)	35%

The participant survey asked respondents who were aware of other NYSERDA programs if they had participated in any other NYSERDA programs (Table 25). Across all participant groups, nearly one out of eight respondents (11%) reported participating in other NYSERDA programs.

Table 25: Participated in Other NYSERDA Programs
(participants who are aware of other NYSERDA programs)

Participation in other NYSERDA Programs	Audit-approved (n=16) (percent (count))	Audit-completed (n=22)	HPwES Work-completed (n=16)	All Participants (n=54)
Participated	5% (1)	17%	--	11%

The participant survey asked respondents who had participated in other programs provided by NYSERDA what other NYSERDA programs they participated in. Participants reported that they had participated in the New York ENERGY STAR Homes program (1), the AHPwES program (1), and the EmPower New York program (1).

3.2.3 Utility Programs: Awareness and Participation

This section presents findings on awareness and participation in utility programs.

3.2.3.1 Key Findings Summary

Awareness of electric or natural gas utility programs to help them save energy was higher among non-participants (45%) than participants (26%), or low-moderate income respondents (29%). HPwES contractors' perceptions of customer awareness levels for these programs were lower--about one-fifth (19%) of contractors thought that customers were aware or extremely aware of the programs. The most frequently cited programs by non-participants were utility programs in general [36%--including Con Edison (16%) and National Grid (11%)], upgrade incentives/rebates for energy-efficiency measures/appliance retirement (13%), and free home estimate/home audits (13%). The most frequently cited programs by low-moderate income respondents were utility programs in general [78%--including National Grid (29%), Con Edison (25%) and LIPA (17%)], followed by upgrade incentives/rebates for energy-efficiency measures/appliance retirement (9%). The most frequently cited programs by participants were utility programs in general [34%--including National Grid (10%) and NYSEG (7%)], followed by upgrade incentives/rebates for energy efficiency measures/appliance retirement (23%).

Among the respondents who were aware of utility programs, about one-fourth (24%) each of non-participants and participants, and about one-fifth of low-moderate income respondents (19%), reported having participated in one. Non-participants who had participated in a utility energy-efficiency program most commonly reported participating in one that offered upgrade incentives/rebate for energy-efficiency measures/appliance retirement (38%). Participants who had participated in utility energy-efficiency programs most commonly reported participating in a utility program in general (31%), programs with upgrade incentives/rebates for energy-efficiency measures/appliance retirement (23%), a Con Edison program (11%), free home estimate/home audit (10%), and the HEAP/Low income program (10%).

When asked about their reasons for participating in the utility programs, over two-fifths of participants (43%) said that they wanted to save energy or natural gas bills. Over one-third (36%) said that they planned to make improvements anyway, and nearly one-third of participants (32%) said that they participated in utility programs because they offered rebates or were free.

3.2.3.2 Awareness of Utility Programs

As Table 26 shows, when the survey respondents were asked if they were aware of electric or natural gas utility programs to help them save energy, slightly under one-half of non-participants (45%), about three out of ten (29%) the low-moderate income respondents, and about one-fourth (26%) of participants said that they were aware of such programs.

Nearly one-third of audit-approved respondents (31%), and one-fourth of audit-completed (25%) and work-completed (23%) participants each reported being aware of such utility programs.

- Downstate work-completed respondents (44%) were significantly more likely than Upstate-A (19%) and Upstate-B (27%) respondents to be aware of utility energy-efficiency programs.

About three out of ten (29%) of the low-moderate income survey respondents said that they were aware of utility energy-efficiency programs.

- Note that the percentage who reported awareness of NYSERDA programs was significantly lower, particularly Downstate (13% for NYSERDA programs vs. 35% for utility programs) and Statewide (14% for NYSERDA programs vs. 29% for utility programs).

Table 26: Respondent Awareness of Utility Energy-efficiency Programs (participants; non-participants, low-moderate income respondents)

Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)	Low-moderate Income (n=106)
31% δ	25% δ	23% δ	26% δ	45%	29%

Significantly different at the 90% confidence level: δ = from non-participants.

The non-participant and participant surveys asked respondents who reported being aware of a utility program which programs they were aware of (Table 27). The most frequently cited programs by non-participants were a Con Edison program (16%), upgrade incentives/rebates for energy-efficiency measures /appliance retirement (13%), and a National Grid program (11%). The most frequently cited programs by participants were upgrade incentives/rebates for energy-efficiency measures /appliance retirement (23%), followed by National Grid (10%), other utility (8%), and NYSEG programs (7%). Note that about one quarter of non-participants (25%) and participants (26%) could not cite the name of any utility program.

General upgrade incentives/rebates for energy-efficiency measures/appliance retirement were mentioned by about one-fifth of audit-approved respondents (22%), more than the one-fourth of audit-completed respondents (28%), and one-tenth of work-completed respondents (10%). The audit-completed

respondents (28%) were significantly more likely than work-completed respondents (10%) to cite upgrade incentives.

Low-moderate income respondents most frequently cited a National Grid (29%), a Con Edison (25%), and LIPA (17%) programs.

Table 27: Respondent Awareness of Utility Energy-efficiency Programs
 (respondents aware of utility energy-efficiency programs; multiple response)

Utility programs	Audit-approved (n=42)	Audit-completed (n=66)	HPwES Work-completed (n=40)	All Participants (n=148)	Non-participants (n=87)	Low-moderate Income (n=42)
Upgrade incentives/rebate/appliance retirement	22%	28% β δ	10% ε	23% δ	13%	9%
National Grid program	14%	10%	5%	10%	11%	29% δ
NYSEG	8%	7%	10%	8% δ	3%	--
Other utility company program	14% δ	5% δ	5%	8% δ	--	--
Con Edison program	6%	8%	5%	7%	16%	25%
HEAP/Low income program	2%	5% δ	5%	3% δ	--	--
LIPA	--	7% β	<1%	3%β	2%	17% δ
National Fuel	2%	3%	5%	3% δ	--	--
Free home estimate/home audit	2% δ	3% δ	-- δ	2%β δ	13%	3% δ
Central Hudson	--	4% γ β	--	2% γβ	1%	7%
Orange & Rockland	--	1%	<1%	1%	3%	--
Other	-- δ	-- δ	-- δ	-- δ	21%	11%
Don't know	31% β	18% β	40%	26%	25%	14%

Utility programs	Audit- approved (n=42)	Audit- completed (n=66)	HPwES Work- completed (n=40)	All Participants (n=148)	Non- participants (n=87)	Low- moderate Income (n=42)
Refused	--	--	--	--	3%	3%

Significantly different at the 90% confidence level: β = from work-completed; γ = from audit-approved; ϵ = from total; δ = from non-participants.

3.2.3.3 Participation in Utility Programs

The customer surveys asked respondents who were aware of utility programs if they had participated in any of those programs (Table 28). About one-quarter of non-participants (24%) and participants (24%), and about one-fifth of low-moderate income respondents (19%) reported having participated in utility programs. About one-quarter of audit-approved participants (26%), one-fifth of audit-completed participants (21%), and one-tenth of work-completed participants (11%) reported having participated in one of the utility programs. Audit-approved participants (26%) were significantly more likely than work-completed participants (11%) to have participated in one of the utility programs.

Table 28: Participation in Utility Programs (respondents aware of utility programs)

Audit-approved (n=42)	Audit-completed (n=66)	HPwES Work-completed (n=40)	All Participants (n=148)	Non-participants (n=87)	Low-moderate Income (n=29)
26% β	21%	11% $\epsilon \delta$	24%	24%	19%

Significantly different at the 90% confidence level: β = from work-completed; ϵ = from total; δ = from non-participants.

The customer surveys asked respondents who had participated in utility energy-efficiency programs what programs they participated in (Table 29). Across all participants, the most frequently cited programs were other utility company programs in general (31%) and upgrade incentives/rebates for energy efficient measures/appliance retirement (23%). Participants next cited a Con Edison program (11%), free home estimate/home audit (10%), and the HEAP/Low income program (10%). Non-participants most commonly cited upgrade incentives/rebate for energy-efficiency measures/appliance retirement (38%). There were too few cases to report for low-moderate income respondents who cited the utility program they had participated in.

Table 29: Utility Energy-efficiency Programs Respondents Participated In
(respondents who participated in utility energy saving programs; multiple response)

Programs	Audit-approved (n=11) (count)	Audit-completed (n=14) (count)	HPwES Work-completed (n=11) (count)	All Participants (n=36)	Non-participants (n=21)	Low-moderate Income (n=5) (count)
Other utility company program	2	5	1	31% δ	6%	--
Upgrade incentives/rebate/appliance retirement	1	5	2	23%	38%	1
Con Edison program	2	2	--	11%	8%	2
Free home estimate/home audit	1	1	1	10%	3%	--
HEAP/Low- income program	2	--	1	10% δ	--	--
National Grid program	1	1	1	7%	4%	1
NYSEG	1	--	2	5%	--	--
Orange & Rockland	--	1	--	2%	--	--
LIPA	--	--	1	1%	--	1
Other	1	1	1	7% δ	30%	--
Don't know	1	--	1	4%	12%	1

Significantly different at the 90% confidence level: δ = from non-participants.

In order to understand utility program participation since the start of GJGNY, the participant survey asked respondents who participated in utility energy-efficiency programs when they participated in each of the programs (Table 30). Over two-thirds of respondents (69%) participated in utility programs prior to January 2010. One-fifth participated between January 2010 and November 15, 2010, and nearly one-fifth (19%) participated after the commencement of GJGNY on November 15, 2010.

**Table 30: When Respondents Participated in Utility Program
(participants who participated in utility programs)**

When Participated	Audit- approved (n=11) (count)	Audit- completed (n=14) (count)	HPwES Work- completed (n=10) (count)	All Participants (n=35)
After November 15, 2010	2	3	5	19%
Between January, 2010 and November 15, 2010	3	3	--	20%
Before January 2010 ¹	6	10	5	69%
Don't know	1	--	--	3%

¹The large percentage of participants in utility programs before January 2010 is likely a reflection of cumulative effect of the more active engagement of utilities in running energy-efficiency programs in prior years.

The participant survey asked respondents who participated in utility energy-efficiency programs why they participated in each of the programs. Over two-fifths of participants (43%) said that they wanted to save energy or natural gas bills. Over one-third (36%) said that they had planned to make improvements anyway. Nearly one-third of participants (32%) said that they participated in utility programs because they offered rebates or were free (Table 31).

Table 31: Respondents' Reasons for Participating in Utility Program
(participants who participated in a utility program; multiple response)

Reasons for participating	Audit-approved (n=11) (count)	Audit-completed (n=14) (count)	HPwES Work-completed (n=11) (count)	All Participants (n=36)
Save energy/gas bills	5	6	4	43%
Planned/needed to make improvements/repairs anyway	5	5	1	36%
Rebate/free	2	6	5	32%
Other	1	1	1	7%

HPwES contractors also were asked, based on their experience, what they believed was the level of customer awareness in their service area of non-NYSERDA energy-efficiency programs, such as those offered by local electric and natural gas utilities. As shown in Table 32, on a scale from one (“not at all aware”) to 5 (“extremely aware”), close to one-half (47%) of the contractors rated customer awareness of utility energy-efficiency programs a two or lower and only about one-fifth (19%) thought that customers were aware or extremely aware of the programs (i.e., gave a rating of four or five).

Table 32: Perception of Customer Awareness of Utility Energy-efficiency Programs
(contractors)

Level of awareness	Contractors (n=59)
Extremely aware (5)	10%
4	9%
3	34%
2	42%
Not at all aware (1)	5%

3.3 NON-PARTICIPANT ENERGY-EFFICIENCY BEHAVIORS AND PLANS

This section discusses energy-saving actions, motivations for taking actions to save energy, barriers to taking actions to save energy, and non-participant concern about utility bills.

3.3.1 Key Findings Summary

The surveyed non-participants (43%) and low-moderate income respondents (44%) reported that, in the past year, the most frequent energy saving actions they had taken was air sealing. Non-participants also reported installing ENERGY STAR-qualified cooling equipment (34%), and adding or upgrading insulation (28%). Around one-third of low-moderate income respondents (32%) each also reported having installed energy efficient windows, ENERGY STAR-qualified cooling equipment, or having had structural repairs done. Non-participants reported that in the next one year they would be most likely to install air sealing (19%) or conduct structural repairs (15%), install energy efficient doors (14%), install energy efficient windows (13%), and add or upgrade insulation (13%). Low-moderate income respondents reported that in the next one year they would be most likely to install air sealing measures (33%), add or upgrade insulation (29%), install energy efficient windows (27%), and conduct structural repairs (25%).

Two-thirds each of non-participants (67%) and low-moderate income respondents (67%) said that the most important reason they took or plan to take action is because they want to save on energy bills or to save energy. Over one-quarter of non-participants (29%) and two-fifths of low-moderate income respondents (40%) cited barriers to taking energy saving actions, with about four-fifths of non-participants (79%) and the vast majority of low-moderate income respondents (91%) mentioning the high cost of measures. Over one-half of non-participants (55%) and low-moderate income respondents (57%) were concerned or extremely concerned about their electricity or natural gas bills.

3.3.2 Energy Saving Actions

The non-participant and low-moderate income survey interviewed respondents who had indicated that they either had taken action to improve the energy efficiency of their homes in the past year or had plans to do so in the next year. The survey then provided respondents with a list of actions that people can take to reduce energy usage or increase energy efficiency in their home. Respondents were asked if, in the past year, they had taken any of these actions to improve the energy efficiency of their homes (Table 33). Over two-fifths of non-participants (43%) and low-moderate income respondents (44%) reported that they had installed or completed air sealing. Around one-third of non-participants added or upgraded insulation (34%) and slightly fewer reported installing energy efficient windows (30%). Around one-third of low-moderate income respondents (32%) each installed energy efficient windows, ENERGY STAR-qualified cooling equipment, or had structural repairs done.

- Upstate-A non-participants (35%) were significantly more likely than Upstate-B (22%) non-participants to have installed ENERGY STAR-qualified cooling equipment.

Table 33: Actions Taken by Non-participants in the Past Year to Reduce Energy Usage or Improve Home Energy Efficiency
(non-participants, low-moderate income respondents; multiple response)

Actions taken	Non-participants (n=212)	Low-moderate Income (n=106)
Air sealing (includes caulking windows, etc.)	43%	44%
Adding or upgrading insulation	34%	26%
Installing energy efficient windows	30%	32%
Installing energy efficient doors	28%	25%
Installing ENERGY STAR-qualified heating equipment	26%	19%
Installing ENERGY STAR-qualified cooling equipment--this includes individual air conditioners and not just central air conditioning	26%	32%
Structural repairs (repairing an outside wall or roof)	24%	32%

The non-participant and low-moderate income survey asked respondents to review the same list of actions that people can take to reduce energy usage or increase energy efficiency in their home, and indicate how likely or unlikely they would be to take each of the actions in the next year. Respondents were asked to use a scale from 1 to 5, where 1 means “very unlikely” and 5 means “very likely” (Table 34). Non-participants (19%) and low-moderate income respondents (33%) indicated the highest likelihood of doing air sealing. Other frequently mentioned actions that non-participants reported they were likely to take included structural repairs (15%), installing energy efficient doors (14%), installing energy efficient windows (13%), and adding or upgrading insulation (13%). Non-participants indicated the lowest likelihood of installing ENERGY STAR-qualified heating (8%) and cooling (7%) equipment.

- Downstate non-participants (22%) were significantly more likely than Upstate-B non-participants (6%) to say that they are likely to make structural repairs in the next year.

Other frequently mentioned actions that low-moderate income respondents reported they were likely to take included adding or upgrading insulation (29%), installing energy efficient windows (27%), and doing structural repairs (25%). Non-participants indicated the lowest likelihood of installing energy efficient doors (20%) and ENERGY STAR-qualified cooling (19%) or heating (21%) equipment. In general, low-moderate income respondents reported being significantly more likely than non-participants to take every action. Given the relative income constraints of the former, their responses may be more a reflection of aspirations rather than actual intentions or plans.

Table 34: Likely / Very Likely to Take Actions in the Next Year to Reduce Energy Usage or Improve Home Energy Efficiency⁵⁰
(non-participants, low-moderate income respondents)

Actions	Non-participants (n=212)	Low-moderate Income (n=106)
Air sealing (includes caulking windows, etc.)	19%	33% δ
Structural repairs (repairing an outside wall or roof)	15%	25% δ
Installing energy efficient doors	14%	20%
Adding or upgrading insulation	13%	29% δ
Installing energy efficient windows	13%	27% δ
Installing ENERGY STAR-qualified heating equipment	8%	19% δ
Installing ENERGY STAR-qualified cooling equipment	7%	21% δ

Significantly different at the 90% confidence level: δ = from non-participants.

⁵⁰ Note that the relatively high responses here are due to the fact that the non-participant and low-moderate income survey selected only respondents who had indicated that they either had taken actions to improve the energy efficiency of their homes in the past year or had plans to do so in the next year. These respondents were chosen for the survey because they were or would be candidates for HPwES but have not participated in HPwES.

3.3.3 Motivations for Taking Actions to Save Energy

The survey asked non-participants and low-moderate income respondents for the single most important reason for taking or planning to take action (Table 35). Two-thirds each of the non-participants (67%) and low-moderate income respondents (67%) took or plan to take action because they want to save on energy bills or to save energy.

- Downstate low-moderate income respondents (74%) were significantly more likely than Upstate low-moderate income respondents (57%) to cite wanting to save on energy bills or to save energy.

Table 35: Primary Reason for Having Taken or Planning to Take Actions to Reduce Energy Usage or Improve Home Energy Efficiency (non-participants, low-moderate income respondents)

Reason for action	Non-participants (n=212)	Low-moderate Income (n=106)
To save on energy bills	42%	46%
To save energy	25%	21%
Home repairs/replace	11%	18%
Upgrade/remodel/improve appearance/resale	8%	1% δ
To improve home comfort	5%	9%

Significantly different at the 90% confidence level: δ = from non-participants.

The survey asked non-participants and low-moderate income respondents about their other reasons for taking or planning to take action. Table 36 shows again that about one-fourth of non-participants (26%) and one-third of low-moderate income respondents (35%) said they had taken or planned to take action because they want to save on energy bills or to save energy.

Table 36: Other Reasons for Having Taken or Planning to Take Actions to Reduce Energy Usage or Improve Home Energy Efficiency

(non-participants, low-moderate income respondents who indicated primary reasons; multiple response)

Other reasons for action	Non-participants (n=207)	Low-moderate Income (n=103)
To save on energy bills	19%	21%
To help the environment	10%	6%
To save energy	7%	14% δ
To improve home comfort	6%	8%
Upgrade/remodel/improve appearance/resale	4%	11% δ

Significantly different at the 90% confidence level: δ = from non-participants.

3.3.4 Barriers to Taking Actions to Save Energy

The non-participant and low-moderate income survey asked respondents if there were any barriers to taking actions to reduce energy usage or improve home energy efficiency (Table 37). Over one-quarter of non-participants (29%) and two-fifths of and low-moderate income respondents (40%) reported the existence of barriers.

Table 37: Barriers to Taking Actions to Reduce Energy Usage or Improve Home Energy Efficiency

(non-participants, low-moderate income respondents who took or plan to take action)

Barriers to action	Non-participants (n=212)	Low-moderate Income (n=106)
Yes	29%	40% δ
No	70%	60% δ

Significantly different at the 90% confidence level: δ = from non-participants.

The surveys asked respondents who had indicated the existence of barriers to identify the most important barrier to actions to reduce energy usage or increase energy efficiency in their home (Table 38). About four-fifths of non-participants (79%) and the vast majority of low-moderate income respondents (91%) mentioned the high cost of measures.

Table 38: Most Important Barrier for Homeowners to Taking Actions to Reduce Energy Usage or Improve Home Energy Efficiency
 (non-participants, low-moderate income respondents who indicated that there are barriers)

Most important barrier to taking action	Non-participants (n=62)	Low-moderate Income (n=40)
High cost of measure(s)	79%	91% δ
Finding an affordable/qualified contractor	10%	-- δ
Waiting for old equipment to break/wear out	2%	--
Not eligible for financing	--	2%
Other/Don't know	9%	7%

Non-participants and low-moderate income respondents were asked if there were any other actions they were aware of that they could take to save energy (Table 39). About one-half of non-participants (52%) and low-income respondents (50%) could not cite any other such actions. Specific actions cited frequently included shutting of lights and unplugging, or turning things off when not in use (14% of non-participants and 13% of low-moderate income respondents) and switching to energy efficient lighting, CFLs, or LEDs (11% of non-participants and 15% of low-moderate income respondents).

**Table 39: Other Actions Aware of to Save Energy
(non-participants, low-moderate income respondents; multiple response)**

Actions	Non-participants (n=212)	Low-moderate Income (n=106)
Shut off lights/turn things off when not in use/unplug	14%	13%
Switch to energy efficient lighting/CFLS/LEDS	11%	15%
Lower thermostat/programmable thermostat	9%	8%
Insulation/caulking/sealing	6%	8%
Switch to/use alternate fuel source	5%	7%
Purchase new HVAC equipment/water heater	5%	2%
New windows and doors	5%	9%
Purchase/upgrade to energy efficient appliances	3%	7%
Other	9%	8%
None	45%	41%
Don't know/Refused	7%	9%

3.3.5 Non-participant Concern about Utility Bills

The survey asked non-participants and low-moderate income respondents to use a scale from 1 to 5, where 1 means “not at all concerned” and 5 means “extremely concerned”, to indicate how concerned they are about their electricity and natural gas bills. Table 40 shows that more than one-half of non-participants (55%) and low-moderate income respondents (57%) were concerned or extremely concerned about their electricity or gas bills (i.e., gave a rating of four or five).

- Downstate non-participants (42%) were significantly more likely than Upstate-A (32%) or Upstate-B non-participants (24%) to be extremely concerned about their electric and gas bills.
- Similarly, Downstate low-moderate income respondents (70%) were significantly more likely than upstate low-moderate income respondents (41%) to be extremely concerned about their electricity and natural gas bills.
- These differences likely are a reflection of relatively higher energy costs in the Downstate region.

**Table 40: Concern about Electricity and Natural Gas Bills
(non-participants, low-moderate income respondents)**

Level of Concern	Non-participants (n=212)	Low-moderate Income (n=106)
Extremely Concerned (5)	35%	44%
4	20%	13%
3	20%	17%
2	8%	7%
Not at all concerned (1)	17%	19%
Refused	1%	1%

Section 4

PROGRAM PARTICIPATION DECISION

This section discusses the motivations, barriers, and decision-making processes involved in program participation.

4.1 KEY FINDINGS SUMMARY

Across the sources of information analyzed in this evaluation, the primary motivation for participation in the program was saving on energy costs/bills. One-tenth of audit-completed and work-completed respondents indicated that they had encountered barriers to participating in the program when they first decided to schedule an audit. Difficulties associated with timing or scheduling were predominantly cited as barriers to participating or completing the energy audit. This evaluation identified a number of other barriers to program participation including gathering energy usage data for the application, qualifying for loans, and concerns about taking on debt. An important counterpoint to the motivation to save on energy costs was identified by the majority of HPwES contractors, who said that a lack of money was the major barrier to customers implementing or installing measures recommended through the program.

Non-participants who had heard of HPwES most frequently said that they had not participated because they did not have the time or were too busy to participate in the program. Although nearly one-fifth of non-participants expressed interest in participating in HPwES, over one-half said that they were not at all interested, with respondents most commonly indicating that they had already installed most measures or their home is already energy efficient.

Staff reported that customers are often unwilling to take on debt in order to finance energy-efficiency measures. Staff also said that customers sometimes chose other programs over HPwES.

4.2 MOTIVATIONS AND BARRIERS

This section discusses the motivations and barriers to program participation.

4.2.1 Key Findings Summary

Across the sources of information analyzed in this evaluation, the predominant motivation for participation in the program was saving on energy costs/bills. When asked for the most important reason they were interested in having their home evaluated by an auditor, nearly one-half of participants said they had wanted to save on energy costs/bills.

- Across all three participant groups (audit-approved, audit-completed, work-completed), Downstate respondents generally reported wanting to save on energy costs significantly more

frequently than respondents in the upstate regions, particularly Upstate-A. This may be a reflection of the higher electricity rates Downstate than in the Upstate regions.

Implementation contractors and HPwES contractors also cited lower energy bills as customers' primary motivation for participating in the program. Nearly three-quarters (73%) of the contractors believed that saving on energy, either energy costs and bills (54%) or saving energy in general (19%), was the primary motivation for customers to implement measures through the program following the audit.

One-tenth of audit-completed and work-completed respondents indicated that they had encountered barriers to participating in the program when they first decided to schedule an audit. Difficulties associated with timing or scheduling was predominantly cited as a barrier to participating or completing the energy audit. This barrier was mentioned by all three participant groups as well as HPwES contractors. From the perspectives of those involved in administering or delivering the program, lack of awareness of the program was a significant barrier to participation. One-quarter of HPwES contractors, an implementation contractor, and a staff member mentioned lack of awareness of the program to be a notable barrier to participation. Additionally, implementation contractors mentioned financial concerns and program complexity as customer barriers to program participation. Program staff considered financial concerns and difficulty finding and selecting contractors to be notable barriers to customer participation in the program. A majority of HPwES contractors cited lack of budget to install the measures as a primary customer barrier.

4.2.2 Program Participation Motivations

The participant survey asked audit-completed and HPwES work-completed respondents to think back to when they first decided to schedule an audit and participate in the HPwES program and to indicate the reasons they chose to participate at that time, as opposed to participating at an earlier or later date. Overall, audit-completed and work-completed respondents most frequently said that they had just heard about the program (37%). The next most frequent responses were concern about heating costs in the winter (12%), needing to repair or replace broken equipment (11%), and a contractor's suggestion or advice (10%).

Audit-completed and work-completed respondents cited different primary reasons for their participation decision. The primary reason cited by audit-completed participants was that they had just heard about the program (43%); while the primary reasons cited by work-completed participants was that they had equipment that was broken or needed replacement (28%) or reasons associated with energy costs—concerns about heating costs in the winter (13%) and increasing energy bills (13%).

About one-fifth of audit-completed respondents also were motivated to participate in the program because of reasons associated with energy costs—these include concerns about heating costs in the winter (12%), increasing energy bills (8%), and concerns about cooling costs in the summer (2%).

About one-fifth of work-completed respondents also said that they were motivated to participate in the program because they had just heard about the program (19%) and one-tenth cited a contractor’s suggestion (10%). Within the work-completed respondent group, there were notable regional differences in the primary reason for program participation.

- Downstate respondents were most likely to cite having just heard about the program (32%).
- Upstate-A respondents were most likely to cite broken equipment (32%).
- Upstate-B respondents were most likely to cite concern about heating costs in the winter (30%), followed by having just heard about the program (26%) (Table 41). (See Appendix A, Section 4 for regional comparisons).

Table 41: Why Participants Chose to Participate When They Did (participants; multiple response)

Why participated when they did	Audit-completed (n=257)	HPwES Work-completed (n=147)	Total (n=404)
Had just heard about the program	43% β	19% ε	37%
Was concerned about heating costs in the winter	12%	13%	12%
Broken equipment (repair or replace)	6% β ε	28% ε	11%
Contractor’s suggestion / advice	9%	10%	10%
My energy bills were increasing	8%	13%	9%
Word-of-mouth	6%	7%	6%
Had the time/convenient	6% β	1% ε	5%

Significantly different at the 90% confidence level: β = from work-completed; ε = from total.

The participant survey asked respondents to think back to when they decided to apply for a GJGNY free or reduced-cost energy audit and to indicate the single most important reason that they were interested in having their home evaluated by an auditor (Table 42). Nearly one-half of participants (47%) cited wanting to save on energy costs/bills. About one out of six participants (16%) said that they wanted to find out how energy efficient their home was/to get their home evaluated and about one out of eight participants (12%) said that they wanted to get an expert’s advice about energy-efficiency measures.

Wanting to save on energy costs/bills was the most frequently mentioned reason cited by all three participant groups: audit-approved participants (53%), audit-completed participants (48%), and work-completed participants (34%). The audit-approved and audit-completed respondents cited wanting to save on energy costs significantly more frequently than did work-completed respondents. Wanting to find out how efficient their home was also received notably high mentions from respondents in all three groups: audit-approved participants (12%), audit-completed participants (19%), and work-completed participants (15%).

- Across all three participant groups, Downstate respondents (61%) generally reported wanting to save on energy costs significantly more frequently than respondents in the upstate regions, particularly in Upstate-A (40%).
- Among audit-approved participants, Downstate respondents (69%) were significantly more likely than Upstate-A (52%) or Upstate-B (43%) respondents to cite saving on energy costs/bills.
- Among audit-completed participants, Downstate respondents (58%) were significantly more likely than Upstate-A respondents (39%) to cite saving on energy costs/bills.
- Among work-completed participants, Downstate respondents (50%) were significantly more likely than Upstate-A respondents (31%) to cite saving on energy costs/bills.

HPwES contractors' perceptions of customer program participation motivations generally matched the participant survey responses. Corresponding to the participant survey, respondents to the contractor survey most frequently said that wanting to save on energy costs/bills (37%) was the primary motivation for customers participating in the program, followed by wanting to find out how energy efficient their home was or getting their home evaluated (19%). However, nearly one-fifth (19%) of contractors also thought that the primary customer motivation for participation was receiving the audit for free or at a reduced cost; in contrast, only 3% of the participant survey respondents cited this reason.

Table 42: Most Important Reason for Deciding to Apply for a Free or Reduced-cost Energy Audit (participants; contractors)

Reason for applying	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Contractors (n=59)
To save on energy costs/bills	53% β	48% β	34% ε	47%	37% γαε
To find out how energy efficient home was/to get home evaluated	12% α	19%	15%	16%	19%
To get an expert's advice about energy-efficiency measures	12%	12%	11%	12%	5% γαβε
Broken or failing equipment - repair or replacement	5% β	5% β	12% ε	6%	-- γαβε
Rebate/Because it is free/reduced cost	1% β ε	2% β	10% ε	3%	19% γαβε
To help the environment	--	2%	--	1%	5% γβε
To save energy - Not further specified	7% α	3% β	9%	5%	-- γαβε

Significantly different at the 90% confidence level: γ = from audit approved; α = from audit-completed; β = from work-completed; ε = from total.

The participant survey asked respondents about other reasons for making the decision to apply for a free or reduced-cost energy audit and having their home evaluated by an auditor. As Table 43 shows, nearly one-seventh of participants (14%) said that they wanted to save on energy costs/bills. Nearly one-tenth of participants (8%) said that they wanted to get an expert’s advice about what energy-efficiency measure to install.

Wanting to save on energy costs/bills again was the most frequently mentioned reason cited by audit-approved participants (13%), audit-completed participants (14%), and work-completed participants (14%). Getting expert advice on energy efficiency also received relatively high mentions from respondents in all three groups: audit-approved participants (9%), audit-completed participants (7%), and work-completed participants (9%).

Table 43: Other Reasons Participants Decided to Apply for a Free or Reduced-cost Energy Audit (participants; multiple response)

Other reasons for applying	Audit-approved (n=131)	Audit-completed (n=255)	HPwES Work-completed (n=146)	All Participants (n=532)
To save on energy costs/bills	13%	14%	14%	14%
To get an expert's advice about what energy-efficiency measures to install/how to make home more energy efficient	9%	7%	9%	8%
To find out how energy efficient my home was	8%	6%	7%	7%
To save energy—not further specified	7%	6%	3% ε	6%
Broken or failing equipment - repair or replacement	3% β	4% β	10% ε	5%
To help the environment	7% β	4%	2% ε	5%
No other reason	52%	57%	56%	56%

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed; ε = from total.

The implementation contractors generally identified similar motivations for participation in the HPwES program, mentioning lower energy bills and increased comfort. Some of them also mentioned curiosity regarding a home's energy performance, and addressing specific problems in the home.

4.2.3 Program Participation Barriers⁵¹

One-tenth of audit-completed and work-completed respondents indicated that they had encountered barriers to participating in the program when they first decided to schedule an audit. Three out of ten said that the hassle of scheduling had been the most important barrier and about one-fourth said that gathering energy usage data for the application had been the most important barrier. Similarly, about one-third each of audit-approved respondents and HPwES contractors cited a reason associated with timing or scheduling as the single most important reason that customers had not completed an energy audit.

From the perspectives of those involved in administering or delivering the program, lack of awareness of the program was a significant barrier to participation. About one-fourth of HPwES contractors mentioned lack of awareness or knowledge of the program as a barrier to program participation. One implementation contractor indicated that the barrier of program awareness may vary by region because the contractor base in the Central and Western parts of the state adopted the program earlier than those in the Downstate regions. A staff member, echoing the perceptions of the contractors, also thought lack of awareness of the program was a notable barrier.

Additionally, implementation contractors mentioned financial concerns (qualifying for loan, taking on debt) and program complexity (identifying eligible measures) as customer barriers to program participation. Program staff considered financial concerns (e.g., taking on additional debt) and difficulty finding (particularly in the north country) and selecting HPwES contractors to be notable barriers to customer participation in the program. More than two-thirds of HPwES contractors said that not having enough money or a lack of a budget for the measures was the primary barrier preventing audit-completed customers from implementing or installing measures recommended through the program.

4.2.3.1 Customer and Contractor Perspectives

The participant survey asked audit-completed and work-completed respondents to think back to when they first decided to schedule an audit and indicate if there were any barriers or obstacles that they had to overcome in order to participate in the program (Table 44). One-tenth of respondents (10%) indicated that there had been barriers that they had to overcome.

These respondents were then asked to identify the most important barrier or obstacle that they had to overcome in order to participate in the program. Three out of ten of them (30%) most frequently perceived a hassle of scheduling had been the most important barrier to participation. One-quarter (25%) said that gathering energy usage data for the application had been the most important barrier (Table 45). About one in ten each reported other barriers including they did not qualify for a program loan (12%), a lengthy/difficult application process (10%), and difficulty finding/scheduling a contractor (10%).

⁵¹ See the Program Logic Model for a detailed list of barriers and challenges to program implementation.

Table 44: Percent of Participants Indicating Barriers to Participating in the Program (participants)

Barriers to participating in program	Audit-completed (n=257)	HPwES Work-completed (n=147)	Total (n=404)
Percent Indicating Barriers	11%	9%	10%

Table 45: Most Important Barrier to Overcome in Order to Participate (audit-completed participants indicating barriers)

Most important barrier to overcome	Audit-completed (n=29)	HPwES Work-completed (n=15) (percent (count))	Total (n=44)
The hassle of scheduling, etc.	33%	14% (3)	30%
Gathering energy use data for application	24%	40% (2)	25%
Did not qualify for program loan	9%	29% (3)	12%
Lengthy/difficult application process	12%	<1% (1)	10%
Difficulty finding/scheduling a contractor	9%	14% (2)	10%
Not enough money/didn't fit into budget	3%	14% (2)	5%
Didn't have time to participate	6%	<1% (1)	5%

The participant survey asked audit-approved respondents to identify the single most important reason that they had not yet completed an energy audit. Similarly, the survey of HPwES contractors asked respondents about the primary barrier preventing customers from participating in audits (Table 46). About one-third of audit-approved respondents cited a reason associated with timing or scheduling: did not have time to

participate (18%) or the hassle of scheduling (14%). Other important reasons mentioned by audit-approved participants included not having enough money (12%) and that they applied for or contacted program, but had not heard back (11%).⁵² Corroborating the participant perspectives, about one-third of HPwES contractors also cited timing and scheduling: lack of time (10%) or the hassle of scheduling (22%). Additionally, about one-fourth of the contractors mentioned lack of awareness or knowledge of the program (24%).

The audit-approved participants also cited similar “other” reasons for not having completed an energy audit: the hassle of scheduling (6%) and not having time to participate (5%) (Table 47).

⁵² The full list of reasons can be found in the detailed tables.

Table 46: Most Important Reason for Audit-approved Participants for Not Having an Audit/Primary Barrier Preventing Customers from Participating in Audits (audit-approved participants; contractors)

Reason for not having an audit	Audit-approved Participants (n=117)	Contractors (n=59)
Didn't have time to participate/Lack of time	18%	10% γ
The hassle of scheduling, etc.	14%	22%
Not enough money/didn't fit into budget	12%	5% γ
Applied for/contacted program, but have not heard back	11%	-- γ
Lack of knowledge/awareness ¹	--	24% γ
Gathering energy use data	--	10% γ
Not wanting to feel obligated to install measures	--	5% γ
Not expecting to qualify/changes in program requirements	--	5% γ
Difficulty finding/scheduling a contractor	7%	-- γ

¹ Participants surveyed were aware of the program.

Significantly different at the 90% confidence level: γ = from audit-approved.

Table 47: Other Reasons for Audit-approved Respondents for Not Having an Audit (audit-approved participants; multiple response)

Other reasons for not having an audit	Audit-approved Participants (n=122)
The hassle of scheduling, etc.	6%
Didn't have time to participate	5%
No other reasons	80%

4.2.3.2 Program Staff Perspectives

When asked about customer barriers to participation in the program, program staff mentioned two of the relatively less important barriers cited in Table 45 and Table 46 of the participant survey: financial issues and difficulty finding contractors.

One staff member said that taking on debt for energy-efficiency measures may be a barrier because customers do not want to take out money to save money. Another staff member cited general financial concerns: “the economy in general right now is a barrier. I think people have trouble putting food on their plate... and energy efficiency—it’s just not on their radar screen.” One staff member, however, noted that the free or reduced-cost energy audits reduce the barriers to participation.

Program staff also mentioned barriers to customer participation associated with finding and selecting participating HPwES contractors. One staff member noted that the barrier can be geographic, in that, in some areas it is hard to find participating contractors, such as in the North Country. Another barrier that staff cited is identifying which participating contractor to pick from the list that they receive because a number of the contractors on the list for a particular zip code actually are from outside that area:

I talked to people in Westchester, and they say they don’t know who to pick, and I’ll say, well, go on the website. And if you put in your zip code and pull down a list of people in your area, you’re going to get 80 contractors. Most of them aren’t even from your area. They put in the paperwork; they say they’ll service that area. It’s just overwhelming to try and find a contractor to do the work. People want to work with the people they’re comfortable with.

Emphasizing the importance of homeowners finding a contractor they are comfortable with, one staff member speculated that there may be language barriers for some customers.

4.2.3.3 Implementation Contractor Perspectives

Asked about the barriers to residential end use customer participation in the HPwES program, implementation contractors cited financial constraints and concerns, general awareness, and program complexity. As noted previously, financial constraints was a relatively less important barrier cited in Table 45 and Table 46 of the participant survey. However, they corroborated the HPwES contractors’ perceptions (see Table 46) that lack of awareness of the program was a barrier to participation.

One implementation contractor pointed out that although the expanded underwriting criteria of the GJGNY Tier II financing has opened the door for many potential participants, there are still customers with poor credit histories who do not qualify for a loan.⁵³ In addition, many homeowners are hesitant to make large

⁵³ At the September 14, 2011 GJGNY Advisory Council meeting, a program staff member also reported that customers sometimes find it difficult to obtain the utility bill information needed for a Tier II

purchases and take on debt due to concerns about the economy. Some implementation contractors mentioned differences in financial constraints associated with different geographic regions in New York State, such as varying degrees of economic wellbeing in the different regions.

One implementation contractor indicated that the barrier of program awareness may vary by region because the HPwES contractor base in the Central and Western parts of the state adopted the program earlier than those in the Downstate regions. According to this implementation contractor, HPwES contractors in the Central and Western regions were more experienced with the program, tended to do more cooperative advertising and to “deliver the message to customers more effectively.”

Another implementation contractor reported that the principal barrier to participation in HPwES was that the eligibility of various improvements for program incentives was dictated by funding source rules mandated by the regulatory body in the state, making it difficult for homeowners to know precisely what measures would be eligible for incentives.

4.2.4 Measure Installation Decision

Contractors were also asked what they thought was the primary motivation for customers to implement or install measures through the HPwES program after receiving their audit reports. Nearly three-quarters (73%) of the contractors believed that saving on energy, either energy costs and bills (54%) or saving energy in general (19%), was the primary motivation for customers to implement measures through the program following the audit (Table 48). As seen in Table 42, contractors also identified this as the primary motivation for customers to also apply for the free or reduced-cost energy audit.

application, so NYSERDA is working with utilities to try to streamline that process. In addition, some customers are turned off from pursuing program financing if they are rejected by the Tier I criteria. Accordingly, NYSERDA is working to adjust the language requesting the additional information needed for Tier II approval. http://www.nyserdera.org/GreenNY/advisory_council_meetings.asp

Table 48: Primary Motivations for Customers to Implement or Install Measures (contractors)

Motivations	Contractors (n=59)
To save on energy costs/bills	54%
To save energy—not further specified whether for cost, environment	19%
Appeal of incentives, rebates or low-interest financing	14%
To find out how energy efficient their home is/to get their home evaluated	3%
They were considering installing energy-efficiency measures anyway	2%
To get an expert’s advice about what energy-efficiency measures to install/how to make their home more energy efficient	2%
To replace broken or malfunctioning equipment	2%
Payback (years)	2%
None. Customers want the free audit and then they are gone.	2%
Quality of the salesman and audit	2%

Contractors were then asked what they thought was the primary barrier preventing customers from implementing or installing measures through the HPwES program after receiving their audit reports. The majority (70%) of this sample of contractors thought that not having enough money or a lack of a budget for the measures was the primary barrier to customers implementing or installing measures recommended through the program (Table 49).

Table 49: Customer Primary Barriers for Implementing or Installing Measures (contractors)

Barriers to installing measures	Contractors (n=59)
Not enough money available/lack of budget	70%
Not qualifying/changes in program requirements/savings to investment ratio	14%
Not receiving meaningful information from audit/not understanding audit report	5%
Lack of time	3%
The hassle of scheduling, etc.	2%
Health and safety thing has to be fixed before implementing measures	2%
They feel they can do better going on their own and shopping for individual savings	2%
Other	3%

4.3 NON-PARTICIPANT INTEREST IN PROGRAM

This section discusses non-participant interest in the HPwES program and GJGNY-funded offerings.

4.3.1 Key Findings Summary

Non-participants and low-moderate income respondents who had heard of HPwES were asked why they have not participated in the program.⁵⁴ Nearly one-quarter of non-participants said that they did not have the time or were too busy (23%), one-fifth said their home is already energy efficient (20%), and nearly one-fifth said that they have already installed most measures (17%). Among the low-moderate income

⁵⁴ As indicated in Evaluation Methodology section, these respondents indicated that they either had taken action to improve the energy efficiency of their homes in the past year or that they had plans to do so in the next year. The study was designed to identify non-participants and low-moderate income respondents who would be likely to participate in HPwES based on recent behavior or near term plans to install energy efficient measures.

respondents, three out of ten said that it was too expensive or that they did not have the money (30%), and nearly one-fifth said they did not know that they were eligible to participate (17%).

About one-fifth of all non-participants expressed interest in participating in the program and most of its individual components: 17% indicated interest in participating in the program overall, 19% indicated interest in receiving the free or reduced-cost energy audit, and 20% indicated interest in taking advantage of GJGNY financing. However, this percentage about doubled when these non-participants were asked about their interest cash back incentives: 37% indicated interest in receiving cash-back incentives.

Over one-half of non-participants said they were not at all interested in participating in the HPwES program or most of its individual components: 56% indicated being not at all interested in participating in the program overall, 55% indicated being not at all interested in receiving the GJGNY free or reduced-cost energy audit, and 55% indicated being not at all interested in taking advantage of GJGNY financing. However, this percentage dropped by nearly one-third when these non-participants were asked about their interest in cash-back incentives: 38% indicated being not at all interested in receiving cash-back incentives.

The reasons that non-participants gave for being not at all interested in participating in the HPwES program or its individual components varied. The most important reasons they were not interested in participating in the program were that they had already installed most measures (21%) or their home is already energy efficient (19%). The single most important reason they were not interested in the individual components was that they did not need it, mentioned by one-fifth or more of the non-participants who were not interested in each component: 20% for GJGNY free or reduced-cost energy audit, 21% for GJGNY financing and 24% for HPwES cash-back incentives. Additionally, 16% of those were not interested in the free reduced-cost audits said they were not sure if they would qualify and 20% of those who were not interested in the GJGNY financing thought that it was too expensive or they don't have the money.

Between one-fifth and one-third of low-moderate income respondents expressed interest in participating in the HPwES program and most of its individual components: 26% indicated interest in participating in the program overall, 32% indicated interest in receiving the free or reduced-cost energy audit, and 21% indicated interest in taking advantage of GJGNY financing. However, this percentage increased notably when these respondents were asked about their interest cash-back incentives: 42% indicated interest in receiving cash-back incentives.

Between one-half and three-fifths of low-moderate income respondents said they were not at all interested in participating in the program or most of its individual components: 58% indicated being not at all interested in participating in the program overall, 51% indicated being not at all interested in receiving the free or reduced-cost energy audit, and 63% indicated being not at all interested in taking advantage of GJGNY financing. This percentage did not drop notably even when these respondents were asked about their interest cash-back incentives: 45% indicated being not at all interested in receiving cash-back incentives.

The reasons that low-moderate income respondents gave for being not interested in participating in the HPwES program or its individual components were primarily lack of money or lack of interest in general. The most important reason they were not interested in participating in the program was that it was too expensive or that they do not have the money to install measures (26%). The most important reasons they were not interested in the free or reduced-cost audit were because they feel their home is already efficient (19%) and that they do not need it or are not interested (17%). The most important reason they were not interested in the low-interest loans was that it is too expensive or that they do not have the money (31%). The most important reason they were not interested in the cash-back incentives was that they do not need them or are not interested (32%).

Staff reported that customers are often unwilling to take on debt in order to finance energy-efficiency measures. Staff also said that customers sometimes chose other utility programs over HPwES. The matrix that guides participation in NYSERDA and utility programs is complicated, but staff reported they are actively looking into an improved solution in order to develop better recommendations for customers.

4.3.2 Non-participant Survey

The non-participant and low-moderate income survey asked about customer interest in the HPwES program and GJGNY-funded offerings. The survey asked respondents who had heard of HPwES why they have not participated in the program (Table 50). Nearly one-quarter of non-participants said that they did not have the time or were too busy (23%), while one-fifth said their home is already energy efficient (20%). Nearly one-fifth said that they have already installed most measures (17%), and slightly over one-tenth said that they did not know that they were eligible to participate (13%).

- Upstate-A non-participants (26%) most frequently cited having already installed most measures, citing this reason significantly more frequently than all non-participants statewide (17%) as a reason for not participating in HPwES.

Among the low-moderate income survey respondents, three-tenths said that it was too expensive or that they do not have the money (30%), and nearly one-fifth said they were aware of the program, but did not know that they were eligible to participate (17%). Slightly over one-tenth each said that they did not have the time or were too busy (13%), and that they have already installed most measures (13%).

Table 50: Reasons for Not Participating in HPwES
(non-participants, low-moderate income respondents who had heard of HPwES but did not participate; multiple response)

Reasons for not participating	Non-participant (n=76)	Low-moderate Income (n=34)
Do not have the time / too busy	23%	13%
My home is already energy efficient	20%	9%
I have already installed most measures	17%	13%
Aware of the program, but did not know I was eligible to participate	13%	17%
Too expensive / don't have the money to install measures	7%	30% δ
Not interested in installing measures	6%	4%
Told I could not by the program	2%	6%

Significantly different at the 90% confidence level: δ = from non-participants.

The survey asked non-participants and low-moderate income respondents to use a scale from 1 to 5, where 1 means “not at all interested” and 5 means “extremely interested”, to indicate how interested they would be in participating in the HPwES program. Nearly one-fifth of non-participants (17%) and about one-fourth of low-moderate income respondents (26%) said that they were interested or very interested in participating in the program (i.e., giving a rating of four or five). But around three-fifths of non-participants (63%) and low-moderate income respondents (58%) were not interested (i.e., gave a rating of one or two) (Table 51).

**Table 51: Homeowner Interest in Participating in HPwES
(non-participants, low-moderate income respondents)**

Interest in participating	Non-participants (n=212)	Low-moderate Income (n=106)
Very Interested (5)	9%	18% $\bar{\delta}$
4	8%	8%
3	18%	15%
2	7%	16% $\bar{\delta}$
Not at all interested (1)	56%	42% $\bar{\delta}$
Don't know	1%	2%
Refused	1%	--

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

The survey asked non-participants and low-moderate income respondents who indicated that they were not interested in participating in HPwES (score of 1 or 2 on a 1 to 5 scale) the most important reason they were not interested in participating in the program.

Table 52 shows that about one-fifth of non-participants each said that they had already installed most measures (21%) or their home is already energy efficient (19%). Over one-tenth said that it was too expensive to install measures (13%) and another one-tenth said that they did not have time (10%).

- Upstate-B non-participants (31%) most frequently said that their home is already energy efficient, significantly more than Downstate respondents.

Among the low-moderate income respondents, about one-fourth (26%) said that it was too expensive or that they do not have the money to install measures. Over one-seventh (15%) said that they have already installed most measures. Over one-tenth each said that their home is already energy efficient (13%) or that they were not interested in installing measures (13%).

**Table 52: Most Important Reason Not Interested in Participating in HPwES
(non-participants, low-moderate income respondents not interested in HPwES)**

Most important reason not interested	Non-participants (n=141)	Low-moderate Income (n=61)
I have already installed most measures	21%	15%
My home is already energy efficient	19%	13%
Too expensive / don't have the money to install measures	13%	26% $\bar{\delta}$
Do not have the time / too busy	10%	5%
Not interested in installing measures	9%	13%
Know what we need/would do ourselves	6%	5%
Do not plan to stay in house much longer	5%	8%

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

The survey asked non-participants and low-moderate income respondents to use a scale from 1 to 5, where 1 means “not at all interested” and 5 means “extremely interested”, to indicate how interested they would be in receiving a free or reduced-cost energy audit. About one-fifth of non-participants (19%) said they were interested or very interested (score of four or five). However, over one-half said that they were not interested (66%) (Table 53); most of these are probably the same 63% of non-participants who said they were not interested in participating in HPwES (Table 51).

- Upstate-B non-participants (18%) were significantly more likely than Upstate-A (9%) or Downstate (6%) non-participants to say they were very interested in receiving a free or reduced-cost energy audit.

About one-third of low-moderate income respondents (32%) said they would be interested or very interested in receiving a free or reduced-cost energy audit (score of four or five); however, over two-fifths said that they were not at all interested (45%).

Table 53: Non-participant Interest in Receiving a Free or Reduced-cost Audit (non-participants, low-moderate income respondents)

Interest in audit	Non-participants	Low-moderate Income
Very Interested (5)	10%	19% δ
4	9%	13%
3	15%	11%
2	8%	6%
Not at all interested (1)	55%	45% δ
Don't know /Refused	4%	6%

Significantly different at the 90% confidence level: δ = from non-participants.

The survey asked non-participants and low-moderate income respondents who indicated that they were not interested in receiving a GJGNY free or reduced-cost energy audit (score of 1 or 2 on a 1 to 5 scale) why they would not be interested. Table 54 shows the reasons respondents were not interested. One-fifth of non-participants said they do not need it or are not interested (20%), around one-seventh said they were not sure if they would qualify (16%), it was too expensive (14%), and their home is already efficient (13%).

- Downstate non-participants (26%) were most likely to indicate that they were not sure if they would qualify for the free or reduced-cost energy audits. Upstate-A (23%) and Upstate-B (21%) non-participants were most likely to indicate that their home is already efficient.

About one-fifth of low-moderate income respondents said that their home is already efficient (19%), followed by 17% who said that they do not need it or are not interested, 16% who said that they do not have time or are too busy, and 12% who said that it is too expensive or that they do not have the money.

- Downstate low-moderate income respondents (23%) were most likely to indicate that their home is already efficient. Upstate low-moderate income respondents (21%) were most likely to indicate that it is too expensive or that they do not have the money, significantly more than Downstate respondents (5%).

Table 54: Why Not Interested in Receiving a Free or Reduced-cost Audit
 (non-participants, low-moderate income respondents not interested in receiving a free or reduced-cost energy audit: multiple response)

Why not interested in audit	Non-participants (n=141)	Low-moderate Income (n=55)
Don't need it/not interested	20%	17%
Not sure if I would qualify	16%	4% δ
Too expensive/don't have the money/not spending the money	14%	12%
Home is already efficient	13%	19%
Do not have time/too busy/too much of a bother	7%	16% δ
Can do the work ourselves	7%	8%

Significantly different at the 90% confidence level: δ = from non-participants.

The survey asked non-participants and low-moderate income respondents to use a scale from 1 to 5, where 1 means “not at all interested” and 5 means “extremely interested”, to indicate how interested they would be in taking advantage of GJGNY financing. About one-fifth of non-participants (20%) and low-moderate income respondents (21%) said that they were interested or very interested (i.e., gave a rating of four or five). However, over one-half of non-participants (55%) and low-moderate income respondents (58%) said they were not at all interested in taking advantage of GJGNY financing (Table 55).

Table 55: Interest in Taking Advantage of GJGNY Financing
 (non-participants, low-moderate income respondents)

Interest in financing	Non-participants (n=212)	Low-moderate Income (n=106)
Very Interested (5)	11%	12%
4	9%	9%
3	15%	11%
2	5%	5%
Not at all interested (1)	55%	58%
Don't know/Refused	3%	5%

The survey asked non-participants and low-moderate income respondents who indicated that they were not interested in taking advantage of GJGNY financing (score of 1 or 2 on a 1-5 scale) the reasons they were not interested in taking advantage of this financing. Table 56 shows that about one in five non-participants each said that they do not need it or are not interested (21%) and they do not have the money (20%). About one in eight said that they prefer to pay cash (12%).

- Downstate non-participants (23%) most frequently said they were not interested in financing because it was too expensive. Upstate A non-participants most frequently said they were not interested in financing because they preferred to pay in cash (27%) or were not interested (25%).

About one in three low-moderate income respondents said that they were not interested in financing because it is too expensive or that they do not have the money (31%). About one-fifth said that they do not need it or are not interested (21%), followed by one in seven who said that their home is already efficient (14%), and about one in ten who said that they prefer to pay cash or do not need financing (11%).

- Both Downstate (27%) and Upstate (36%) low-moderate income respondents most frequently said that it is too expensive or that they do not have the money.
- Downstate low-moderate income respondents (20%) were significantly more likely than Upstate low-moderate income respondents (6%) to say that they were not interested in financing because their home is already efficient.
- Upstate low-moderate income respondents (22%) were significantly more likely than Downstate low-moderate income respondents (3%) to say that they were not interested in financing because they preferred to pay in cash.

Table 56: Why Not Interested in Taking Advantage of GJGNY Financing
(non-participants, low-moderate income respondents not interested in taking advantage of GJGNY financing)

Reasons not interested in financing	Non-participants (n=139)	Low-moderate Income (n=66)
Don't need it/not interested	21%	21%
Too expensive/don't have the money/not spending the money	20%	31% $\bar{\delta}$
Prefer to pay cash/don't need to finance/can afford to pay	12%	11%
Don't want more debt/don't like to borrow	8%	5%
Home is already efficient	8%	14%

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

The survey asked non-participants and low-moderate income respondents to use a scale from 1 to 5, where 1 means “not at all interested” and 5 means “extremely interested”, to indicate how interested they would be in taking advantage of cash-back incentives to help cover the cost of energy-efficiency upgrades through the HPwES program. Around two-fifths of non-participants (37%) and low-moderate income respondents (42%) were interested or very interested in cash-back incentives (score of four or five) and a similar percentage of non-participants (43%) and low-moderate income respondents (45%) said that they were not interested (score of one or two) (Table 57).

Table 57: Interest in Taking Advantage of Cash-back Incentives
(non-participants, low-moderate income respondents)

Interest in cash-back incentives	Non-participants (n=212)	Low-moderate Income (n=106)
Very Interested (5)	23%	26%
4	14%	16%
3	18%	11% $\bar{\delta}$
2	5%	9%
Not at all interested (1)	38%	36%
Don't know/Refused	3%	3%

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

The evaluation team compared interest in HPwES, the GJGNY free or reduced-cost energy audits, and the HPwES cash-back incentives by whether respondents had taken energy-saving actions in the past year. Using a scale from 1 to 5, where 1 means “not at all interested” and 5 means “extremely interested,” the evaluation team compared interest (score of four or five) and lack of interest (score of one or two) by the two groups. Non-participants who had taken action in the past year were significantly more likely to exhibit a lack of interest in the audits and the cash-back incentives (Table 58). Additional tables comparing findings for those who had taken energy-saving actions and those who had not can be found in Appendix A.

Table 58: Non-participant Interest in Program Offerings by Energy-saving Actions Taken in the Past Year)
(non-participants, low-moderate income respondents)

Not Interested in HPwES, Audits, cash-back incentives ¹	Non-participants (percent (<i>sample size</i>))	Low-moderate Income (percent(count) (<i>sample size</i>))
HPwES Program		
Took energy-saving actions in the past year	64% (180)	58% (92)
Did not take energy-saving actions in the past year	51% (32)	61% (7) (12)
GJGNY Free or Reduced-cost Energy Audits		
Took energy-saving actions in the past year	66% (180)	52% (92)
Did not take energy-saving actions in the past year	42% (32) *	39% (5) (12)
Cash-back Incentives		
Took energy-saving actions in the past year	46%(180)	47% (92)
Did not take energy-saving actions in the past year	21% (32) *	23% (3) (12)

¹ Score of 1 or 2 (not interested, or not at all interested)

Significantly different at the 90% confidence level: * from those who took energy-saving actions in the past year.

The survey asked non-participants and low-moderate income respondents who indicated that they were not interested in taking advantage of cash-back incentives (score of 1 or 2 on a 1-5 scale) why they would not be interested in taking advantage of cash-back incentives. Table 59 shows that nearly one-quarter of non-participants (24%) and one-third of low-moderate income respondents (32%) said they do not need the incentives or are simply not interested. Secondary reasons cited included their home is already efficient (12% of non-participants and 18% of low-moderate income respondents) or that they did not have the money (12% of non-participants and 16% of low-moderate income respondents).

- After not needing the incentives (20%), the second most frequently cited reason by Upstate-B non-participants was that they were skeptical of the program or thought it might be a scam (15%).

Table 59: Why Non-participants Not Interested in Taking Advantage of Cash-back Incentives
 (non-participants, low-moderate income respondents not interested in taking advantage of cash-back incentives; multiple response)

Why not interested in cash-back incentives	Non-participants (n=96)	Low-moderate Income (n=46)
Don't need it/not interested	24%	32%
Home is already efficient	12%	18%
Too expensive/don't have the money/not spending the money	12%	16%
Can do the work ourselves	7%	9%
Skeptical of program/scam/people in the house/just trying to sell me something	6%	2%
Do not have time/too busy/too much of a bother	4%	6%
Need more information	1%	7%

4.3.3 Staff Perspectives

Staff said that an important decision for customers is whether to take on debt to finance energy-efficiency measures. As a program staff member stated, even when people are approved for a loan, they are choosing cash over financing because they do not want to take on additional debt for energy efficiency.

Another important decision that some staff members mentioned was whether to take advantage of the HPwES program or another program, for example, a utility program addressing electric savings. Program staff are working to improve their process for identifying customer recommendations for the best program for their needs—whether a NYSERDA program or some other utility program. Currently, a complicated matrix guides those recommendations, but staff are looking into having that implemented in software that would output recommendations.

Section 5

PROGRAM IMPLEMENTATION

5.1 KEY FINDINGS SUMMARY

Program staff noted that contractors are “the primary marketers of the program.” The vast majority (92%) of contractors in the survey of HPwES contractors reported marketing HPwES primarily through newspaper, radio, and TV advertising. Slightly over two-fifths (43%) of the surveyed contractors said that the addition of the GJGNY free or reduced-cost energy audit had changed the way they marketed the program, with most of them (65%) saying they had promoted the free or reduced-cost audits. NYSERDA marketing staff and the implementation contractors generally thought that program advertising had been effective. However, in the survey of HPwES contractors, the contractors leaned more towards not being satisfied with NYSERDA’s marketing activities: over two-fifths (44%) indicated that they were not satisfied or not at all satisfied and only about one-fifth (22%) said they were satisfied or extremely satisfied. Program staff thought that future marketing efforts would be less oriented to large-scale TV or radio marketing, and more focused on community mechanisms such as CBOs and local papers. BrandCool interviewees thought that future marketing may focus on simplifying the language of messaging to consumers, providing contractors and CBOs with marketing materials, as well as using traditional mass-media approaches.

The implementation contractors reported that the process for GJGNY free or reduced-cost energy audits generally runs smoothly. Customers typically find out about the free or reduced-cost energy audits through contractor marketing and outreach. Nearly three-fifths (58%) of HPwES contractors surveyed reported that the introduction of free or reduced-cost energy audits had led to an increase in the installation of energy-efficiency measures. Areas that were identified as occasional sources of delays were gathering the energy usage data from applicants and delayed delivery of the audit report by the HPwES contractors.

The relationship between utility and HPwES program benefits is complex and National Grid, LIPA and NYSERDA have created a matrix (see Appendix C) to guide the customer and the contractor on what program is most cost effective to implement the eligible measures.

Only a very small fraction of the HPwES projects inspected by BPI result in the identification of major issues that required corrective actions for the HPwES contractor. Nearly one-half (46%) of HPwES contractors surveyed said that, other than BPI certification, no other certification was essential for their employees to have; specific other certifications mentioned included LEED accreditation (14%), EPA Renovation, Repair and Painting (RRP) Renovator (10%), OSHA (9%), NATE Certification (9%) and Lead Safety (9%). Nearly four-fifths (78%) of HPwES contractors said that field training would be valuable or extremely valuable for their employees, followed by sector-based (69%) and advanced technical training (67%). Nearly three-fifths (59%) of HPwES contractors reported that adequately skilled applicants were

difficult or extremely difficult to find in their area. The highest rating as extremely important or important qualifications for new employees was given to residential building construction experience (58%); BPI certification (53%) and worker readiness or job readiness training (42%) were rated relatively lower.

Program staff and implementation contractors said that the free or reduced-cost energy audits are a great strength of the program as they help to reduce barriers to participation. However, they thought that GJGNY still needs greater program awareness and improved financing options. Slightly over one-third (36%) of HPwES contractors were very satisfied or satisfied with the program and slightly under one-third (31%) were either not satisfied or not at all satisfied with the program. The most commonly cited reasons for dissatisfaction were: measures were no longer eligible, difficult or changing standards for measure qualification, reduced incentives, paperwork, and bureaucracy or red tape.

5.2 PROGRAM ROLES AND RESPONSIBILITIES

This section discusses the roles and responsibilities of program staff and implementation contractors.

5.2.1 Key Findings Summary

Since the inception of GJGNY, program staff members and implementation contractors generally indicated experience with the HPwES program and with GJGNY. A utility staff member noted that, when appropriate, they refer customers to the NYSERDA program and similarly, that NYSERDA refers customers to them when appropriate. The staff member indicated that fuel type and customer needs typically define when a customer enters a utility program versus a NYSERDA program. The implementation contractors who were involved in the design of the HPwES program reported that the addition of the free or reduced-cost energy audits and financing has had a positive impact on HPwES program implementation and the installation of energy-efficiency measures.

5.2.2 Program Staff Perspectives

NMR conducted in-depth interviews by phone with six NYSERDA staff members and two utility staff members. Program staff were asked about their experience with NYSERDA, HPwES, and GJGNY and what they did in their role as program staff members. NYSERDA staff spoke about their experience working on the HPwES program implementation, indicating that they had been with the program a long time, ranging from seven to 15 years. One utility staff member had been with his company for 22 years. Most of the HPwES program staff members indicated having started working on GJGNY-related activities sometime in 2010.

One staff member said that they approximately spend 80% of their time working on HPwES, developing the financial and audit components, and conducting general modifications to the program; the remainder of

his time is spent on the EmPower program. Another staff member focuses on the “day-to-day implementation of the HPwES program and supervising staff to deliver the goals of the program.” The third staff member administers the contracts and approves the invoices for GJGNY, working with Energy Finance Solutions (EFS), and another contractor, Concord Servicing Corporation (CSC), which handles the GJGNY loan collections. A fourth staff member focuses specifically on outreach and marketing efforts.

Both utility staff members interviewed indicated that they work closely with NYSERDA staff members. When appropriate, they refer customers to the NYSERDA program and that NYSERDA refers customers to them. Fuel type and customer needs typically define when a customer enters a utility program versus a NYSERDA program. Both NYSERDA and LIPA coordinate with CSG on implementation of the program.

5.2.3 Implementation Contractor Perspectives

NMR conducted in-depth interviews by telephone with seven individuals representing five implementation contractors: CSG (delivers the HPwES program), EFS (underwrites and originates GJGNY loans), Honeywell (provides independent quality assurance inspections on HPwES projects), BrandCool (provides marketing for the program), and BPI (certifies and accredits HPwES contractors). These implementation contractors work on delivering the HPwES program, including the GJGNY elements of free or reduced-cost energy audits and financing. With the exception of the interviewees representing BPI and the recently hired marketing contractor BrandCool, the individuals interviewed had been working with NYSERDA for an average of eight years, and on HPwES program implementation for an average of six years. All of the interviewees had been working on the implementation of the GJGNY elements in the HPwES program since the launch of these elements in the fall of 2010. With the exception of the interviewees representing the more recently hired specialized contractors BPI and BrandCool, the interviewees typically spend around eighty percent of their time on the HPwES program, and around fifty percent of their time specifically on the GJGNY elements associated with HPwES.

About one-half of the interviewees were involved in designing the HPwES program to include the GJGNY elements of free or reduced-cost energy audits and financing. All who were involved in the design believed that the addition of the free or reduced-cost energy audits and financing has had a positive impact on HPwES program implementation. Specific examples of positive impacts reported by interviewees included increased number of audits, improved ability to track and analyze audit activity, and improved financing terms over the New York ENERGYSMART loan options/products.

5.3 LEVEL AND TYPE OF MARKET ACTOR ACTIVITY

In the in-depth interviews, program staff reported that conversion rates from audits to projects completed were slightly higher than expected. The 2011 GJGNY Annual Report reported a 29% conversion rate from audits to projects for the period November 15, 2010 through July 31, 2011.⁵⁵ Staff were pleased with this conversion rate because contractors had initially raised concerns that the GJGNY free or reduced-cost energy audits would lower conversion rates. According to staff, one possible explanation for the high conversion rates was that before conducting an audit, contractors sometimes try to screen for customers who are likely to follow through on installing energy-efficiency measures.^{56,57}

They call them up and ask them about the application, whether or not they did this, did that, so they can find out whether or not somebody is serious just by asking questions about the application they filled out, or didn't fill out.

One staff member indicated that sales skills are important for HPwES contractors in order to help advance the conversion from audits to projects. Recognizing the importance of sales skills, NYSERDA staff have been holding contractors' exchanges throughout the state to help train contractors in sales techniques to help close sales during audits.

At the September 14th, 2011 GJGNY Advisory Council meeting, program staff stated that 60% of HPwES projects receive a free or reduced-cost energy audit through the GJGNY program. Program staff were surprised by the low results and said that they had expected over 75% of HPwES projects to have received free or reduced-cost energy audits through GJGNY. One staff member said that the relatively low percent of GJGNY work is likely due to a long pipeline of HPwES jobs, and possible paperwork complications such as audits that are reserved under one household member's name and completed under another's name. Usage of GJGNY financing similarly was lower than expected—according to information presented in the September 14th Advisory Council meeting only thirty percent of projects had used GJGNY financing.

⁵⁵ "Green Jobs - Green New York Annual Report" NYSERDA. October 2011. Page 44.

⁵⁶ The secondary research conducted for this evaluation also found that in the New Hampshire HPwES program, which was implemented by multiple utilities, some of the utilities had higher closure rates (85-90%) than others (40%), at least in part because of pre-screening of customers based on a Home Heating Index (HHI). See "Process Evaluation: New Hampshire Home Performance with ENERGY STAR[®] Program." NMR Group Inc./The Cadmus Group. June 13, 2011.

⁵⁷ CBOs have also been trained to prescreen customers for need for energy-efficiency work and willingness and ability to finance retrofits. http://www.nyserda.ny.gov/Page-Sections/Green-Jobs-Green-New-York-Planning/Advisory-Council/~/_/media/Files/EDPPP/Planning/GJGNY/Advisory%20Council%20Meetings/2011-12-06_Outreach_and_Marketing_Presentation.ashx

Among the participants who do take advantage of GJGNY financing, the majority (70%) are using automated payments and this has contributed to an excellent repayment rate. The average loan size for this group was \$7,900, with an average payment of \$76 per month, and an average term of 12 years.^{58,59}

5.4 PROGRAM MARKETING

This section discusses marketing activities associated with the HPwES program and its GJGNY components.

5.4.1 Key Findings Summary

NYSERDA had historically advertised the program through various channels, including internet, billboard, print ads, television, radio, events, public relations, and cooperative advertising through HPwES contractors. However, NYSERDA staff noted that contractors are “the primary marketers of the program.” The vast majority (92%) of respondents in the survey of HPwES contractors reported marketing HPwES, primarily through newspaper, radio, and TV advertising. Implementation contractors were familiar with the cooperative contractor advertising, and some even recalled having heard participating HPwES contractor ads on the radio mentioning the program and free energy audits. One implementation contractor thought that that the requirements associated with the cooperative marketing component were onerous to the contractors. Specifically, the requirements were exceedingly specific in the language that contractors could use in the ads, and that contractors were prohibited from promoting services that they offer in association with the program.

Nearly three-fifths (57%) of respondents in the survey of HPwES contractors stated that that their marketing activities had not changed with the addition of the free or reduced-cost energy audit; however, slightly more than two-fifths (43%) replied that the addition had changed the way they marketed the program or attracted customers. About two-thirds (65%) of these contractors had changed marketing efforts to promote the free audits, while about one-quarter (26%) reported promoting the added financing options.

NYSERDA marketing staff indicated that the effectiveness of marketing messages is currently under review by BrandCool, but that initial research showed that “savings really resonated quite highly.” The implementation contractors generally thought that the advertising had been effective in generating

⁵⁸ For additional details from the GJGNY 2011 annual report see Appendix C.

⁵⁹ One implementation contractor commented that among the programs greatest strengths was that, for many participants, the energy savings from measures installed more than offset the loan payments, resulting in a positive cash flow for participants.

residential end-use customer interest in the HPwES program and GJGNY-related projects. However, in the survey of HPwES contractors, the contractors leaned more towards not being satisfied with NYSERDA's marketing activities: over two-fifths (44%) indicated that they were not satisfied or not at all satisfied and slightly over one-fifth (22%) said they were satisfied or extremely satisfied. One implementation contractor indicated that an opportunity existed for marketing activities to reduce consumer confusion in the market place. Another implementation contractor believed that placing a stronger emphasis on program benefits in marketing materials would increase marketing effectiveness.

Program staff thought that future marketing efforts would be less oriented to large-scale TV or radio marketing, and more focused on community mechanisms such as CBOs and local papers. BrandCool is in the process of designing a marketing campaign for the HPwES program based on the results of a quantitative benchmark study. The BrandCool interviewees thought that future marketing may focus on simplifying the language of messaging to consumers, providing contractors and CBOs with marketing tools such as case studies/testimonials, fact sheets, and web content, as well as engaging in traditional mass-media approaches.

5.4.2 Program Staff Perspectives

Staff members said that HPwES contractors are “the primary marketers of the program.” They said that contractors have been effective in promoting the program through direct mail and TV advertising. One NYSERDA staff member thought that the reliance on contractor marketing may in part be due to the lack of NYSERDA marketing materials, which are still being reviewed and/or developed. Another staff member indicated that while most customers learn about the program from contractors; friends are also an important source of information:

[W]e also have market indicators, self-indicators, on the application, about how you heard about the program, and right now it's about ... 60% ... coming from contractors, 30% ... finding it through friends. A contractor ad is bringing them in, or another person found out about it and said, “Hey, give this thing a try.” Which is what I would expect.

The NYSERDA marketing staff member indicated that effectiveness of marketing messages is currently under review, but that initial research showed that “savings really resonated quite highly.” Comfort, health, and convenience were also important, while concern about the environment was not a major reason for participation. One aspect that the marketing staff would like to focus on is creating materials in several languages including but not limited to Spanish and Chinese. Another NYSERDA staff member said that it would be helpful to customers if NYSERDA and BPI did more promotion of BPI certification to underscore the value it provides to customers.

One program staff member noted that NYSERDA had been successful in making the free audits lead to project completions:

One of the better parts about that was that we were able to look at what didn't work, try to come up with a way of reducing folks just coming in to get the audit and not doing follow-up on work. And I think we got the right resources, and we asked a lot of questions all over the place, and I think we came up with an elegant solution that appears early on to be working. The feedback from it is incredibly positive, and I'm humbled by the fact that it's working.

When asked if there has been NYSERDA-wide promotional activity or advertising that generated residential end-use customer interest in or leads for the HPwES program and GJGNY-related projects, staff spoke about the variety of initiatives that were put forward:

We've been marketing the Home Performance program, and I have a summary of the thousands of marketing efforts done – there were some 8,000 TV commercials in April, which comes to mind. There's been broad-scale marketing of the program, but not of the GJGNY components.

NYSERDA encourages people to go to the NYSERDA website – getenergysmart.com – to get started with the program. One staff member said that the website is difficult to navigate because there is so much information on it. Another staff member indicated that a few of the marketing initiatives were “clunky” but that the marketing firm was doing a great job working with NYSERDA and working through delays and bureaucratic issues. A NYSERDA staff member reported challenges developing an independent GJGNY brand along with the HPwES brand and thought that staff needed time and resources to develop program materials that incorporated both brands, thus limiting market confusion.

Other marketing activities have included PR and unpaid media and two pilots that generated “a lot of interest, and we did get some signups from the audits.” Future marketing efforts are expected to be less oriented to large-scale TV or radio marketing, and more focused on community mechanisms such as CBOs and local papers. The NYSERDA marketing staff member went on to say that, “When you have CBOs, it'll be an incredible mechanism for getting people into the program.” While they will focus on low and moderate income populations, the effect will be significant. The CBO activity will essentially increase the number of audits and retrofits, “the CBOs have in their contract a performance payment structure, so we're holding back 25% based on them meeting their goals.”

5.4.3 Implementation Contractor Perspectives

The implementation contractors were aware of NYSERDA-wide promotional activity for the HPwES program, which includes television, radio, and print ads. They generally believed that the advertising had been effective in generating residential end-use customer interest in the HPwES program and GJGNY-related projects. One interviewee stated that NYSERDA experienced an uptick in audit application receipts when TV ads were run. Another interviewee indicated that an opportunity existed for marketing activities to reduce consumer confusion in the market place. One interviewee believed that placing a stronger emphasis on program benefits in marketing materials would increase marketing effectiveness, and

commented, “I think more direct discussion of the financial benefits would be helpful to drive customers to the program.” The interviewees representing the marketing contractor BrandCool explained that they had not been involved in developing the initial promotional activities. BrandCool had contracted with NYSERDA in 2010 to design a marketing campaign for the HPwES program based on the results of a quantitative benchmark study that was being fielded at the time of the in-depth interviews for this project. The objectives of the benchmark study included understanding which consumers are most motivated to adopt energy-efficiency measures, to get a free audit, and/or utilize GJGNY financing products.

Interviewees were familiar with the cooperative advertising available to HPwES contractors, and some even recalled having heard contractor ads on the radio mentioning HPwES and free or reduced-cost energy audits. One interviewee commented that certain contractors “have done a relatively significant amount of marketing on their end.” Another interviewee stated, “I think they are the primary driving force,” with regard to promoting GJGNY to residential customers. Both of these interviewees believed that the cooperative contractor advertising had been notably successful in promoting the HPwES program and GJGNY-related projects.

Prior to contracting with BrandCool, NYSERDA had advertised the program through various channels, including internet, bill-board, print ads, television, radio, events, public relations, and cooperative advertising through HPwES contractors. The BrandCool interviewees stated that the quantitative benchmark study that was being fielded at the time of the in-depth interviews would help determine the best channels for marketing the program in the future. Additionally, the BrandCool interviewees commented that mass media channels (like television) were generally helpful for building awareness, and that television ads also helped to motivate contractors to step up their own marketing activities. BrandCool had been involved in several community events in New York State that provided homeowners with information regarding HPwES incentive options and assistance in applying for the GJGNY audit. The BrandCool interviewees reported that these community events had been notably successful in terms of audit applications submitted and business generated for contractors. When asked why this channel had been particularly successful, one interviewee explained, “It’s a more one-on-one, intimate setting, so people have a tendency to take more action in those types of an environment.”

When asked if there were any aspects of the marketing, outreach and education efforts that had been less successful in promoting HPwES program and GJGNY-related projects, one interviewee commented that the requirements associated with the HPwES cooperative marketing component were onerous to the contractors. Specifically, the interviewee commented that the requirements were exceedingly specific in the language that contractors could use in the ads, and that contractors were prohibited from promoting services that they offer in association with the program. Two interviewees offered suggestions for improving the HPwES cooperative contractor advertising, including simplifying and more consistently applying the advertising requirements, and leveraging the contractors’ creative energy and knowledge of their local markets. Not surprisingly, the interviewees representing BrandCool had numerous ideas for

enhancing the marketing of the HPwES program and GJGNY related elements, starting with consumer research designed to understand consumer attitudes toward energy efficiency and willingness to taking out loans to fund energy-efficiency measures. The BrandCool interviewees suggested simplifying the language of messaging to consumers, providing contractors and CBOs with marketing tools such as case studies/testimonials, fact sheets, and web content, and engaging in traditional awareness-building measures such as internet, television, radio, and mobile device advertising. The BrandCool interviewees also mentioned the need to recruit new HPwES contractors as the demand for energy efficiency grows, and suggested promoting the benefits of being part of the program to contractors via direct mail, e-mail, online banners, and through trade associations.

5.4.4 HPwES Contractor Perspectives

When asked if they engaged in any marketing activities to attract potential customers to the HPwES program, the vast majority (92%) of HPwES contractors responded affirmatively (Table 60).

Table 60: HPwES Contractor Use of Marketing Activities to Attract Potential Customers to HPwES (contractors)

Use of marketing activities to attract customers	Contractors (n=59)
Yes	92%
No	9%

HPwES contractors who reported having engaged in marketing activities to attract potential customers were asked to identify the media they had used. Newspaper, radio and TV advertising were the three most commonly reported marketing activities with nearly three-fifths (57%) of the contractors having advertised in a newspaper, followed by radio (41%) and TV (37%) advertising. Direct mail and internet advertising or having a company website were each reported by about one-quarter (24%) of the sample (Table 61).

Table 61: HPwES Contractor Marketing Activities
(contractors who had engaged in marketing activities to attract customers; multiple response)

Marketing activities	Contractors (n=54)
Newspaper advertising	57%
Radio advertising	41%
TV advertising	37%
Internet advertising/Company Website	24%
Direct mail	24%
Home shows	20%
NYSERDA website	6%
Word-of-mouth	6%
E-mail lists(blasts)/Direct E-mail	6%
Yellow Pages	6%
Ads on Company Vehicles	6%

HPwES contractors who had not engaged in marketing activities were asked how they generated leads or attracted customers. There were only five contractors in this group, and among them three had used the NYSERDA website, three had used customer referrals or word-of-mouth, and one had gone through the utility company to generate leads or attract customers.

The survey asked all HPwES contractors if the addition of the GJGNY free or reduced-cost energy audits and GJGNY financing to the HPwES program had changed the way they marketed the program or how they attracted customers. Nearly three-fifths (57%) of this sample of contractors stated that neither of these had changed with the addition of the free or reduced-cost energy audit; however, slightly more than two-fifths (43%) replied that the addition had changed the way they marketed the program or attracted customers (Table 62).

Table 62: Whether or Not GJGNY has Changed the Way Contractors Marketed HPwES (contractors who indicated they had engaged in marketing activities to attract customers)

If GJGNY has changed marketing of program	Contractors (n=54)
Yes	43%
No	57%

HPwES contractors who indicated that the addition of the GJGNY free or reduced-cost energy audits and financing to the HPwES program had changed the way they marketed the program or attracted customers were asked to indicate how their efforts had changed. Table 63 shows that about two-thirds (65%) of these contractors had changed marketing efforts to promote the free audits; additionally, more than one-quarter (26%) reported promoting the added financing options. As one contractor stated, “It makes it a little easier to assign some kind of value to it... With the financing available now, it gives people a chance to get a better interest rate than they would on their home equity loan. Whenever we talk to someone about [the program], we bring up the low-interest financing.”

Table 63: Changes in Contractor Marketing Efforts (contractors who indicated that GJGNY has changed the way they market HPwES; multiple response)

Changes in marketing efforts	Contractors (n=23)
We promote the free audits	65%
We promote the financing options	26%
We receive more leads through the program	26%
We increased marketing	9%
Free audits require attracting more specific clients	9%
Changes have created a disincentive for customers	4%
Decreased our own marketing	4%
Created more complications/paper work	4%
Other	13%

The survey asked HPwES contractors to rate their satisfaction with NYSERDA’s marketing activities for the HPwES program using a scale of 1 (“not at all satisfied”) to 5 (“very satisfied”). As a whole, contractors leaned more towards not being satisfied with NYSERDA’s marketing activities: over two-fifths (44%) indicated that they were not satisfied or not at all satisfied (score of one or two) and slightly over one-fifth (22%) said they were satisfied or extremely satisfied (score of four or five); about one-third (34%) said they were neither satisfied nor dissatisfied (score of three) (Table 64). This is due to the fact that during this time, HPwES marketing was limited, if occurring at all, due to funding restrictions.

Table 64: Contractor Satisfaction with NYSERDA HPwES Marketing (contractors)

Level of satisfaction	Contractors (n=59)
Extremely satisfied (5)	5%
4	17%
3	34%
2	29%
Not at all satisfied (1)	15%

5.5 COMMUNICATIONS AND COORDINATION

5.5.1 Key Findings Summary

Program staff and implementation contractors reported good working relationships with the various program implementation contractors and vendors, including Conservation Services Group (CSG), who implements the program; EFS, who approves and tracks the loans; and Concord, who verifies the receipt and approval of the loans, BrandCool, a marketing consultant, Constituency-Based Organizations (CBOs), who will lead community outreach, and the network of HPwES contractors. A utility program manager said that training and working with their contractor base can be complicated because they work with 35 Home Performance contractors who work with both the utility and NYSERDA. One implementation contractor commented that at times, busy contractors do not closely monitor their e-mail and may miss program announcements, but that a follow-up system was in place to ensure that the communication channel with this group remains open.

5.5.2 Program Staff Perspectives

NYSERDA staff said that they work closely with CSG, who implements the program; EFS, who approves and tracks the loans; and Concord, who verifies the receipt and approval of the loans. One NYSERDA staff member also reported working closely CBOs. Respondents reported that there are frequent communications and that their colleagues work well together and are committed to the success of the program, though occasional challenges can emerge.

Both the audit and the financing were put in place in very short order. We had a number of major policy issues, procedural issues to deal with back in September, October, November, and EFS implemented those changes very promptly, and we were able to launch in mid-November. And on the audit side, CSG was similarly very good to work with, and met all of our program deadlines and objectives.

One staff member noted that the program has to meet customer needs for the program and that CSG, in particular, has adapted to needs for the GJGNY program by adding more staff to manage the audit process. Another staff member said that contractors need to have both technical skills and marketing skills in their customer interactions:

Building science is sort of an emerging marketplace, and I think eventually we're going to have a good sales force and a good auditing force at the same time, but they're kind of competing personalities.... Math, science—that discipline, problem solving, and the enthusiasm -- understanding people, how to close sales – that's a little different.

A utility program manager said that training and working with their contractor base can be complicated because they work with 35 Home Performance contractors who work with both the utility and NYSERDA. The matrix of energy-efficiency program options is confusing, especially for contractors, but it offers good options to customers.

There were situations where in some programs, some things are eligible for rebates, some things are not; some things are eligible for the GJGNY financing. So what we've been trying to weave together are all the rebates, all the incentives, all the different things to do...

The NYSERDA marketing specialist reported that they work on a daily basis with 14 CBOs and will be working with them more closely on market research and recruiting BPI contractors.

NYSERDA holds webinars with HPwES contractors to educate them about GJGNY and financing options on a regular basis. The marketing staff member said that HPwES contractors are knowledgeable about the program. One staff member said that, while contractors are leading customer interactions, NYSERDA “need[s] to understand better what contractors are doing to promote the financing.”

5.5.3 Implementation Contractor Perspectives

When implementing the GJGNY elements of the HPwES program, the implementation contractors communicate and coordinate with a variety of different people and HPwES contractors. All of the interviewees reported being in regular contact with each other and with NYSERDA staff via e-mail, telephone calls, or in-person meetings. The interviewees from CSG also reported frequent interactions with participating contractors. The interviewees representing EFS and BrandCool anticipated communicating and coordinating with the constituency based organizations on a regular basis in the near future.

Overall, the interviewees were satisfied with the level of communication with the individuals and groups they need to interact with in order to implement the HPwES program. None of the interviewees reported any major difficulties or issues in their communications with any of the other groups. One interviewee commented that at times, busy contractors do not closely monitor their e-mail and may miss program announcements sent via this method, but that a follow-up system was in place to ensure that the communication channel with this group remains open.

5.6 PROGRAM ADMINISTRATION AND DELIVERY

This section discusses program administration and delivery, including audits, program rules and incentives, financing, data systems and tracking, and QA inspections.

5.6.1 Audits

This section discusses program staff, implementation contractor, and HPwES contractor perspectives on the free or reduced-cost energy audits.

5.6.1.1 Key Findings Summary

HPwES contractors surveyed said that e-mail (46%) followed by program or implementation staff (27%) were their top sources of first learning about the GJGNY free or reduced-cost energy audits. According to the implementation contractors, customers typically find out about the free or reduced-cost energy audits through contractor marketing and outreach. Program staff members thought that the free or reduced-cost energy audits have been helpful in bringing customers into the program because customers do not want to have to pay just to learn that they need to dedicate more financial resources for energy-efficiency improvements. Nearly three-fifths (58%) of HPwES contractors surveyed reported that the introduction of free or reduced-cost energy audits had led to an increase in the installation of energy-efficiency measures. However, HPwES contractors who thought the introduction of free or reduced-cost energy audits had not led to an increase in the installation of HPwES-eligible energy-efficiency measures most commonly indicated the reason was that customers would have an audit just because it was free or out of curiosity, but

were not interested in installing measures (35%); nearly one-fifth (17%) reported that customers did not install measures due to economic conditions or a lack of money.

The implementation contractors reported that the process for GJGNY free or reduced-cost energy audits generally runs smoothly. However, two areas were identified as occasional sources of delays: gathering the energy usage data from applicants and delayed delivery of the audit report by contractors. Suggestions for addressing the issue focused on emphasizing to HPwES contractors the importance of their role in keeping information flowing to customers. Program staff indicated that some contractors were frustrated that the \$250 payment that they received for the audit was too low for the work that it required. One staff member said that a notable concern for contractors was the use of TREAT, which is very time-consuming.

5.6.1.2 Program Staff Perspectives

Staff members said that the GJGNY free or reduced-cost energy audits have been helpful in bringing customers into the program because customers do not want to have to pay money just to find out that they need to pay more money for energy-efficiency improvements.

An important element of the audits is having the homeowner present to learn about what the audit found. It is also important to provide the information directly to the homeowner so they can learn first-hand about the energy-efficiency recommendations. When customers move from audit to project depends upon on both the customer and the contractor. One staff member indicated that there are some benefits to having customers wait before implementing the recommended energy efficient measures.

For years, I was always under the program paradigm of, do it right then at the time, and present your findings to the customer, right at the time of the audit. But my experience with the program, my opinion on that is evolving. It may be better to actually wait a little bit and have the consumer sort of absorb a little bit of what you did there, and then come back with the audit results and the sales tool, and to really reinforce what happened before.

Staff indicated that some contractors were frustrated that the \$250 payment that they received for the audit was too low for the work that it required. One staff member said that a notable concern for contractors was the use of the TREAT modeling software, which is very time-consuming. Program staff are investigating other options, such as a Microsoft Office Excel based quick audit tool using deemed savings estimates and a software overlay to TREAT. However, although alternative resources are available, contractors sometimes use TREAT, thus avoiding having to enter summary data during the audit and then enter detailed data in the event that the project goes to contract.

5.6.1.3 Implementation Contractor Perspectives

According to the implementation contractors, customers typically find out about the GJGNY free or reduced-cost energy audits through HPwES contractor marketing and outreach. According to one

interviewee, “the contractors develop their own advertising and marketing, secure the leads, and essentially offer the Green Jobs audit to [the customers].” Customers complete paper applications for the free or reduced-cost energy audits and submit them to CSG via mail, fax, or e-mail. Applicants are required to submit energy usage data along with the application which is processed at CSG’s call center. Both of the interviewees representing CSG commented that the most common bottleneck in the audit approval process is the failure of applicants to supply the required energy usage data along with the application. Approval typically takes 24-48 hours after an application is received in good order. Once the audit application is approved, customers are issued a reservation number entitling them to a free or reduced-cost energy audit with a contractor of their choice. Approved homeowners are sent both an e-mail and a letter confirming their approval. If a homeowner lists a contractor on the application, the contractor is e-mailed the reservation number at the same time as the homeowner. If no contractor is listed on the application, then the homeowner can select an approved contractor after the audit is approved and provide the reservation number to the contractor upon scheduling the audit.

The process for approval of electronic (e-mail) and paper (fax) applications is the same – the electronic submission is simply a scanned copy of the paper form. When asked about the relative benefits and drawbacks of the electronic and paper application and approval processes, one interviewee stated that the electronic applications are more efficient and less cumbersome. Another interviewee explained that requiring customers to e-mail or fax scanned paper forms is necessary in lieu of an online application in order to obtain their signatures. Additionally, this interviewee pointed out the following benefit of e-mailed and faxed paper applications over online applications: “There’s also some benefit to having customers fill out forms and submit the utility information as they are making an investment in obtaining the audit, which we believe results in a higher percentage of customers following through with having work performed.”

Interviewees reported that the length of time between audit approval and when customers typically have the audit done varies widely. After receiving an audit reservation number, the customer has six months to select a contractor to have the audit performed. Customers typically receive the audit results from a few days to a few weeks after the audit is completed, although some contractors provide the audit results immediately after the audit. In most instances, contractors provide customers with the audit results in person. There is no limitation on the time between having the audit performed and electing to have work done. However, once a customer enters into a contract to have work done, the customer has 90 days to have the work completed through the Program. If the decision to install measures is not made immediately after the audit results are presented to the customer, there traditionally has not been any follow-up to help the customer with the measure implementation decision. However, at the time the in-depth interviews were conducted, plans were underway at CSG to initiate a follow-up process.

CSG field staff provide contractors with technical assistance and training in the performance of audits. Field staff accompany HPwES contractors during audit visits on an as needed basis to provide guidance and technical support. Contractors electronically upload audit results directly to CSG’s system, which are

subject to review during a quality control process. Program administration staff interact with contractors once an audit is completed and the homeowner elects to install measures.

The implementation contractors reported that the process for free or reduced-cost energy audits generally runs smoothly. However, two areas were identified as occasional sources of delays: gathering the energy usage data from applicants and delayed delivery of the audit report to participants by contractors. When asked how these two issues can be addressed, one interviewee responded that it is a matter of delivering the message to the contractors: “They are the primary conduit through which this information flows. So, just continue clear communication with the contractors in this respect.”

5.6.1.4 HPwES Contractor Perspectives

The HPwES contractors were asked how they had first learned about the free or reduced-cost energy audits offered to qualifying customers by the HPwES program. As shown in Table 65, nearly one-half (46%) of the respondents had first learned about the audits through e-mail, but did not specify the sender;⁶⁰ just over one-quarter (27%) reported first learning about the audits through NYSERDA, CSG staff or a program manager.

Table 65: Primary Source of Learning about the Free or Reduced-cost Energy Audit for HPwES Contractors (contractors)

Sources of learning about free or reduced-cost audit	Contractors (n=59)
E-mail (sender not specified)	46%
NYSERDA or CSG Staff or Program manager	27%
Another HPwES contractor	7%
Webinar	5%
A customer	2%
Word-of-mouth	2%
Presentations/Trade Shows	2%
Other	5%
Don't know	5%

⁶⁰ Program staff noted that NYSERDA and program implementers make program announcements by e-mail.

The survey asked if contractors thought the introduction of free or reduced-cost energy audits had led to an increase in the installation of energy-efficiency measures through the HPwES program. Nearly three-fifths (58%) reported affirmatively (Table 66).

Table 66: Whether or Not GJGNY Energy Audits Increased Installation of HPwES Measures (contractors)

Do audits increase installation of HPwES measures?	Contractors (n=59)
Yes	58%
No	39%
Don't know	3%

Contractors who thought the introduction of free or reduced-cost energy audits had not led to an increase in the installation of energy-efficiency measures were asked to identify the reasons they thought an increase had not occurred. Over one-third (35%) of this group stated that customers would have an audit just because it was free or out of curiosity, but were not interested in installing measures. Additionally, nearly one-fifth (17%) reported that customers did not install measures due to economic conditions or a lack of money. About one-eighth (13%) each also mentioned that they already offered free audits or that the program was too complicated and burdensome (Table 67).

Table 67: Contractor Reasons for No Increase in Energy-efficiency Measures (contractors who believed audits had not led to an increase in installation of HPwES measures; multiple response)

Reasons for no increase in measures	Contractors (n=23)
Customers get audit just because it is free or out of curiosity but aren't interested in installing measures	35%
Customers getting audits do not have enough money to pay for installations/economic condition	17%
Company already offered free audits	13%
Program is complicated/requirements are too burdensome	13%
Measures not cost effective/people expect higher incentives	9%
There are too many contractors out there simply just to do the free audits and get the \$200 and are not interested in doing the other measures	4%
I don't think it's attracting new customers. I think the new customers are coming from us, the contractors, because we're already doing the marketing	4%
Don't know	9%

5.6.2 Program Rules, Incentives, and Utility Rebates

This section discusses program staff, implementation contractor, and HPwES contractor perspectives on the program rules and incentives.

5.6.2.1 Key Findings Summary

Program staff reported that while positive changes, such as the GJGNY free or reduced-cost energy audits, have occurred, other changes have reduced uptake. Two staff members said that the Total Resource Cost (TRC) test, which was implemented on July 1, 2011, has reduced the number of eligible measures and thus the flexibility in terms of the work that can be done through HPwES. While over two-fifths (44%) of HPwES contractors surveyed reported being familiar or very familiar with the recent HPwES changes, one-quarter (25%) were not very familiar or not at all familiar. About four-fifths (79%) of the HPwES contractors who were at least somewhat familiar with the changes believed they would reduce the number of projects they could complete through the HPwES program.

The majority of contractors said that customers were likely to seek a utility rebate for energy efficient heating and cooling equipment. The top reasons that contractors cited for customers seeking utility rebates

were that the contractor recommended it (70%), because of utility marketing (67%), because the rebates were higher or offered more savings (57%), or because the rebates could be combined with HPwES incentives(56%).

5.6.2.2 Program Staff Perspectives

The HPwES program rules and the changes that occurred in April and July of 2011 were discussed by staff. In particular, the Savings-to-Investment Ratio (SIR) rule created a cost-effectiveness test for projects for the 10% cash back benefit. According to two staff members, the TRC test on program measures, implemented July 1st, also reduced flexibility in terms of the work measures that can be implemented.⁶¹ The change was also implemented very quickly and the changes were not communicated well, given the lack of time. So while positive changes, such as the GJGNY free or reduced-cost energy audits, occurred, the TRC test reduced the number of eligible measures and alienated some customers:

So it's a net zero gain. So say I was able to do 400 projects a month under the old paradigm, yet I created new incentives to get more people in, yet [with the change to the TRC test], I alienated other folks.

The new SIR and TRC requirements can also impede the GJGNY goal of creating jobs. Since the TRC test reduces the number of measures that can be installed resulting in less work can be done by contractors. As a result, HPwES contractors must change their business models to adapt to the new rules.

5.6.2.3 HPwES Contractor Perspectives

Table 68 shows how HPwES contractors rated their familiarity with the recent changes to how measures qualify to be implemented through the program. Specifically, respondents were asked about familiarity with the change from using the SIR to using the TRC test. On a scale from 1 (“not at all familiar”) to 5 (“very familiar”), just over two-fifths (44%) gave their familiarity a rating four or five, while one-quarter (25%) gave it a rating of 2 or lower.

⁶¹ Staff are required to use the TRC because of EEPS regulations. There is ongoing discussion about the TRC test, and NYSERDA has requested that the TRC test be used at the program or portfolio level, rather than for individual measures . See

<http://documents.dps.ny.gov/public/Common/ViewDoc.aspx?DocRefId={AC5C2B7E-B956-44B3-9773-06334E550DB0}>

Table 68: Contractor Familiarity with HPwES Changes (contractors)

Level of familiarity	Contractors (n=59)
Very familiar (5)	27%
4	17%
3	29%
2	15%
Not at all familiar (1)	10%
Don't know	2%

HPwES contractors who indicated at least some level of familiarity with the changes (a rating of two or higher in Table 68) were asked if they thought the changes would increase, decrease, or have no impact on the number of projects that they would be able to complete through the program. About four-fifths (79%) of the respondents believed the change would decrease the number of projects they could complete through the HPwES program (Table 69).

Table 69: Contractor Perceived Impact of Change (contractors whose familiarity with the HPwES change was two or higher)

Impact of change	Contractors (n=52)
Increase the number or projects	6%
Decrease the number of projects	79%
Have no impact on the number of projects	10%
Don't know	6%

Some customers who completed an audit through the HPwES program could choose to implement some or all of the recommended measures using rebates from their local electric or gas utility. Contractors were asked whether or not customers were likely to seek a utility rebate for air sealing, insulation, energy efficient windows, energy efficient doors, energy efficient heating equipment, and energy efficient cooling equipment. More than four-fifths (83%) of the contractors believed customers were likely to seek a utility

rebate for energy efficient heating equipment; nearly three-fifths (59%) believed customers were likely to seek a utility rebate for energy efficient cooling-equipment; about two-fifths (39%) believed customers were likely to seek a utility rebate for insulation (Table 70).

Table 70: Likelihood of Customers to Seek Utility Rebate (contractors)

Measures (n=59)	Likely	Unlikely	Don't know
Energy efficient heating equipment	83%	17%	--
Energy efficient cooling equipment	59%	36%	--
Insulation	39%	56%	5%
Air sealing	34%	64%	2%
Energy efficient windows	27%	68%	5%
Energy efficient doors	22%	73%	5%

Contractors who believed customers were likely to seek a utility rebate for at least one type of measure were read a list of possible reasons customers would seek a utility rebate and asked to confirm whether they agreed or disagreed with each reason; respondents were also allowed to identify reasons not mentioned by the interviewer. Over two-thirds (70%) agreed that customers seek a utility rebate because the contractor recommended it; about two-thirds (67%) agreed that utility marketing also was a motivator. Nearly three-fifths (57%) agreed that the fact that the rebates were higher or offered more savings was a reason; and a similar percentage (56%) agreed that the fact that utility rebates could be combined with HPwES incentives was also a driver for customers to seek utility rebates.

Of the eleven contractors who indicated other reasons, eight said the utility rebates were better, easier or more convenient to obtain than HPwES program benefits. One respondent declared, “many contractors are not affiliated with ENERGY STAR and are pushing and advertising the utility rebates.” Another asserted that the utilities had a bigger pool of contractors, so the prices were cheaper and that the standards through BPI were higher, which increased costs. A third contractor cited the fact that the utility rebates, such as those for cooling measures, complemented those offered by NYSERDA was a reason for customers to seek utility rebates (Table 71).

Table 71: Reason Customers Seek Utility Rebate
(contractors who believed customers were likely to seek a utility rebate for at least one type of measure; multiple response)

Reasons for seeking utility rebate	Contractors (n=54)
Contractor recommends the rebates	70%
Utility marketing	67%
The rebates are higher/more savings	57%
The rebates can be combined with HPwES rebates	56%
Other	20%

5.6.3 Financing

This section discusses program staff, implementation contractor, and HPwES contractor perspectives on program financing.

5.6.3.1 Key Findings Summary

The implementation contractors reported that customers typically find out about the GJGNY financing options from participating contractors. The large majority (85%) of HPwES contractors surveyed said they were very or extremely familiar with the program financing. Nearly one-half (45%) of HPwES contractors indicated that they typically mentioned financing information at the time of the first call and about two-fifths (41%) indicated that they typically mentioned financing information at the time of the first home visit, before the audit.

While the vast majority of HPwES contractors (95%) provide financing recommendations to customers, most do not screen or pre-qualify customers for financing. When asked about the financing that they do recommend, almost all the contractors (96%) cited GJGNY financing, followed by third-party financing that customers would find on their own (75%), other financing that the contractor offered or directed them to (63%), and Energy \$mart loans (52%).⁶² Over one-half (56%) of contractors believed that customers would have installed fewer measures or downsized projects had GJGNY financing not been available.

⁶² Note that the high mentions of recommending GJGNY financing may be an artifact of the respondent knowing that the survey was being conducted for NYSERDA.

Implementation contractors reported that the process for GJGNY financing generally runs smoothly, but both program staff and implementation contractors reported that customers can have difficulties qualifying for financing. An implementation contractor reported receiving feedback from HPwES contractors that the loan approval process was “a bit cumbersome” and was sometimes delayed because applicants are “often asked for additional documentation.” The implementation contractor suggested providing contractors with more guidance and better tools to sell the loan and help their customers through the application process in order to overcome this obstacle.

5.6.3.2 Program Staff Perspectives

Staff members said that it is very beneficial that customers can use the 10% HEMI rebate and the GJGNY financing together. But they expressed concerns about the criteria for qualifying for financing; one staff member heard from the CBOs that the financing is a challenge because of the debt-to-income ratio requirement.⁶³

I don't think people who don't qualify for Tier I are going to qualify for Tier II either. I don't know if there's a third tier, whether there's only really one tier here, but it sounds to me like if you don't qualify for financing, you don't really qualify for financing.

The staff member stated that even after being approved for financing, most people who are installing energy efficient measures use their own money, a home equity loan, or a line of credit. Customers try to avoid financing because they do not want to take on additional debt for energy-efficiency improvements. A program staff member suggested that an independent firm, such as EFS, might be better positioned to discuss GJGNY financing information because participants may not want to release their financial information to contractors.

Some staff members cited the benefits that would come from on-bill financing⁶⁴ and the NYSERDA finance staff member indicated that the residential cap would increase from \$13,000 to \$25,000, which will enable customers to finance more HPwES-eligible energy-efficiency measures.

⁶³ Appendix C provides details on GJGNY loan underwriting standards. Tier I requires, at minimum, a FICO credit score of 640, while Tier II loans have no FICO requirement, but do have other criteria, including being current on utility bill for two consecutive months during each of the last two years, having no utility or mortgage payments more than 60 days late in the last two years, and being current on mortgage payments for the last year.

⁶⁴ On-bill financing has since begun, starting on January 30, 2012.

5.6.3.3 Implementation Contractor Perspectives

The implementation contractors who were interviewed reported that customers typically find out about the GJGNY financing options from participating contractors. They apply for GJGNY financing by submitting a loan application to EFS. The loan application can either be completed on-line at EFS' website, or printed from the website and submitted via fax or mail. Between two-thirds to three-quarters of the applications are submitted to EFS via mail or fax rather than through the online application system. One interviewee believed that the majority of loan applications are submitted in paper form because many of the HPwES contractors have participated in the program since before the online application system became available. These contractors are accustomed to bringing a paper copy of the loan application to the meeting with the homeowner, having the homeowner fill out the form, and then faxing it to EFS from their offices.

NYSERDA program data indicates that, from June, 2011 through the end of December, 2011, over one-fifth (21%) of completed jobs utilized the GJGNY financing.⁶⁵ When asked how often customers who have been informed of the financing actually utilize it, one interviewee responded, "I think the perception is that we've seen an uptick, but the financing is underutilized with the economic downturn. You have a reluctance of customers to want to take on debt. The ten-percent high efficiency measure incentive is typically the more popular option."

GJGNY loan applications are processed by EFS. Within 24 hours of receipt, EFS will mail or e-mail the customer notification of preapproval. If a customer provided the contact information of a contractor, EFS will also notify the contractor of the preapproval via e-mail or fax. The preapproval lists the conditions that need to be satisfied, including that the customer must work with a participating HPwES contractor, must submit paystubs and proof of ownership of the property, must finalize an eligible scope of work, and must sign off on the contract. EFS notifies CSG's program coordinators of loan approvals on a project by project basis. Contractors submit the work scope to CSG for approval. CSG works with EFS to make sure the loan amount and work scope align. Approval of the project by CSG is generally the last condition to be received by EFS prior to the generation of loan documents. Once all conditions have been satisfied, EFS issues loan documents within 24-48 hours. EFS pays the contractor directly once work has been completed and the customer has signed the completion certificate.

The length of time between receipt of the initial loan application and the issuing of loan documents can depend on customer motivation and contractor involvement. As one interviewee explained, "It certainly depends. One customer – they've received the notice and forget about it for a month and a half and send it to us two months later. Or, for another customer, we've got it all set in a matter of just a few days." According to the interviewees, the length of time between receiving GJGNY financing approval and having measures installed varies from a matter of days to months. However, as one interviewee pointed out, the loan approval is valid for 60 days, and customers must reapply for the loan if they do not have the work

⁶⁵ Completion Audit Loan Graph. August, 2012.

done within 60 days of approval. Numerous interviewees commented that the biggest factor in how long after approval customers typically have measures installed is the contractor. For example, one interviewee had learned during a conversation with a particular contractor that “they have so much new business due mostly to the Green Job audit component that they are booked several months out already,” and, “they have to schedule the customer a couple months into the future.”

Interviewees reported that the process for GJGNY financing generally runs smoothly. When asked if there were any bottlenecks or obstacles in the process, one interviewee explained that initially Tier II applicants (those with the lower of the two credit worthiness scores utilized by EFS) were having difficulty obtaining documentation of their payment history from their utilities, which is an additional requirement of Tier II applicants. However, according to this interviewee, NYSERDA intervened and worked with the utilities to improve the process so that customers interested in pursuing Tier II financing could easily do so. Another interviewee reported receiving feedback from contractors that the loan approval process was “a bit cumbersome” and was sometimes delayed because applicants are “often asked for additional documentation.” This interviewee explained that contractors had reported submitting applications they believed to be complete, but later discovering that additional documents were required. The interviewee suggested providing contractors with more guidance and better tools to sell the loan and help their customers through the application process in order to overcome this obstacle.

5.6.3.4 HPwES Contractor Perspectives

Using a scale from 1 (“not at all familiar”) to 5 (“extremely familiar”), respondents were asked to rate their familiarity with the financing available through the HPwES program for installation of measures recommended in the audit. Table 72 shows that over four-fifths (85%) of HPwES contractors gave a familiarity rating of four or five, with nearly one-half (48%) giving a familiarity rating of five (extremely familiar with GJGNY financing).

Table 72: Contractor Familiarity with Program Financing (contractors)

Level of familiarity	Contractors (n=59)
Extremely familiar (5)	48%
4	37%
3	10%
2	3%
Not at all familiar (1)	--
Don't know	2%

Contractors who indicated at least some level of familiarity with the available financing (a rating of two or higher in (Table 72)) were asked to identify how they had first learned about the financing options. Responses paralleled the contractors' responses for how they had first learned about the free or reduced-cost energy audits. Two-fifths (40%) of contractors first learned about the financing options through e-mail, but did not specify the sender. One-third (33%) heard about financing options from NYSERDA or CSG staff or a program manager (Table 73).⁶⁶

⁶⁶ Program staff noted that a program announcement regarding GJGNY financing was sent via e-mail on November 12th, 2010 and a webinar was held on November 17, 2010 for participating contractors.

Table 73: Primary Source Contractors Use to Learn about Financing Options (contractors familiar with program financing)

Sources	Contractors (n=58)
E-mail (sender not specified)	40%
NYSERDA or CSG Staff or Program manager	33%
Webinar	7%
Another HPwES contractor	7%
Word-of-mouth	3%
NYSERDA website	2%
A customer	2%
Other	3%
Don't know	3%

All contractors were asked if the information they had received about the financing options had been sufficient for them to be comfortable discussing the program with customers. Nearly three-quarters (73%) reported the information they received had been sufficient (Table 74).

Table 74: Whether Financing Options Information was Sufficient or Not (contractors)

Was the information sufficient?	Contractors (n=59)
Yes	73%
No	27%

Contractors who said the information they received had not been sufficient were asked to rate how helpful it would be if NYSERDA were to host a seminar or webinar⁶⁷, walk through the changes over the phone or in person, or provide additional information in some other way. On a scale from 1 (“not at all helpful”) to 5 (“extremely helpful”), ten of the sixteen contractors gave a helpfulness rating of four or five to NYSERDA

⁶⁷ NYSERDA currently holds such contractor information sessions.

hosting a seminar or webinar, fourteen gave a rating of four or five to NYSERDA walking through the changes, and five gave a rating of four or five to NYSERDA providing additional help in some other way.

Contractors were read a list of specific occasions and asked to confirm if they typically provided customers with information on available financing options for the installation of measures through the program at each of these various points in the audit process. Nearly one-half (48%) of the respondents indicated they typically mentioned financing information at the time of the first call and about two-fifths (41%) indicated that they typically mentioned financing information at the time of the first home visit, before the audit. All of the contractors (100%) said that they provided financing information at least once—15% said they provided information on four specific occasions, 14% said they provide information on two specific occasions, and 71% on one of the occasions (Table 75).

Table 75: When Contractors Provide Customers with GJGNY Financing Information (contractors; multiple response)

When financing information is provided for customers	Contractors (n=59)
At the time of first call	48%
At the time of home visit (before the audit)	41%
At the time of the audit	36%
With the audit report	32%

The survey asked contractors if they screened or pre-qualified customers for the available financing. Additionally, contractors were asked if they provided recommendations to customers on how to finance the installation of measures. While nearly three-quarters of these contractors (73%) reported that they had not screened or pre-qualified customers for available financing, almost all of them (95%) indicated that they had provided financing recommendations to their customers (Table 76).

Table 76: Contractors that Screen/Pre-qualify or Provide Recommendations for Financing (contractors)

If screened/prequalified customers for financing	Contractors (n=59)
Yes	25%
No	73%
Don't know	2%
If provided financing recommendations to customers	
Yes	95%
No	5%

The contractors who indicated that they had provided financing recommendations to customers were read a list of the financing options available and asked to indicate whether or not they had recommended each option. Table 77 shows that nearly all of these contractors (96%) said that they had recommended GJGNY financing, three-fourths (75%) said that they had recommended third-party financing that customers would find on their own, over three-fifths (63%) said that they had recommended other financing that the contractor offered or directed them to, and over one-half (52%) said that they had recommended Energy Smart loans. Note that the high mentions of recommending GJGNY financing may be an artifact of the respondent knowing that the survey was being conducted for NYSERDA.

Additionally, thirteen percent of contractors said that they had directed customers to other sources of financing. Three contractors had recommended the AHPwES program, two had suggested manufacturer financing, and one had suggested personal savings; another had pointed customers to community programs.

Table 77: Financing Options Recommended to Customers by Contractors
(contractors who said they provide financing recommendations to customers; multiple response)

Financing options	Contractors (n=56)
Green Jobs-Green New York financing	96%
Third-party financing that the customers find on their own	75%
Other financing that the contractor offered or directed them to	63%
Energy Smart Loans	52%
Other	13%

The three contractors who reported they had not provided financing recommendations to customers were asked to highlight the reasons they had not done so. Two respondents mentioned that they had provided the information, but ultimately let the customer decide on their own without giving recommendations; the third respondent said that the majority of his or her business was focused on the incentive, and financing was not an issue.

All of the contractors were read a list of actions that customers who had obtained GJGNY financing might have taken had it not been available and asked to identify which action they thought customers were most likely to have chosen. Over one-half (56%) believed that customers would have installed fewer measures or downsized projects had GJGNY financing not been available; just over one-quarter (27%) believed customers would not have installed any of the measures and ten percent thought customers would have installed the same number of measures. One respondent offered an additional option, stating that, without the low-interest financing, customers might have installed more measures with alternative financing, and that GJGNY financing is restrictive (Table 78).⁶⁸

⁶⁸ As described previously, staff reported that usage of GJGNY financing was lower than expected, with only 30% of projects using GJGNY financing. The average loan size was \$7,900, with an average payment of \$76 per month, and an average term of 12 years.

Table 78: Actions Customers Would Have Taken without GJGNY Financing (contractors; multiple response)

Perceived actions taken	Contractors (n=59)
Customers would have installed fewer measures (downsized projects)	56%
Customers would not have installed any of the measures	27%
Customers would have installed the same number of measures	10%
May have installed more measures with alternative financing, GJGNY is restrictive	2%
No customers have taken GJGNY financing	3%
Don't know	2%

5.6.4 Data Systems and Tracking

NYSERDA, CSG, and EFS each have their own database for tracking program activities. NYSERDA’s system tracks audit applications and approvals, and is utilized by both NYSERDA and CSG staffs. CSG maintains a system that tracks HPwES project completions, savings, and other metrics. CSG call center staff manually key in audit applications as they are received. There are daily, automated data exchanges between the two systems so that audit application approval data is available within the CSG program database for contractors. Contractors log directly into the system and enter audit information, which triggers the payment of the contractor incentive for the audit. When projects have moved on to the measure installation phase, contractors upload the work scope to the system.

Data entry staff and loan specialists at EFS log applications and approvals into EFS’s system as they are received. EFS’s database tracks information such as approval rates, reasons for denial, completed projects in a given period, and total loan amounts. EFS sends regular outputs of its data system to CSG. At the time of these in-depth interviews, EFS’s system was being updated to incorporate five to seven additional fields in order to track additional metrics for NYSERDA. The interviewees reported that these databases were effectively tracking all pertinent program information. When asked if there were any elements of program activity that would be useful to track in preparation for the roll-out of the CBO’s, one interviewee suggested measuring the impact of the CBO’s on loan activities by tracking how people learn about the program, and why customers decide to opt for the financing.

5.6.5 Quality Assurance and Quality Control

This section discusses the activities of the contractor involved in performing QA inspections and findings in terms of HPwES contractor quality control.

5.6.5.1 Key Findings Summary

Honeywell is the implementation contractor who provides independent QA inspections on HPwES projects. The purpose of the QA inspections is to make sure that the HPwES contractors audits are reasonably accurate and that the measures included in the approved work scope were done so correctly and according to program standards. QA inspectors are required to inspect fifteen percent of completed HPwES projects, but it can sometimes be challenging to find customers who are willing to allow an inspection.⁶⁹ Missed opportunities to recommend a particular measure are usually the most common deficiency identified by QA inspectors, followed by quality of installation issues and customer dissatisfaction or complaints. The most typical measure for which quality of installation issues are identified is insulation. According to the QA interviewee, approximately 80% of inspected projects were “pretty good” and about 20% were “really bad, with multiple deficiencies,” such as gas leaks or quality of installation issues. Approximately another 30% required the contractor to return to the customer’s home to take minor corrective actions to address things such as an un-insulated attic hatch or a missing CO detector. On the whole, HPwES contractors have fairly well-trained, knowledgeable staff conducting the audits, however, occasional problems sometimes arise because contractors do not receive enough training on the program requirements. To address such issues, contractors would benefit from additional time spent with program representatives to review the contractor resource manual.

5.6.5.2 Implementation Contractor Perspectives

Honeywell is the implementation contractor who provides independent quality assurance (QA) inspections on HPwES projects. Honeywell has five QA inspectors who inspected around 800 HPwES projects between mid-November of 2010 and the time of this in-depth interview, July 2011. The purpose of the QA inspections is to make sure that the contractors’ audits are reasonably accurate and that the measures

⁶⁹ The lack of willingness to permit QA inspections fits with previously discussed concerns about the hassle of scheduling. Thirty percent of audit-completed and work-completed participants said that the hassle of scheduling was the most important barrier to overcome in participating in the program. Fourteen percent of audit-approved respondents said that the hassle of scheduling was the most important reason they did not have an audit.

included in the approved work scope were done so correctly and according to program standards.⁷⁰ Prior to going to a HPwES inspection, QA inspectors download all of the project documents from the CSG database, including the original job or work scope review, CSG's approval, the contractor's final test-out data, post-completion health and safety documentation, and the certificate of completion. The QA inspector prints hard copies of these documents and takes them to the inspections. Each QA inspection begins with a brief interview in which the inspector asks the customer about their satisfaction with the project and whether there are any health and safety concerns about home, and verifies the dollar amount and signatures submitted for the project. Next, the inspector recreates the contractor's audit by duplicating the tests and measurements. The inspector visually inspects the installed measures to make sure that everything included in the approved work scope is installed. Finally, the inspector performs a complete BPI health and safety test on the house, including combustion and carbon monoxide (CO) safety testing. The physical inspection takes about two hours to complete and varies based on the size and configuration of each home.

QA inspectors are required to inspect fifteen percent of completed HPwES projects. The primary criterion for the selection of projects to inspect is customers' willingness to allow an inspection. The interviewee representing Honeywell explained that customers are generally not eager to schedule QA inspections, and stated, "a lot of times we end up calling every single customer of the contractor, and then whoever calls us back or says "yes" when we've got them on the phone, that one's getting a QA inspection." He estimated that it took an average of six to seven telephone calls to schedule one QA inspection. Honeywell e-mails contractors whose projects are scheduled to be inspected and invites them to attend the inspection. A reminder call is made to the customer the day before a scheduled inspection.

Deficiencies identified by QA inspectors are categorized as either actionable (i.e. the contractor must return to the customer's home and take corrective action), or those that do not require action. Actionable deficiencies include quality of installation issues, health and safety issues, and instances in which contractors reported installing measures that were not actually installed. Non-actionable deficiencies include missed opportunities to recommend a particular measure, and customer dissatisfaction or complaints about the contractor. Missed opportunities are usually the most common deficiency identified by QA inspectors, followed by quality of installation issues and customer dissatisfaction or complaints. The most typical measure for which quality of installation issues are identified is insulation. For example, contractors may miss areas that should have been insulated, install less thick insulation than they reported having installed, or neglect to follow all BPI installation standards. After quality of installation issues, the next most common actionable deficiencies found are health and safety issues, such as high levels of CO detected in ovens, gas leaks, and the absence of CO detectors (each found in approximately five to ten

⁷⁰ For details on the HPwES Quality Assurance Procedures see "HPwES Section 9.1:Quality Assurance Procedures." NYSERDA, July 2011.

percent of inspections). However, because not all conditions remain constant in the home between project completion and inspection, not all instances are attributable to the work of the contractor.

The interviewee representing Honeywell believed that sometimes there are measures that should have been installed but were not. This happens either as a result of customers rejecting measures that were recommended or contractors failing to recommend measures. The QA interviewee estimated that more than half of the time it is the customer who chooses not to install measures that were identified during the audit and recommended in the work scope. In these cases, the measures are usually declined by the customer due to budget constraints. In instances where the contractor chose not to recommend certain measures, it is typically that the same few contractors repeatedly missed these opportunities. The interviewee reported that contrary to the program's comprehensive work scope goal, some specialty contractors tend to only recommend their measures in their specialty and commented "a lot of times it depends on what the contractor's trying to sell that gets put in." However, the April 1, 2011 program change specifying the SIR requirement should address this problem. The QA interviewee stated that these new rule changes should force contractors that do not provide comprehensive audits to either adapt or leave the program.

According to the QA interviewee, approximately 80% of inspected projects were "pretty good" and about 20% were "really bad, with multiple deficiencies," such as natural gas leaks or quality of installation issues. Approximately another 30% required the contractor to return to the customer's home to take minor corrective actions to address things such as an un-insulated attic hatch or a missing CO detector. The interviewee believed that a lot of the problems found in the work performed arise from insufficient contractor internal quality control activities, such as the lack of a final checklist.

The interviewee representing Honeywell reported that on the whole, HPwES contractors have fairly well-trained, knowledgeable staff conducting the audits. However, there were some contractors that sent minimally trained employees out to homes to conduct the audits. The interviewee recalled one contractor in particular with a high turnover rate who had been known to hire new employees, provide them with a few days of training, and send them out into the field by themselves to conduct audits.

The QA interviewee reported that problems sometimes arise because contractors do not receive enough training on the program requirements, and that contractors would benefit from additional time spent with program representatives to review the contractor resource manual. The interviewee also believed that screening of production and QA data could help identify contractors who might not be performing as well as others, and that contractors who constantly have problems should be placed on a corrective action plan. Where certain contractors had been observed to perform poorly, the interviewee believed it was primarily a consequence of inadequate organizational skills and business practices.

5.7 CUSTOMER PARTICIPATION IN GJGNY AND UTILITY PROGRAMS

Utility staff members said that NYSERDA and the utilities work together to steer customers to the most appropriate program. A utility staff member said that they look at customer needs and the fuel source to determine eligibility.

Because the NYSERDA audits are free for most customers they provide an important educational element and National Grid customers will take advantage of that if they do not want to pay the \$50 for the National Grid audit and air sealing. By contrast, LIPA customers can receive a free audit and the LIPA Home Performance Direct (HPD) program serves as a lead-in to the HPwES program. The LIPA HPD contractors also are part of the HPwES contractor base and therefore can offer both LIPA and NYSERDA HPwES incentives to customers.

The relationship between utility and HPwES benefits is complex and National Grid, LIPA and NYSERDA have created a matrix to guide the customer and the contractor on what program is best, based on customer needs. A utility representative indicated that contractors on Long Island often conduct GJGNY free or reduced-cost energy audits for customers who have oil heat, but who do not have central air conditioning. There are many of these customers and they are a good fit for the audits. In some cases, customers might have the GJGNY audit done, but then install measures through another program, for example, a utility program addressing electric savings.

A staff member said that there is not as much synergy as they would like because it can be difficult to model savings, particularly with air conditioners. Yet, as a utility staff member indicated, there are projects that can benefit from both NYSERDA and utility offerings:

For instance, if you had an oil heat customer who had central air conditioning, but not the high-use central air conditioning, which is what would qualify for HPD, they would jump into your program. They would get the free GJGNY audit and then we would come in and give a 25% rebate and up to \$3,000 on the air-sealing, duct-sealing, or insulation. [NYSERDA] would give 10%, and then [NYSERDA] would also provide the financing.

A staff member said that rebates are important and there are a “good share of people going to the utility programs” for that reason. While NYSERDA offers the 10% HFI benefit, it has drawbacks because it is only for qualified measures and for a limited amount of money. Furthermore, it was only recently that customers could receive both the 10% and do the financing.” The interviewee suggested the need for further research on the participation patterns:

There's a whole host of evaluation things that we need to really look at in our database. We have to figure out what the profile is of the people that are doing these things, and try to understand why they're doing them. Maybe that would help us understand why people aren't doing them.⁷¹

5.8 HPWES CONTRACTOR CERTIFICATION AND TRAINING

This section discusses implementation contractor and HPwES contractor perspectives on contractor certification and training.

5.8.1 Key Findings Summary

Only a very small fraction of the HPwES projects inspected by BPI resulted in the identification of major issues that required corrective actions for the contractor. Nearly one-half (46%) of HPwES contractors surveyed said that, other than BPI certification, no other certification was identified as essential for their employees to have; specific other certifications mentioned included LEED accreditation (14%), EPA Renovation, Repair and Painting (RRP) Renovator (10%), OSHA (9%), NATE Certification (9%) and Lead Safety (9%).

Nearly four-fifths (78%) of HPwES contractors said that field training would be valuable or extremely valuable for their employees, followed by sector-based (69%) and advanced technical training (67%). Nearly three-fifths (59%) of HPwES contractors reported that adequately skilled applicants were difficult or extremely difficult to find in their area. The highest ratings as extremely important or important qualifications for new employees was given to residential building construction experience (58%); BPI certification (53%) and worker readiness or job readiness training (42%) were rated relatively lower.

5.8.2 Implementation Contractor Perspectives

BPI develops standards for home performance and weatherization work and offers individual certifications, company accreditation, and quality assurance inspection services to contractors. It performs quality assurance inspections on five percent of HPwES program jobs and five percent of non-program jobs. An effort is made not to inspect projects that have already been inspected by Honeywell. Nationally, around one-half of the quality insurance inspections BPI performs are on HPwES projects.

⁷¹ In the September 14, 2011 GJGNY Advisory Council meeting, program staff indicated that NYSERDA is working to integrate incentives from LIPA and National Grid, assigning those incentives to the GJGNY program so that contractors can be paid in full upon project completion. Afterwards, LIPA or National Grid can reimburse the incentives that NYSERDA would have advanced.

The BPI criteria for selecting HPwES projects to be inspected are twofold: projects that have not already been inspected by Honeywell and for which the customer is receptive to scheduling a QA inspection. The interviewee representing BPI reported that between one and one-and-a-half percent of the reviewed HPwES projects resulted in the identification of major issues that required corrective actions for the contractor. The percentage of projects resulting in the identification of major issues requiring corrective action for non-HPwES projects that BPI inspects, such as Weatherization Assistance Program projects, is the same – between one and one-and-a-half percent.

BPI rarely needs to get involved in HPwES projects that have disputes between the contractor and the homeowner. The interviewee representing BPI reported having to get involved in fewer than one-half of one percent of projects because of disputes. On the rare occasions when disputes do arise, BPI works with CSG or Honeywell to resolve them.

BPI's procedure for handling contractors who have sub-standard performance begins with written notification to the contractor that a violation was identified during inspection. The contractor must correct the issue and obtain the customer's signature on the notification within 30 days. If this requirement is not met, then a second letter is sent to the contractor stating that the contractor is out of compliance and must correct the issue within 15 days. If, after 15 days, the issue has still not been corrected, the contractor is issued a letter of suspension for 90 days. If the situation has still not been remedied during the 90-day period, then the noncompliant contractor is suspended from the accreditation agreement. BPI notifies NYSERDA, Honeywell, and CSG of suspensions. The interviewee representing BPI reported that about one percent of HPwES contractors had inadequate or sub-standard performance, and that fewer than one percent of HPwES contractors had been decertified because of inadequate or sub-standard performance. This interviewee reported that there were no major differences in the types of work done by contractors for the HPwES program and the work they do for the other similar programs.

5.8.3 HPwES Contractor Perspectives

The survey asked HPwES contractors to indicate the certifications, other than BPI certification, that were essential for their employees to have. Table 79 shows the myriad of responses that were provided. Nearly one-half (46%) of contractors said no other certification was necessary. Among those who identified a necessary certification, LEED accreditation was named the most often, with 14% of the contractors mentioning it. Other certifications mentioned included EPA Renovation, Repair and Painting (RRP) Renovator (10%), OSHA (9%), NATE Certification (9%) and Lead Safety (9%).

**Table 79: Energy-efficiency Certification Necessary
(contractors; multiple response)**

Certifications	Contractors (n=59)
LEED Accredited	14%
EPA Renovation, Repair, and Painting (RRP) Renovator	10%
OSHA	9%
NATE Certification	9%
Lead Safety	9%
Equipment Vendor or Manufacturer Certifications	3%
Refrigerant/EPA 608	3%
Thermal imaging	3%
ENERGY STAR certified	2%
HERS (Home Energy Rating System Rater)	2%
Mold Certification	2%
RESENET Certification	2%
Asbestos	2%
HVAC Certification	2%
ASHRAE	2%
NAHB	2%
Air Sealing Training	2%
Other	3%
None	46%
Don't know	3%

After being read a list of different energy efficient training programs or services, contractors were asked to rate the value of sending employees to different types of training using a scale of 1 (“of no value at all”) to 5 (“extremely valuable”). As Table 80 shows, nearly four-fifths (78%) of contractors said that field training—including support for HVAC, plumbing, electricians, etc.—would be valuable (4) or extremely valuable (5); over two-thirds (69%) said that sector-based training – such as building science and “whole-

house approach” training would be valuable or extremely valuable; and a similar proportion (67%) said that advanced technical training—including training in system design and diagnostics—would be valuable or extremely valuable.

Eleven respondents indicated that other types of training programs were needed, with ten of these respondents stating that these additional trainings would be extremely valuable. Three contractors declared that there should be vocational training, including training on basic construction skills and the latest information on technology and installation practices. Two contractors mentioned the need for training in modeling software and paperwork, with one specifically identifying training for TREAT files. Sales and marketing training and business training, including managing program paperwork, were each mentioned by two contractors. Safety training and a quality recorded, web based training were each mentioned once.

Table 80: Value of Energy-efficiency Employee Training Programs and Services (contractors; multiple response)

Training programs	Percent Valuable/ Extremely Valuable (n=59)
Field Training – including support for HVAC, plumbing, electricians, etc.	78%
Sector-Based Training	69%
Advanced Technical Training	67%
Training to Address Certification and Accreditation	63%
Professional Development and Continuing Education Programs	62%
Vocational and Technical Skills Training	47%
Internships and Apprenticeship Programs	47%
Work readiness skills training	30%

The contractors were asked to rate how difficult it was to find enough adequately skilled applicants in their area when their company recruits new employees. On a scale of 1 (“not at all difficult”) to 5 (“extremely difficult”), about three-fifths (59%) gave the level of difficulty a rating of four or five, with nearly one-third (32%) reporting that it was extremely difficult to find skilled contractors in their area (Table 81).

Table 81: Difficulty of Finding Skilled Contractors (contractors)

Level of difficulty	Contractors (n=59)
Not at all difficult (1)	3%
2	3%
3	32%
4	27%
Extremely difficult (5)	32%
Don't know	2%

Table 82 shows how contractors rated the importance of specific qualifications when their company recruited new employees on a scale from 1 (“not at all important”) to 5 (“extremely important”). Nearly three-fifths (58%) reported that residential building construction experience was important or extremely important (four or five), over one-half (53%) said that BPI certification was important or extremely important, and over two-fifths (42%) said that worker readiness or job readiness training was important or extremely important.

Table 82: Importance of Qualifications (contractors)

Level of Importance	Residential building construction experience (n=59)	BPI certification (n=59)	Worker Readiness/Job Readiness Training (n=59)
Important/Extremely important	58%	53%	42%

5.9 PROGRAM STRENGTHS AND IMPROVEMENT OPPORTUNITIES

This section discusses program staff, implementation contractor, and HPwES contractor perspectives on the program strengths and improvement opportunities.

5.9.1 Key Findings Summary

Staff and implementation contractors said that the GJGNY free or reduced-cost energy audits are a great strength of the program as they help to reduce barriers to participation. Staff also cited contractor buy-in to the whole house concept, and community outreach by the CBOs; while implementation contractors also cited financing, the net benefit energy savings from installed measures, the business generated, and the improved image of contractors in the marketplace.

When asked about the most important improvements that still need to be made to the GJGNY components of the HPwES program, staff and implementation contractors cited the need for greater program awareness and improved financing options. Implementation contractors suggested including on-bill financing (which has now been implemented).

Slightly over one-third (36%) of HPwES contractors were very satisfied or satisfied with the program and slightly under one-third (31%) were either not satisfied or not at all satisfied with the program. The most commonly cited reasons for dissatisfaction were: measures were no longer eligible, difficult or changing standards for measure qualification, reduced rebates, paperwork, and bureaucracy, or red tape.

5.9.2 Program Staff Perspectives

Staff cited the free or reduced-cost energy audits, contractor buy-in to the whole house concept, and community outreach by the CBOs as the greatest strengths of GJGNY. One staff member said that the free or reduced-cost energy audits lower the barriers to participation. Another staff member said the fact that contractors have embraced the whole-house approach of HPwES and transmit that message to customers has been most important. A third staff member indicated that community outreach by CBOs is going to be the greatest strength, bringing in new participants.

Two staff members provided comments on the most important improvements that still need to be made to the GJGNY program. One stated that developing a “creative, innovative approach to try to qualify credit-worthy borrowers” is most important. Another element cited is improving awareness and making information user-friendly on the website.

5.9.3 Implementation Contractor Perspectives

Interviewees reported that the greatest strengths of the free or reduced-cost energy audits and financing include removing barriers to program participation and making the process as financially painless for customers as possible. A couple of interviewees pointed out that the audit alone represents an educational tool for customers, and one stated “Literally, the audit itself is like a deliverable.” One interviewee commented that among the programs greatest strengths was that, for many participants, the energy savings from measures installed more than offset the loan payments, resulting in a positive cash flow. Several

interviewees highlighted the benefits to contractors, including the additional HPwES business generated and improved image of contractors in the marketplace.

The interviewees offered a variety of suggestions for improving the GJGNY related services for HPwES, including ensuring that safeguards were in place to prevent contractors from performing an abundance of GJGNY free or reduced-cost energy audits but not following through with work, conducting broader outreach to raise awareness (particularly among underserved populations), providing additional tools to contractors to sell the loan product to customers, and putting on-bill financing in place. In addition, one interviewee commented that increasing the speed with which decisions were made within NYSERDA could improve the program by reducing the time to market for program activities.

The implementation contractors reported that, in general, there have not been any difficulties in implementing GJGNY as it relates to the HPwES program. While none of the interviewees directly identified contractor abuse of the GJGNY free or reduced-cost energy audits as a concern, one interviewee indicated that it was something that needed to continually be monitored, commenting, “we have to be aware of instances where some contractors are just interested in conducting audits. That’s not really the program’s end goal in terms of end results – we want project installs and not just audits.” This interviewee indicated that projects that started with GJGNY audits are currently being tracked and suggested follow-up customer surveys and reinforcement of the program’s end goals to contractors as tools to minimize contractor abuse of the GJGNY free or reduced-cost energy audits.

Interviewees reported that the removal of customer barriers to obtaining audits and financing were among the key successes achieved in the implementation of GJGNY as it relates to the HPwES program. Between the launch of the GJGNY program elements in November of 2010 and the time that the in-depth interviews were conducted in July 2011, over 10,000 audit applications had been received and 4,000 audits had been conducted. Roughly thirty percent of the audits resulted in energy-efficiency retrofit work. The number of loans closed during the second quarter of 2012 had increased by 100% over the prior quarter.

Since the introduction of GJGNY several changes have been made to the structure of the program including adjusting the audit application to allow customers to designate a contractor on the application. This change was made to streamline the process by removing the additional step of providing the reservation number to the customer to then forward to the contractor, and also to give contractors a level of assurance that their efforts in recruiting customers would pay off. As one interviewee stated, “it was an acknowledgement of the contractor’s efforts in the sales process – to claim their customer early on in the process.” Other changes made since the introduction of GJGNY included the modification of contractor incentives in order to encourage them to perform GJGNY free or reduced-cost energy audits, and a recent change to the savings to investment ratio (SIR) requirement that measures must meet in order to qualify for financing (effective July 2011).

Implementation contractors generally believe that the free or reduced-cost energy audits lead to increased HPwES project completions. When asked why they think customers do not move ahead and install eligible

measures after having received the HPwES audit, interviewees suggested a variety of potential reasons. For example, it is possible that customers cannot afford the recommended measures, or simply decide not to go forward after learning how much they cost. Other possibilities include reluctance by homeowners to take on debt in a down economy, the “tire kicker” phenomenon wherein homeowners are curious about their homes’ performance but are not motivated to move forward with work, or that certain measures customers want to have installed are not eligible for program incentives. Two other possibilities mentioned by interviewees were ineffective sales techniques on the part of contractors, and that “there’s a lot of noise in life” and that moving ahead with the project “just kind of falls by the wayside.” Interviewees’ suggestions for motivating customers to install measures centered on the incentives and contractor training, and included making the consumer incentive more attractive (i.e. higher than ten-percent cash back on certain measures), eliminating some of the regulatory rules surrounding measure incentive eligibility, and providing additional contractor training to help contractors sell more work and better articulate the benefits of the loan product.

Implementation contractors believed that customers who participate in the GJGNY free or reduced-cost audit and HPwES are generally very satisfied with the program. Interviewees also believed that customers are very satisfied with the free or reduced-cost energy audits, particularly because, as one interviewee put it, “people like free stuff.” Interviewees did not have as clear an idea of customer satisfaction with the financing for HPwES program measures. While some interviewees suspected that those who take advantage of the financing are satisfied with it, numerous interviewees pointed out that the financing is underutilized. One interviewee stated that it was difficult to tease out the effects of customer unwillingness to take on debt from dissatisfaction with the loan product itself. Another interviewee had received feedback that, in some cases, homeowners felt that the contractor was not able to explain the financing options very well.⁷²

5.9.4 HPwES Contractor Perspectives

HPwES contractors were asked how satisfied they were with their overall experience with the HPwES program. Using a scale from 1 (“not at all satisfied”) to 5 (“very satisfied”), over one-third (36%) of contractors reported that they were either satisfied or very satisfied with the program (four or five); slightly under one-third (31%) were either not satisfied or not at all satisfied with the program (one or two) (Table 83).

⁷² Similarly, a participant in the June 15, 2011 GJGNY Advisory Council meeting warned against introducing too many financing options for customers and suggested that contractors recommend only one financing solution.

Table 83: Contractor Satisfaction with HPwES Program (contractors)

Level of satisfaction	Contractors (n=59)
Very satisfied (5)	12%
4	24%
3	34%
2	22%
Not at all satisfied (1)	9%

HPwES contractors who had given a rating of either a one or two in Table 83 were asked to indicate the main reason they had not been satisfied with the program. Of the eighteen who were dissatisfied, nine respondents said their dissatisfaction was due to the fact that some measures were no longer eligible, the standards for measure qualification were difficult or often changed, or incentives had been reduced. Two respondents said that the program was too complicated, citing the burden of paperwork, bureaucracy, or red tape as a cause for their low level of satisfaction with the program.

This same group of contractors was asked to identify any additional reasons for their dissatisfaction with the program. Four of the eighteen contractors attributed their dissatisfaction to the fact that some measures were no longer eligible, the standards for measure qualification had been difficult or often changed, or incentives had been reduced. Two respondents emphasized that the program had been too complicated, citing the burden of paperwork, bureaucracy, or red tape as a cause for their low level of satisfaction with the program. Three contractors indicated other responses, including the fact that TREAT software was old and not very user friendly, that program changes are made without contractor input, and that customers use the free or reduced-cost audits but seldom implement measures.

The survey asked HPwES contractors to rate their level of satisfaction with specific aspects of their experience with the HPwES program. They were asked to give their responses on a scale of 1 (“not at all satisfied”) to 5 (“extremely satisfied”). Overall, the contractors expressed the greatest satisfaction with the audit processes and procedures and the greatest dissatisfaction with the program application processes and procedures (Table 84).

- About one-half (51%) of the contractors said that they were satisfied or very satisfied with the audit processes and procedures (i.e., gave a rating of four or five).
- Nearly two-fifths (37%) were satisfied or very satisfied with communications with program and implementation staff, though nearly one-third (31%) also were not satisfied or not at all satisfied (i.e., gave a rating of one or two) with staff.

- Although nearly two-fifths (37%) were satisfied or very satisfied with financing approval processes and procedures, a similar proportion (40%) were not satisfied or not at all satisfied with this aspect of the program.
- About one-fifth (19%) of the contractors were satisfied or very satisfied with program application processes and procedures; however, nearly one-half (46%) reported being not satisfied or not at all satisfied with the program application processes and procedures.

Table 84: Contractor Satisfaction with Facets of the Program (contractors)

Level of satisfaction	Audit processes and procedures (n=59)	Communications with program and implementation staff (n=59)	Financing approval processes and procedures (n=59)	Program application processes and procedures (n=59)
Satisfied/Very satisfied	51%	37%	37%	19%

At the end of the HPwES contractor survey, respondents were asked to identify any other issues related to the HPwES program that had not been discussed they would like to mention. As Table 85, shows, nearly one-half (46%) said that they did not have any other issues to mention. Fourteen percent of contractors reported that the approval process for the audits and/or financing had taken too long. Ten percent reemphasized that the program had been too complicated, with too much paperwork and bureaucracy. Ten percent said that they had been dissatisfied with the new guidelines and with the fact that some measures were no longer eligible for the program--they particularly cited ENERGY STAR air conditioning, windows and water heaters. As one contractor said, “they need to give the contractor more time to implement any changes that are made to the program; they can’t come out with a letter saying ‘effective immediately’ or within a few days and expect contractors to make changes. This is a major problem with the program because we sometimes have a hundred jobs that we’re expected to go back and tell people they don’t qualify anymore.”

Ten percent said that the payments for audits were too low or that free or reduced-cost audits had not led to an increase in installation work. Contractors also said that they had been dissatisfied with the frequency and quantity of program changes (9%) and that communication needs to be improved (9%). As one contractor reported, “I don’t think there is much public awareness about [HPwES], but it is starting to build... Public education about energy efficiency and potential savings and advantages of the whole process I think would be very good. It would also help move a lot more work.”

Seven percent of the surveyed contractors also thought that the program didn't understand the contractor's needs or viewpoint, or that there had not been enough contractor input, with one respondent stating that, "it's not always clear that they ask for any contractor input before they roll these things out," and another concluding that, "there has to be more of a benefit for everyone, including [both] homeowners and contractors."

Nine percent of the contractors cited additional issues. Two contractors mentioned that the software needed to be improved, one said that there should have been more promotion from the top and that the incentives should have been better, one believed that duct work should have been covered, even with natural gas, and another wanted NYSERDA to handle the financing paperwork.

**Table 85: Other Issues Mentioned by Contractors
(contractors; multiple response)**

Issues	Contractors (n=59)
Approval process is too long for audits and/or financing	14%
Program is too complicated, burden of paperwork/Bureaucracy/ Red tape	10%
Dissatisfaction with new guidelines and measures that are no longer eligible for the program	10%
Payments for audits are too low/free audits don't lead to increase in insallation jobs	10%
Dissatisfaction with frequency and quantity of program changes	9%
Communication needs to be improved	9%
Program doesn't understand contractor needs/viewpoint, not enough contractor input	7%
Other	9%
None	46%

Section 6

PROGRAM PARTICIPATION AND EXPERIENCE

6.1 KEY FINDINGS SUMMARY

NMR conducted an analysis of the NYSERDA CRIS data base for the period from November 15, 2010 through October, 27, 2011. Two out of five participants (38%) were at the audit approval stage. About one-half of participants (49%) had an audit completed, but did not have HPwES work completed. About one in eight participants had HPwES work completed (13%). Participants averaged 28 days between audit approval and audit completion and 77 days between audit-completion and work-completion. The large majority (92%) of participants received free energy audits.

The three most frequently recommended measures mentioned by both audit-completed and work-completed respondents were insulation (84%) and air sealing (72%), followed by ENERGY STAR-qualified heating equipment (44%). Across audit-approved and audit-completed participants, nearly two-fifths (38%) of respondents reported that they had installed program eligible energy efficient measures outside of the program. Across all three participant groups, two-thirds of respondents each reported having installed air sealing (66%) and insulation (66%), followed by over two-fifths of respondents (46%) who reported installing energy efficient windows. About one-half of both HPwES work-completed respondents (51%) and HPwES contractors (54%) cited the desire to save on energy costs/bills as single most important reason to install measures. The high cost of measures was cited as the single most important reason for not installing them, mentioned by over two-fifths of audit-completed and work-completed participants (41%) and by over two-thirds of contractors (70%).

HPwES contractor advice was rated as very influential for the choice of measures to install and on how to pay for them. Overall, 72% of audit-completed and work-completed respondents said that the contractor was influential or extremely influential in deciding which measures to implement. Over one-half (56%) of work-completed respondents had discussed financing with the contractor and over two-thirds of them (69%) said that the contractor's advice had been influential or extremely influential in decision making.

Participants could use multiple sources of financing for their HPwES-eligible energy-efficiency measures. Three-fourths of work-completed respondents (75%) said that they had paid cash for the measures and nearly two-fifths (37%) said that they had used GJGNY financing. Audit-approved and audit-completed respondents who did not receive any rebates or financing said that the reason for that was that they did not need rebates or financing (35%), they did not know about them (18%), or they did not qualify for financing (17%).

Four-fifths (80%) of work-completed participants said that receiving the HPwES incentive was important or extremely important to their decision to install the HPwES-eligible energy-efficiency measures. About

three-quarters (76%) of work-completed participants who received a HPwES incentive and used GJGNY financing said that receiving them was important or extremely important to their measure installation decision. And about four-fifths (79%) of audit-completed participants who installed measures and HPwES work-completed participants said that receiving the audit was important or extremely important to their decision to install the energy-efficiency measures.

Overall, over four-fifths (82%) of respondents were either satisfied or very satisfied with the HPwES program. Over three-quarters (78%) of audit-completed respondents and the vast majority (95%) of work-completed respondents were either satisfied or very satisfied with the program. Audit-completed and work-completed participants who were satisfied, very satisfied, or neither satisfied nor dissatisfied with the program were asked the one most important reason they were satisfied. Overall, nearly one-third of audit-completed and work-completed respondents (32%) said that the professionalism of the contractor was the one most important reason they were satisfied.

6.2 NYSERDA DATABASE ANALYSIS

This section describes the results from the analysis of data in the NYSERDA database on contractor activity and customer participation patterns.

6.2.1 Contractor Activity Analysis

This section discusses contractor activity data that was provided by program, presenting data per contractor, by region, on:

- Average number of HPwES projects
- Average number of GJGNY free or reduced cost energy audits completed
- Average number of GJGNY projects completed (work completed)⁷³
- Average number of GJGNY loans approved
- Average GJGNY loan size

This section also presents the data as a percentage by region:

- Percent of HPwES projects
- Percent of GJGNY free or reduced-cost energy audits completed
- Percent of GJGNY projects completed
- Percent of GJGNY loans approved

⁷³ GJGNY projects completed are HPwES projects completed in which HPwES contractors had either completed a GJGNY audit or had a GJGNY loan approved.

The findings show that Upstate-A contractors had much higher HPwES and GJGNY program activity than Downstate and Upstate-B contractors. These data show that roughly one-half of activity was by Upstate-A contractors. This higher level of activity may be a reflection of earlier adoption of the program by Upstate-A contractors.

6.2.1.1 Review of Projects

This analysis was based on a list of 171 participating contractors in the HPwES Program database who had completed work through the HPwES program as of April 24, 2011.⁷⁴

As indicated in Table 41, statewide, 144 of the 171 contractors completed HPwES projects, averaging 102 projects per contractor.

- Upstate-A contractors averaged, by far, the highest number of HPwES projects (180), compared to 38 projects by Upstate-B and 26 projects by Downstate contractors.

Statewide, 133 contractors completed GJGNY free or reduced-cost energy audits, averaging 21 audits per contractor.

- Upstate-A contractors averaged the highest number of GJGNY audits (34), over twice that of 14 audits by Upstate-B and nearly five times the seven projects by Downstate contractors.

Statewide, 70 contractors completed an average of eight GJGNY projects per contractor.

- Upstate-A contractors averaged the highest number of GJGNY projects (12), three times more than the four projects averaged by Downstate contractors, and four times as many as the three projects averaged by Upstate-B contractors.

Statewide, 105 contractors had approved loans through the GJGNY program, averaging six loans per contractor.

- Upstate-A contractors averaged the highest number of GJGNY loans (9), about three times more than the three loans averaged by Upstate-B contractors, and the two loans averaged by Downstate contractors.

The average value of the approved loans was \$10,123.

- Upstate-A contractors had the lowest average loan value (\$9,612). Downstate contractors had the highest average loan value (\$11,200), which may be related to home values in the region.

⁷⁴ The most active contractor had completed 83 jobs as of April 24, 2011. There was a sharp drop off in activity between the most active and the second most active contractor, who completed 37 jobs. Only 20 contractors completed work on ten or more homes using GJGNY funding as of April 24, 2011 and an additional 50 contractors completed work on one to nine homes. The remaining 101 contractors had either completed at least one audit or had one or more loans approved through GJGNY.

Table 86: Contractor Audit, Project and Loan Activity
(contractors; count (sample size))

Activity per contractor	Downstate	Upstate-A	Upstate-B	Total
Average number of HPwES projects	26 (34)	180 (67)	38 (42)	102 (144)
Average number of GJGNY audits completed	7 (36)	34 (57)	14 (39)	21 (133)
Average number of GJGNY projects completed	4 (9)	12 (43)	3 (17)	8 (70)
Average number of GJGNY Loans Approved	2 (23)	9 (50)	3 (31)	6 (105)
Average loan size	\$11,200 (23)	\$9,612 (50)	\$10,176 (31)	\$10,123 (105)

Presenting the data by percentage by region shows that roughly one-half of activity was by Upstate-A contractors. Nearly one-half (47%) of HPwES projects, over two-fifths (43%) of audits, over three-fifths (62%) of GJGNY work completed, and nearly one-half (48%) of approved GJGNY loans were by Upstate-A contractors (Table 87).

Table 87: Percentage of Contractor Activity by Region
(contractors; percent (sample size))

Activity	Downstate	Upstate-A	Upstate-B	Total
Percent of HPwES projects	24% (34)	47% (67)	29% (42)	100% (143)
Percent of GJGNY audits completed	27% (36)	43% (57)	30% (39)	100% (133)
Percent of GJGNY projects completed	13% (9)	62% (43)	25% (17)	100% (69)
Percent of GJGNY Loans Approved	22% (23)	48% (50)	30% (31)	100% (105)

6.2.2 Customer Participation Patterns

The project team analyzed the NYSERDA CRIS database in order to understand GJGNY participant patterns in terms of project status (audit-approved, audit-completed, HPwES work-completed), home type, audit type (free or reduced-cost), type of financing, and utility (natural gas, electric, other). Each of these analyses was conducted by region (Upstate-A, Upstate-B, Downstate, and statewide) for the period from November 15, 2010 through October, 27, 2011. (See Appendix A, section 6.2 for regional details).

Table 88 presents information on project status. Statewide, two out of five participants (38%) were only at the audit approved stage. About one-half of participants (49%) had an audit completed, but did not have HPwES work completed. Only about one in eight participants had HPwES work-completed (13%).

- Of the three regions, Upstate-A participants were most likely to have work completed (19%), while Downstate participants are least likely to do so (4%) (See Appendix A, section 6.2 for regional details).

**Table 88: Project Status
(participants: CRIS Database)**

Project status	Audit-approved (n= 5,751)	Audit-completed (n= 7,344)	HPwES Work-completed (n= 1,886)
Project Status	38%	49%	13%

Project status by audit type is presented in Table 89. Audit types can be free or reduced cost based on participant income relative to the regional area median income (AMI). Participants earning 200% or less of the AMI received free audits. The large majority of participants (92%) received free audits and just a few (8%) received reduced-cost audits.

- Among HPwES work completed participants, about four-fifths of Downstate participants (79%) received a free cost audit as compared to the large majority of Upstate-A (95%) and Upstate-B participants (93%).

Table 89: Project Status by Audit Type¹
(participants: CRIS database)

Audit Type	Audit-			
Free Audit	91%	92%	93%	92%
Reduced-cost audit	9%	8%	7%	8%

¹1994 cases with missing information on free versus reduced-cost audits were removed from the analysis

Table 90 presents participant interest in the HPwES loan.⁷⁵ Statewide, two-fifths of participants (40%) indicated interest in an HPwES loan.

Table 90: Project Status by Interest in HPwES Loan
(participants: CRIS database)

Interest in HPwES Loan	Audit-approved (n=4,102)	Audit-completed (n=5,135)	HPwES Work-completed (n=1,467)	All Participants (n= 10,704)
Percent interested in loan	42%	41%	28%	40%

6.3 PROJECT STATUS BY UTILITY

Across all participants, about one-third were National Grid customers (32%), one-fifth were RG&E customers (20%), one-fifth were NYSEG customers (20%), and about one-tenth were LIPA customers (11%). For work-completed participants, two-fifths were National Grid customers (39%), one-third were Orange & Rockland customers (33%), and about one-fifth were NYPA customers (19%) (Table 91).

- Upstate-A and Upstate-B respondents were most likely to be National Grid customers (42% and 43% respectively) compared to Downstate respondents (less than 1%). Slightly fewer than one-half of Downstate customers (46%) were LIPA customers and fewer than one-third were Con Edison customers (30%).

⁷⁵ There were 4,243 cases with missing information on financing that were excluded from the analysis.

Table 91: Project Status by Electric Utility
(participants: CRIS database)

Electric Utility	Audit- approved (n= 5,655)	Audit- completed (n= 7,298)	HPwES Work- completed (n= 1,880)	All Participants (n= 14,833)
National Grid	36%	27%	39%	32%
NYSEG	19%	21%	2%	20%
RG&E	13%	22%	--	20%
LIPA	11%	12%	3%	11%
Con Edison	8%	7%	2%	7%
Central Hudson	6%	5%	1%	5%
Municipal Utility	3%	4%	1%	3%
Orange & Rockland	4%	3%	33%	3%
NYPA	<1%	<1%	19%	<1%

Across all participants, one-third were National Grid gas customers (33%), slightly fewer than one-third were RG&E customers (30%), and one-seventh each (14%) were NYSEG or were National Fuel Gas customers. Among work-completed participants, one-fifth were RG&E customers (41%), nearly one-fourth were National Grid customers (23%), and one-fifth were National Fuel Gas customers (20%) (Table 92).

- Downstate and Upstate-B respondents were most likely to be National Grid customers (47% and 51% respectively), compared to Upstate-A respondents (24%). Among Upstate-A participants, nearly one-half were RG&E customers (46%).

Table 92: Project Status by Natural Gas Utility
(participants: CRIS database)

Gas Utility	Audit- approved (n= 3,657)	Audit- completed (n= 4,838)	HPwES Work- completed (n= 1,505)	All Participants (n= 10,000)
National Grid	33%	29%	23%	33%
RG & E	30%	34%	41%	30%
National Fuel Gas Distribution Corp.	14%	12%	20%	14%
NYSEG	14%	15%	11%	14%
Con Edison	5%	5%	2%	5%
Orange & Rockland	3%	3%	2%	3%
Central Hudson	2%	2%	<1%	2%
KeySpan	<1%	<1%	--	<1%
LIPA	<1%	<1%	<1%	<1%
NYPA	<1%	<1%	--	<1%

The following histograms (Figure 1 to Figure 3)⁷⁶ present statewide information for the number of days between the audit approval date and the audit completion date, the audit completion date and the work completion date, and the audit approval date and the work completion date.

Statewide, participants averaged 28 days (median of 21 days) between the date of audit approval and audit completion. Note that program rules define 90 days as the maximum number between audit approval and audit completion. Participants averaged 77 days (median of 67 days) between audit-completion and work-completion. Participants averaged 91 days (median of 81 days) between audit approval and work completion.

⁷⁶ A number of cases had missing or inaccurate data that was removed from the analysis.

Figure 1: Days From Audit Approved to Audit Completed
(statewide participants: CRIS database)

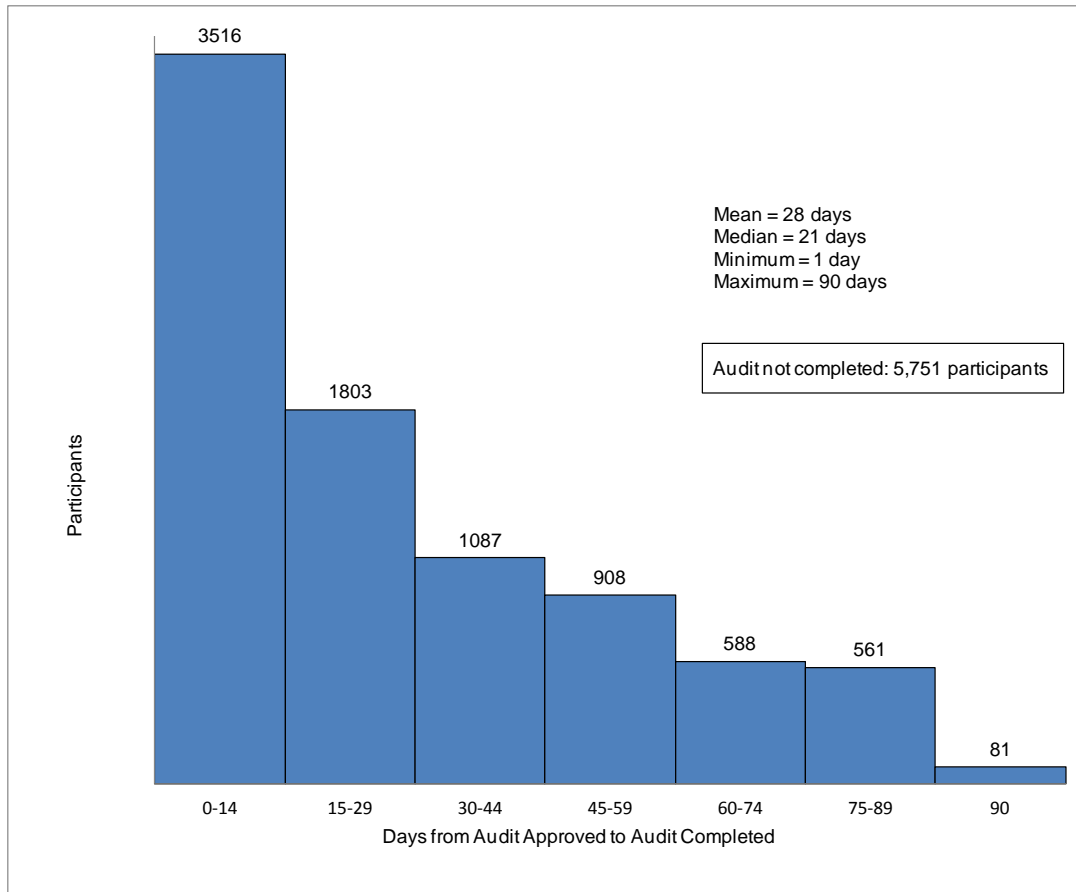


Figure 2: Days From Audit Completed to Work Completed
(statewide participants: CRIS database)

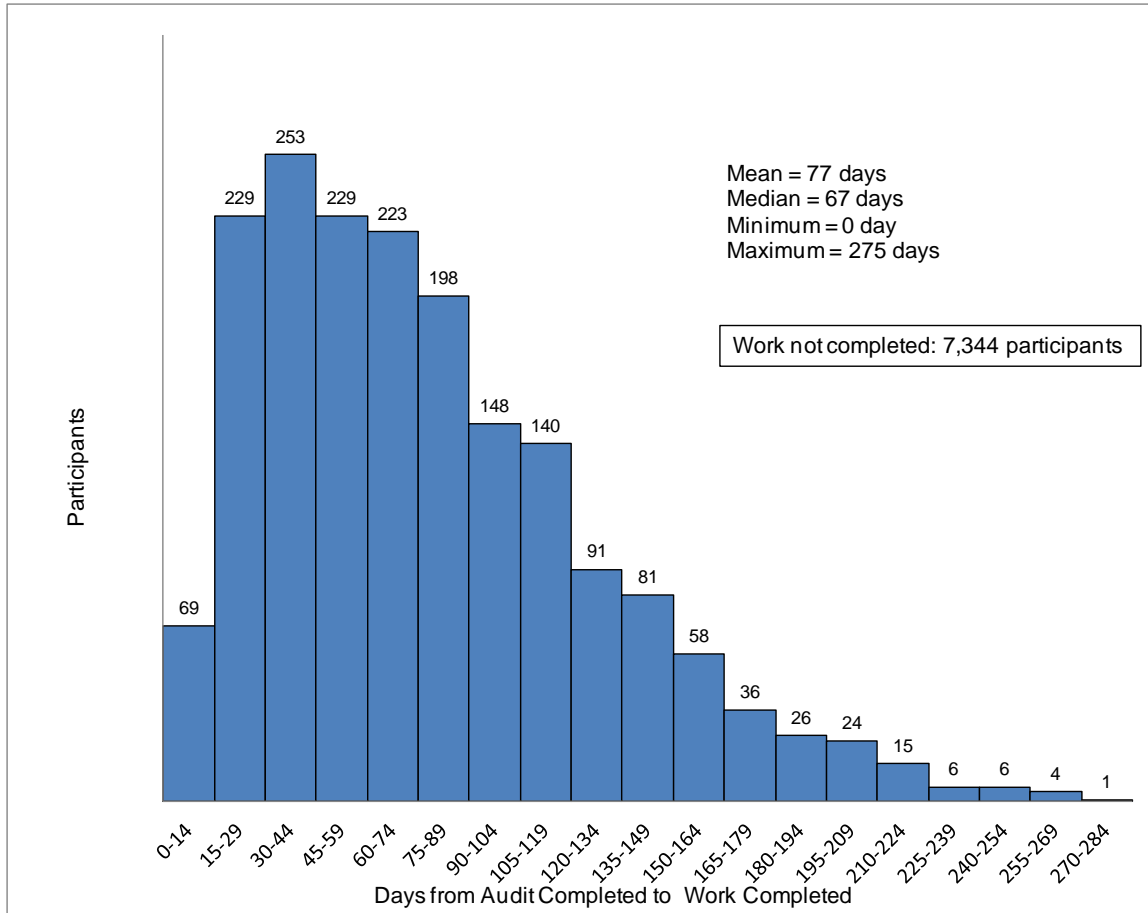
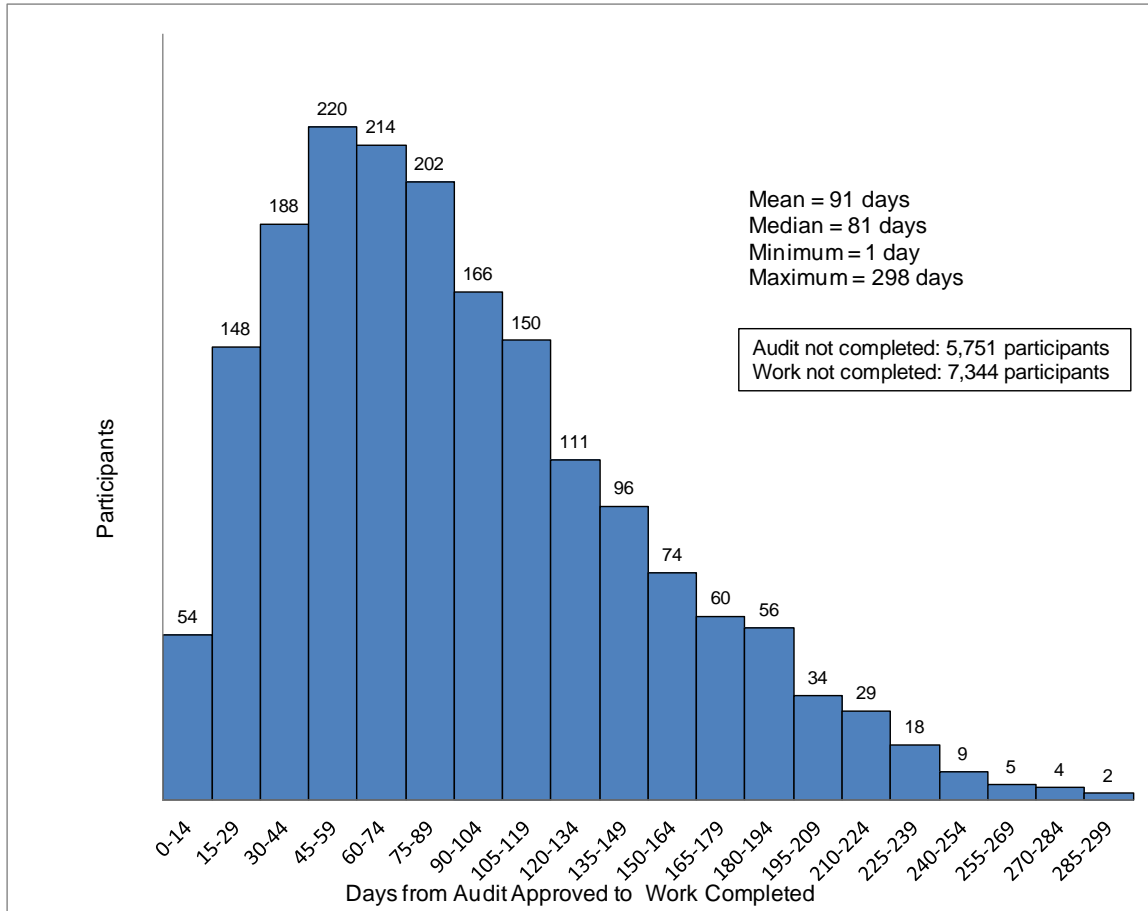


Figure 3: Days From Audit Approved to Work Completed
(statewide participants: CRIS database)



6.4 RECOMMENDED AND INSTALLED MEASURES

This section discusses recommended and installed measures, and motivations for installing measures.

6.4.1 Recommended Measures

The three most frequently recommended measures cited by both audit-completed and work-completed respondents⁷⁷ were insulation (84%) and air sealing (72%), followed by ENERGY STAR-qualified heating equipment (44%). Work-completed respondents (57%) were significantly more likely than audit-completed respondents (41%) to have been recommended ENERGY STAR-qualified heating equipment. They were also significantly more likely to have been recommended energy efficient windows (33% versus 21%).

- Among audit-completed respondents, Upstate-A respondents (68%) were significantly less likely than Upstate-B respondents (79%) to have been recommended air sealing.
- Upstate-B audit-completed respondents (14%) were significantly less likely than Downstate (26%) and Upstate-A respondents (28%) to have been recommended ENERGY STAR-qualified cooling equipment.
- Upstate-A work-completed respondents (81%) were significantly less likely than Upstate-B respondents (91%) to have been recommended insulation.

⁷⁷ Audit-completed respondents received recommendations from a HPwES contractor as the result of a GJGNY free or reduced-cost energy audit but did not have measures installed through HPwES. HPwES work-completed respondents received recommendations from the audit and installed measures through HPwES.

Table 93: Recommended Measures
(audit-completed and HPwES Work-completed participants)

Measures	Audit-completed (n=257)	HPwES Work-completed (n=147)	Total (n=404)
Insulation	84%	82%	84%
Air sealing	72%	70%	72%
ENERGY STAR-qualified heating equipment	41% β	57% ϵ	44%
Energy efficient doors	27%	28%	27%
ENERGY STAR-qualified cooling equipment	24%	28%	25%
Energy efficient windows	21% β	33% ϵ	24%

Significantly different at the 90% confidence level: β = from work-completed; ϵ = from total.

6.4.2 Installed Measures

Audit-approved participants were asked if they had installed any of energy-efficiency measures since applying for the audit. Audit-completed participants were asked if they had installed any of the energy-efficiency measures recommended in the audit. Since these respondents were at a program stage where they had not yet started any work, these installations would have been done outside the program. Across the two groups, nearly two-fifths (38%) of respondents reported that that they had installed measures outside of the program (Table 94).

Table 94: Audit Approved and Completed Respondents Installed Energy-efficiency Measures Outside the Program
(audit-approved and audit-completed participants)

Installation	Audit-approved (n=132)	Audit-completed (n=257)	Total (n=389)
Percent installing	34%	39%	38%

The survey asked these respondents the measures they had installed.⁷⁸ Across all three participant groups, two-thirds of respondents each reported having installed air sealing (66%) and insulation (66%), followed by nearly one-half of respondents (46%) who reported installing energy efficient windows (Table 95).

Audit-approved respondents most frequently reported installing energy efficient windows (41%), insulation (40%), and air sealing (38%). They were significantly less likely than other respondents to have installed insulation and air sealing.

About three-fourths (76%) of audit-completed respondents installed air sealing. Nearly three-fourths installed insulation (72%) and nearly three-fifths (58%) installed energy efficient windows.

- Downstate audit-completed respondents (91%) were significantly more likely than Upstate-A respondents (73%) or Upstate-B respondents (67%) to have installed air sealing.

About three-fourths (76%) of work-completed respondents each installed air sealing and insulation and nearly three-fourths (72%) installed ENERGY STAR-qualified heating equipment. Nearly one-half (47%) installed energy efficient windows and over two-fifths (42%) installed energy efficient doors. Work-completed respondents (72%) were significantly more likely to install ENERGY STAR-qualified heating equipment than were audit-completed respondents (29%) or audit-approved respondents (24%).

- Upstate-B work-completed respondents (88%) were significantly more likely than Statewide respondents (76%) to have installed air sealing.
- Upstate-B respondents reported the highest rates of installing insulation and Upstate-A respondents reported the lowest rates.
 - All Upstate-B work-completed respondents (100%) installed insulation, which was significantly more frequently than Upstate-A (71%) and Downstate (86%) work-completed respondents.
 - Downstate work-completed respondents (86%) also were significantly more likely than Upstate-A respondents (71%) to have installed insulation.

⁷⁸ Note that the respondent base changes for each measure installed based on whether the measure was recommended for them.

Table 95: Measures Installed by All Survey Respondents
 (all participants who installed measures; (percent yes (sample size)))

Measures	Audit-approved	Audit-completed	HPwES Work-completed	All Participants
Air sealing	38% (45) αβε	76% (79) ε	76% (102) ε	66% (226)
Insulation	40% (45) αβε	72% (91)	76% (124) ε	66% (260)
Energy efficient windows	41% (45)	58% (22)	47% (45)	46% (112)
ENERGY STAR-qualified heating equipment	24% (45) βε	29% (40)	72% (78) ε	42% (163)
Energy efficient doors	28% (45)	29% (35)	42% (44)	31% (124)
ENERGY STAR-qualified cooling equipment	15% (45) β	19% (24) β	42% (40) ε	22% (109)
Structural repairs	16% (45)	11% (101)	11% (147)	12% (293)
Other	11% (45) αβε	30% (101)	28% (147)	25% (293)

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed; ε = from total.

6.4.3 Measure Installation Motivations

This section discusses reasons for installing energy-efficiency measures, the timing of measure installation, and the reasons for not installing measures.

6.4.3.1 Reasons for Installing Energy-efficiency Measures

The survey asked respondents with HPwES work completed and HPwES contractors the one most important reason for the decision to implement or install energy-efficiency measures. About one-half of both HPwES work-completed respondents (51%) and HPwES contractors (54%) cited customers’ desire to save on energy costs/bills. Significantly more HPwES work-completed respondents (21%) than HPwES contractors (2%) cited the need for new equipment or measures. Conversely, significantly more HPwES contractors (19%) than HPwES work-completed respondents (2%) cited a general need to save energy (Table 96).

- Among HPwES work-completed respondents, Upstate-B respondents (64%) were significantly more likely than Upstate-A (47%) respondents to cite saving on energy costs.
- Downstate respondents (10%) were significantly less likely than Upstate-B (18%) respondents to cite needing the equipment or measures.

Table 96: Most Important Reason for Installing Energy-efficiency Measures (HPwES work-completed participants; contractors)

Reasons	HPwES Work-completed (n=137)	Contractors (n=59)
To save on energy costs/bills	51%	54%
Needed the new equipment/measures – necessity	21%	2%
To save energy – not further specified whether for cost or environment	9%	19% β
Thinking about/planning to install energy-efficiency measures anyway	8%	2% β
Rebate/Financial assistance	2%	14% β
To increase comfort level in home	5%	--

Significantly different at the 90% confidence level: β = from work-completed.

The survey asked participants with HPwES work-completed the other reasons they decided to implement or install energy-efficiency measures (Table 97). Over one-fifth (21%) cited wanting to increase comfort in the home. About one-tenth (11%) each said that they wanted to save on energy costs, and needed the new equipment or measures.

**Table 97: Other Reasons for Installing Energy-efficiency Measures
(HPwES work-completed participants; multiple response)**

Reasons	HPwES Work-completed (n=68)
To increase comfort in home	21%
To save on energy costs/bills	11%
Needed the new equipment/measures	11%
No other reasons	53%

6.4.3.2 Reasons for Timing of Measure Installation

The survey asked work-completed participants why they decided to install the energy-efficiency measures when they did. About one-fifth each said that they wanted to replace a broken system (21%) and they were concerned about heating costs in the winter (21%). About one-sixth (16%) said that they had just had the audit and 12% percent said that the program rebates were available (Table 98).

**Table 98: Reasons for Installing Measures at that Time
(HPwES work-completed participants; multiple response)**

Reasons	HPwES Work-completed (n=146)
To replace a broken or failing (malfunctioning) system	21%
Concerned about heating costs in the winter	21%
Had just had the audit	17%
Program rebates were available	12%
Program financing was available	8%
Convenient time/did not want to wait	7%
I didn't have the money before	7%
My energy bills were increasing	5%

6.4.3.3 Reasons for Not Installing Measures

The participant survey asked audit-completed participants and HPwES work-completed participants who did not install one or more of the recommended measures the most important reason they decided did not to install any of those measures; and the HPwES contractor survey asked contractors for the customer barriers

to installing measures. Over two-fifths (41%) of audit-completed and work-completed participants said that the measures were too expensive. About one-fifth (19%) of these participants said that they did not think that the work was necessary. The contractors also cited high cost of the measures (70%) most frequently (Table 99).

Table 99: The Most Important Reason for Not Installing Recommended Measures/Customer Barriers to Installing Measures (audit-completed and HPwES work-completed participants who did not install one or more of the recommended measures; contractors)

Reason	Audit-completed (n=94)	HPwES Work-completed (n=138)	Total (n= 232)	Contractors (n=59)
Too expensive/cost too much	42%	39%	41%	70% αβε
Didn't think it was necessary	18%	20%	19%	-- αβε
Not a priority for me	2% βε	13% ε	7%	-- βε
Already installed these measures	4%	8%	6%	-- αβε
Too busy/not enough time	6%	4%	5%	3%
Not qualifying/changes in program requirements/savings to investment ratio	--	--	--	14% αβε
Not receiving meaningful information from audit/not understanding audit report	--	--	--	5% αβε

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed ε = from total.

6.5 CONTRACTOR INFLUENCE

The participant survey asked respondents with an audit completed and with measures implemented, and respondents with HPwES work completed how influential the advice from the contractor was in deciding

which measures to implement. Respondents were asked to use a scale from 1 to 5, where 1 means “no influence at all”, and 5 means “extremely influential”. Overall, 72% of respondents said that the contractor was influential (rating of four) or extremely influential (rating of five). Over two-thirds of audit-completed and measures implemented respondents (68%) and three-fourths of work-completed respondents (75%) said that the contractor was influential or extremely influential.

- Upstate-B work-completed respondents (33%) were significantly less likely than Upstate-A (49%) or Downstate (56%) respondents to have said that the contractor was extremely influential.

The survey asked audit-completed participants how influential the advice or information from the audit or installation contractor was in deciding how to pay for or finance the measures installed. Respondents were again asked to use a scale from 1 to 5, where 1 means “no influence at all”, and 5 means “extremely influential”. About one-fourth of respondents (26%) said that the advice was influential or extremely influential. Note that these respondents had not yet installed measures through the program and thus may either have not yet decided how to finance the measures or made the decision not to install them; thus the lower ratings for contractor influence on financing is likely consistent with their stage in the program process.

The survey asked work-completed respondents if they had discussed how to pay for or finance the measures with their contractor. Over one-half (56%) said that they had discussed financing with the contractor. These respondents were then asked how influential that contractor’s advice was. Respondents were asked to use a scale from 1 to 5, where 1 means “not at all influential” and 5 means “extremely influential”. Over two-thirds of these respondents (69%) said that the contractor’s advice was influential (score of four) or extremely influential (score of five) (Table 100).

Table 100: Percent Rating Contractors as Extremely Influential or Influential Regarding Measure Installation and Financing
(HPwES work-completed and audit-completed participants who installed measures;
HPwES work-completed participants who discussed financing with the contractor (percent
(sample size))

Contractor Influence	Audit-completed	HPwES Work-completed	Total
Which Measures to Install	68% (96)	75% (147)	72% (243)
How to pay for or finance the measures*	26% (96)	69% (83)	na

* Audit-completed respondents were asked about the influence of the advice or information from the audit or installation contractor was in deciding how to pay for or finance the measures installed. Work-completed respondents who reported discussing financing with contractors were asked about the influence of the contractor’s advice.

6.6 FINANCING AND INCENTIVES

This section discusses the use and importance of financing and incentives.

6.6.1 Use of Financing and Incentives

This section discusses the sources of financing, reasons for not using program incentives or financing, non-program rebates or financing received, and willingness to pay for a full cost audit.

6.6.1.1 Sources of Financing Used by Work-Completed Respondents

The survey asked participants who had HPwES work completed about the sources of financing that they had used to pay for the energy-efficiency measures installed through the program (Table 101). Nearly three-fourths of respondents (74%) said that they used cash or out of pocket funds. Nearly two-fifths (37%) said that they used GJGNY financing.

**Table 101: Sources of Financing Used to Pay for Measures
(HPwES work-completed participants who identified funding sources; multiple response)**

Sources of financing	HPwES work-completed (n=109)
Cash or out of pocket funds	74%
Green Jobs-Green New York Financing (through the program)	37%
Outside or third-party financing such as a home equity or personal loan	4%
Energy \$mart Loans (through the program)	2%
Credit cards	1%
Don't know	2%

Respondents who had HPwES work completed and who chose to obtain financing from a third party loan provider were asked why they chose to do so. The very few respondents who chose third-party financing said that they did not have the money, or that they recently refinanced their house.

The survey asked work-completed participants who decided to finance the installation of the energy-efficiency measures through the HPwES program why they chose to use program financing. The few respondents who identified reasons cited the good offer or low interest, followed by lack of enough money on their own, and that they wanted to save on heating.

HPwES work-completed respondents who decided not use GJGNY or Energy \$mart financing were asked why they chose not to use program financing. Three respondents indicated reasons, noting that it was too complicated, that they did not want the extra monthly payment, or that they preferred to pay cash.

6.6.1.2 Reason for Not Using Program Incentives or Financing

The survey asked audit-approved and audit-completed participants who installed measures but did not receive any incentives or financing why they decided to purchase and install the energy-efficiency measures without using the financing or incentives available from the HPwES program (Table 102).

Over one-third of these audit-approved and audit-completed respondents said that they did not need incentives or financing (35%). Nearly one-fifth said that they did not know about them (18%) or did not qualify for financing (17%). Significantly more audit-completed respondents (45%) than audit-approved respondents (13%) said that they did not need incentives or financing.

- Among audit-completed respondents, Upstate-A respondents (30%) were significantly less likely than Upstate-B respondents (65%) to say that they did not need incentives or financing.

Table 102: Why Decided Not to Use Incentives or Financing
(audit-approved and audit-completed participants with measures installed but no incentives or financing used; multiple response)

Reasons	Audit-approved (n=31)	Audit-completed (n=79)	Total (n=110)
Did not need it/not worth it	12% αε	45%	35%
Did not know about them	13%	20%	18%
Did not qualify for financing	20%	15%	17%
Too much of a hassle	5%	12%	10%
Wanted the work done immediately	7%	9%	8%
Better financing through another program	10%	5%	6%
Did work myself	3%	6%	5%

Significantly different at the 90% confidence level: α = from audit-approved; ε = from total.

6.6.1.3 Non-Program Rebates or Financing Received

The survey asked audit-approved and audit-completed participants if they had gone outside the HPwES program to get any kind of rebates or financing to install any of these energy-efficiency measures. Nearly one-fifth of audit-approved and audit-completed respondents (18%) reported having received non-program rebates or financing to install measures (Table 103).

Table 103: Received Non-Program Rebates or Financing to Install Measures
(audit-approved and audit completed participants who installed measures)

Received rebates	Audit-approved (n=38)	Audit-completed (n=96)	Total (n=134)
Received Non-Program Rebates or Financing	19%	17%	18%

The survey asked audit-approved participants and audit-completed participants who received non-program rebates or financing what the sources were. Across both groups, one-quarter of respondents (25%) said that they received utility rebates. Nearly one-fifth (19%) cited tax credits, and about one out of six respondents cited NYSERDA (16%) (Table 104).

Table 104: Sources of Rebates and Financing
(audit-approved and audit-completed participants who received rebates or financing;
multiple response)

Sources	Audit-approved (n=7) (count)	Audit-completed (n=17) (count)	Total (n=24)
Utility rebate	--	7	25%
Tax credit	3	2	19%
NYSERDA	--	4	16%
Third-party financing	1	2	15%
Vendor	2	1	15%
Contractor	1	4	5%
Don't know	--	1	6%

6.6.1.4 Willingness to Pay Full Cost of Audit

The survey asked audit-completed and HPwES work-completed participants how likely they would have been to participate in the program if they had had to pay the full cost of the audit. Respondents were asked to use a scale from 1 to 5, where 1 means “not at all likely” and 5 means “extremely likely” (Table 105). About one-half (51%) of the respondents said they would have been unlikely (score of two) or not at all likely (score of one) to have participated in the program with a full cost audit and nearly one out of three (30%) said they would have been likely (score of four) or extremely likely (score of five) to have participated in the program with a full cost audit.

Table 105: Willingness to Participate in Program with a Full-cost Audit
(audit-completed and work-completed participants)

Willingness to participate	Audit-completed (n=257)	HPwES Work- completed (n=147)	Total (n=404)
Extremely likely (5)	23%	18%	21%
4	9%	11%	9%
3	11%	21%	13%
2	16%	13%	16%
Not at all likely (1)	35%	35%	35%
Don't know	6% ^β	2% ^ε	5%
Refused	1%	--	1%

Significantly different at the 90% confidence level: β = from work-completed ϵ = from total.

6.6.2 Importance of Financing and Rebates

Respondents to the participant survey were asked about the importance of a variety of factors to their decision to install energy-efficiency measures. Most of these factors related to financing, whether through or outside the HPwES program, and the program incentives. All of the ratings were provided on a scale of 1 to 5, where 1 means “not at all important” and 5 means “extremely important”. This section reports the findings for those who gave a rating of important (score of four) or extremely important (score of five) to each of the factors. The detailed responses to these questions are provided in Appendix A.

Nearly three-quarters (71%) of HPwES work-completed participants who decided to finance the installation of the energy-efficiency measures through the HPwES program or through third-party financing said receiving the financing was important or extremely important to their decision to install the measures.

About three-quarters (76%) of work-completed participants who received an HPwES incentive and used GJGNY financing said that receiving them was important or extremely important to their measure installation decision.

Four-fifths (80%) of work-completed participants said that receiving the HPwES incentive was important or extremely important to their decision to install the energy-efficiency measures.

Nearly three-fifths (57%) of audit-approved and audit-completed participants who reported obtaining non-program financing said that receiving the financing was important or extremely important to installing energy-efficiency measures.

About four-fifths (79%) of audit-completed participants who installed measures and HPwES work-completed participants said that receiving the audit was important or extremely important to their decision to install the energy-efficiency measures (Table 106).

Table 106: Factors Rated Extremely Important or Important to Measure Installation Decision (participants)

Factors	Audit-approved	Audit-completed	HPwES Work-completed	Total
Receiving any financing*	na	na	71%	na
Receiving Program Financing and Incentive**	na	na	76%	na
Receiving Program Incentive ***	na	na	80%	na
Receiving non-program financing****	4 of 7	9 of 17	na	57%
Receiving Audit*****	na	81%	76%	79%

* Receiving financing: HPwES work-completed (n=21).

** Receiving Program Financing and Incentives: HPwES work-completed (n=47).

*** Receiving Program Incentive: HPwES work-completed (n=147).

**** Receiving Non-program Financing: Audit-approved (n=7); audit-completed (n=17); Total (n=24).

***** Receiving Audit: Audit-completed (n=96); work-completed (n=147); Total (n=243).

6.7 PARTICIPANT SATISFACTION WITH HPWES PROGRAM

This section discusses participant satisfaction with the HPwES program overall as well as specific elements of the program.

6.7.1 Overall Satisfaction with HPwES Program

The participant survey asked audit-completed respondents and HPwES work-completed participants to indicate how satisfied they were with the HPwES program overall. They were asked to give their responses on a scale of 1 (“not at all satisfied”) to 5 (“very satisfied”). Overall, over four-fifths (82%) of respondents were either satisfied (score of four) or very satisfied with the program. Over three-quarters

(78%) of audit-completed respondents and the vast majority (95%) of work-completed respondents were either satisfied or very satisfied with the program (Table 107).

Work-completed respondents (68%) were significantly more likely than audit-completed respondents (48%) to say that they were very satisfied with the program.

**Table 107: Overall Satisfaction with HPwES Program
(audit-completed participants; HPwES work-completed participants)**

Satisfaction	Audit-completed (n=257)	HPwES Work-completed (n=147)	Total (n=404)
Very satisfied	48% β	68% ε	53%
Satisfied	30%	27%	29%
Neither satisfied nor dissatisfied	11% β	3% ε	9%
Dissatisfied	7% β	1% ε	6%
Very dissatisfied	3% β	-- ε	2%
Don't know	1%	1%	1%

Significantly different at the 90% confidence level: β = from work-completed; ε = from total.

The participant survey asked audit-completed and HPwES work-completed participants who were dissatisfied or very dissatisfied (i.e., gave a rating of one or two) the one most important reason they were dissatisfied. Over two-fifths (41%) of these audit-completed respondents reported that they did not receive the results of the audit or that no recommendations were made. About one-quarter (24%) cited the poor quality of the contractor, and about one-fifth (21%) cited a lengthy or difficult application process (Table 108). One dissatisfied work-completed participant cited the poor quality of the contractor, and another reported not receiving the results of the audit or that no recommendations were made.

**Table 108: Most Important Reason Why Dissatisfied with the HPwES Program
(audit-completed participants who were dissatisfied or very dissatisfied with the program)**

Reasons	Audit-completed (n=26)
Have not received results of audit/no recommendations have been made	41%
Unreliable/poor quality of contractor	24%
Lengthy/difficult application process	21%
Applied for/contacted program, but have not heard back	7%
Poor quality of recommendations	7%

The participant survey asked audit-completed participants and HPwES work-completed respondents who were dissatisfied or very dissatisfied with the HPwES program for the other reasons they were dissatisfied. The small number of respondents who were dissatisfied cited complications making the improvements, poor contractor quality, and poor quality recommendations that needed more information. Not having received the results of the audit and that the workers did not complete the work that they were supposed to were also mentioned by respondents.

Audit-completed and work-completed participants who were satisfied, very satisfied, or neither satisfied nor dissatisfied with the program (i.e., those who gave a rating from three to five) were asked the one most important reason they were satisfied (Table 109). Overall, nearly one-third of audit-completed and work-completed respondents (32%) said that the professionalism of the contractor was the one most important reason they were satisfied. Results and recommendations for improving energy efficiency were cited by one out of six respondents (16%) and financial assistance, rebates, or that it was free was cited by nearly one-eighth of respondents (11%).

Reflecting their stage of program participation, work-completed respondents (19%) were significantly more likely than audit-approved respondents (7%) to cite financial assistance as the most important reason for satisfaction with the program. Also reflecting their stage of program participation, audit-completed respondents (18%) were significantly more likely than work-completed respondents (11%) to cite the importance of results and recommendations for improving energy efficiency as the most important reason for satisfaction. Audit-completed respondents (12%) were also more likely than work-completed respondents (2%) to cite identifying issues or leaks in the home.

- Among audit-completed respondents, Downstate respondents (10%) were significantly less likely than Upstate-A (21%) and Statewide (18%) respondents to say that the results or

recommendations for improving energy efficiency were the most important reason for satisfaction.

- Downstate audit-completed respondents (14%) were significantly more likely than Upstate-A respondents (4%) to say that financial assistance was the most important reason they were satisfied.
- Upstate-A audit-completed respondents (9%) were significantly more likely than Upstate-B (2%) and Statewide respondents (7%) to cite customer service and the ease of participation as the most important reason they were satisfied.
- Among work-completed respondents, Downstate respondents (25%) were more likely than Upstate-A respondents (13%) to say that improved comfort, efficiency and safety of the home was the most important reason for satisfaction.
- Upstate-B work-completed respondents (0%) were less likely than Upstate-A (12%) and Downstate (13%) respondents to cite the results and recommendations for improving energy efficiency.

Table 109: Most Important Reason Why Satisfied with the HPwES Program (audit-completed and HPwES work-completed participants who were satisfied, very satisfied, or neither satisfied nor dissatisfied with the HPwES program)

Reasons	Audit-completed (n=199)	HPwES Work-completed (n=140)	Total (n=399)
Professionalism/quality of contractor/auditor	33%	26%	32%
Results/Recommendations for improving energy efficiency	18% β	11%	16%
Financial assistance/rebates/free audit	7% β	19% ε	11%
Identifying issues/leaks in home	12% β	2% ε	9%
Customer service/ease of participation	7%	8%	7%
Learned about efficiency of home/energy use in general	7% β	2%	6%
Improved comfort/efficiency/safety of home	1% βε	14% ε	5%
Learned about efficiency of home/energy use in general	7% β	2%	6%

Significantly different at the 90% confidence level: β = from work-completed; ε = from total.

Across audit-completed and work-completed respondents, over one-tenth (15%) cited the professionalism of the contractor among other reasons for program satisfaction. Nearly one-tenth (9%) cited results and recommendations for improving energy efficiency among the other reasons (Table 110).

- For audit-completed and work-completed respondents combined, Downstate respondents (19%) were significantly more likely to cite results and recommendations than were all Statewide respondents (9%).
- Among audit-completed respondents, Downstate respondents (20%) were significantly more likely than Upstate-A and Upstate-B respondents (3%) to indicate results and recommendations for improvements as a reason for satisfaction.

- Among work-completed respondents, Downstate respondents (20%) were significantly more likely than Upstate-A respondents (7%) to say that the professionalism or quality of the contractor/auditor was a reason for satisfaction.
- Among work-completed respondents, Upstate-B respondents (2%) were significantly less likely than Statewide respondents (7%) to say that improved comfort was a reason for satisfaction.

Table 110: Other Reasons Why Satisfied with the HPwES Program
(Audit-completed and HPwES work-completed who were satisfied, very satisfied, or neither satisfied nor dissatisfied with the HPwES program; multiple response)

Reasons	Audit-completed (n=188)	HPwES Work-completed (n=133)	Total (n=321)
Professionalism/quality of contractor/auditor	17%	10%	15%
Results/Recommendations for improving energy efficiency	10%	5%	9%
Financial assistance/rebates/free	7%	4%	6%
No other reasons	52% β	61%	55%

Significantly different at the 90% confidence level: β = from work-completed.

6.7.2 Satisfaction with Specific HPwES Program Elements

The participant survey asked respondents to indicate how satisfied they were with various aspects of the program. Overall, the respondents expressed high levels of satisfaction with all of the program elements (Table 111).

Table 111: Percent Very Satisfied or Satisfied with Specific HPwES Program Elements (participants)

Satisfaction	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants
Application Process and Paperwork Required to Participate in the Program	81%	88%	87%	86% (536)
Energy Audit of Home	na	87%	99%	90% (404)
Contractor who Performed the Audit	na	84%	97%	87% (404)
Energy-efficiency Measures Installed	na	na	85%	85% (147)
Contractor who Installed the Energy-efficiency Measures	na	na	93%	93%(147)

6.7.2.1 Application Process and Paperwork

Over four-fifths of participants (86%) said that they were satisfied or very satisfied with the application process and paperwork.

- Among audit-completed respondents, Upstate-A respondents (53%) were more likely than Upstate-B respondents (38%) to be very satisfied with the process and paperwork.

The few respondents (4%) who were dissatisfied or very dissatisfied with the application process and paperwork required to participate in the program were asked to provide the most important reason they were dissatisfied. Over two-fifths (41%) of them cited a difficult application process or length of time to be approved. The amount of paperwork or documents necessary was cited by nearly one-third of respondents

(32%), and issues with applying and customer service were mentioned by nearly one out of six respondents (14%).

6.7.2.2 Energy Audit of Home

Overall, a large majority (90%) of audit-completed and HPwES work-completed respondents were satisfied or very satisfied with the audit.⁷⁹

The few respondents (5%) who were dissatisfied or very dissatisfied with the energy audit of their home were asked to provide the most important reason they were dissatisfied. Over one-half of respondents said that the contractor was unprofessional (55%). Three out of ten respondents said that they have not yet received the results or recommendations.

6.7.2.3 Contractor who Performed the Audit

A large majority of audit- and work-completed respondents (87%) reported being satisfied or very satisfied with the contractor. Over four-fifths of audit-completed respondents (84%) and practically all of the work-completed respondents (97%) said that they were satisfied or very satisfied with the contractor.

The few respondents (8%)—almost all of whom were audit-completed participants—who were dissatisfied or very dissatisfied with the contractor who performed the audit were asked to provide the most important reason they were dissatisfied. About one-third (32%) of these audit-completed participants said that no recommendations were provided. One-quarter (25%) said that the contractor was unprofessional, unfriendly, or unprepared. Nearly one-fifth (18%) said that the audit was rushed or inadequate and eleven percent cited scheduling difficulties.

6.7.2.4 Energy-efficiency Measures Installed

Over four-fifths of work-completed respondents (85%) said that they were satisfied or very satisfied with the energy-efficiency measures installed.

The few work-completed respondents (1%) who were dissatisfied or very dissatisfied with the energy-efficiency measures installed were asked to provide the most important reason they were dissatisfied.

⁷⁹ This finding is slightly higher than that found in the New Hampshire HPwES program, in which eighty-three percent of survey respondents reported that they were generally satisfied or very satisfied with the first energy audit. See more information in Appendix C. “Process Evaluation: New Hampshire Home Performance with ENERGY STAR® Program.” NMR Group Inc./The Cadmus Group. June 13, 2011. <http://www.puc.nh.gov/Electric/Monitoring%20and%20Evaluation%20Reports/124%20NH%20HPwES%20Process%20Evaluation%20Report%20June%202013%202011.pdf>

Three respondents provided reasons and said that the installation was poor, that it now takes too long to get hot water, and that the contractor did not do what they said they would do.

6.7.2.5 Contractor who Installed the Energy-efficiency Measures

The large majority of HPwES work-completed respondents (93%) were satisfied or very satisfied with the contractor who installed the energy-efficiency measures.

The few work-completed respondents (3%) who were dissatisfied or very dissatisfied with the contractor who installed the energy-efficiency measures were asked to provide the most important reason they were dissatisfied. Five respondents provided reasons, and cited installation or low quality work, that the contractor did not do what they said they would do and that they had difficulty handling the incentive with the contractor.

Section 7

DEMOGRAPHICS

7.1 RESPONDENT DEMOGRAPHICS

This section presents demographic characteristics for the three participant groups and totals for the three groups as well as for non-participants and low-moderate income respondents.

Nearly all the respondents indicated that they owned or were buying their home (Table 112).

**Table 112: Home Ownership
(participants, non-participants, low-moderate income respondents)**

Audit-approved (n=132)	Audit- completed (n=257)	HPwES Work- completed (n=147)	All Participants (n=536)	Non- participants (n=212)	Low- moderate income (n=106)
100% $\alpha\epsilon$	99%	99%	99%	100%	100%

Significantly different at the 90% confidence level: α = from audit-completed; ϵ = from total.

The survey asked respondents about the type of home that they lived in (Table 113). The large majority of audit-approved (90%), audit-completed (90%), and work-completed (95%) respondents said that they lived in a single-family detached house. The work-completed respondents were significantly more likely than the other respondent groups to live in single-family detached homes.

- Downstate audit-completed respondents (82%) were significantly less likely than Upstate-A (94%) and Upstate-B respondents (92%) to live in single-family detached houses.
- Conversely, Downstate audit-completed respondents (14%) were significantly more likely than Upstate-A (1%) and Upstate-B respondents (5%) to live in attached houses (See Appendix A, Section 7 for regional details).

Non-participants (80%) were significantly less likely than participants (91%) to say that they lived in single-family detached houses. One-sixth (16%) said that they lived in single-family attached houses, a result that is significantly higher than participants (6%).

- Downstate non-participants (23%) were significantly more likely than Upstate-A (11%) and Upstate-B (5%) non-participants to live in attached houses.
- Upstate low-moderate income respondents (100%) were significantly more likely than Downstate respondents (76%) to live in single-family detached houses. Conversely, upstate low-moderate income respondents (0%) were significantly less likely than Downstate respondents (20%) to live in single-family attached houses.

Table 113: Type of Home
(all)

Type of home	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)	Low-moderate Income (n=106)
Single-family detached house	90% δ	90% $\beta\delta$	95% $\epsilon\delta$	91% δ	80%	87%
Single-family attached house (like a townhouse)	8% δ	5% δ	5% δ	6% δ	16%	11%
Apartment building with 2-4 units	3% δ	2% δ	<1% δ	2% δ	5%	3%
Don't know	--	<1%	--	<1%	--	--
Refused	--	2% δ	--	1% δ	--	--

Significantly different at the 90% confidence level: β = from work-completed; ϵ = from total; δ = from non-participants.

The surveys asked respondents when their home was built (Table 114). Overall, respondents were most likely to report living in homes built in the 1930s or earlier, reported by about one-fourth of participants (27%), one-third of non-participants (33%), and over two-fifths of low-moderate income respondents (46%). About one-half of participants (53%), two-fifths of non-participants (40%), and one-third of low-moderate income respondents (34%) reported that their homes were built between the 1950s and the 1980s.

- Upstate-B respondents (38%) were significantly more likely than Upstate-A (23%) or Downstate (25%) respondents to live in homes built in the 1930s or earlier.

Table 114: When Home Was Built
(all)

When built	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)	Low-moderate Income (n=106)
1930s or earlier	28%	28%	24% δ	27%	33%	46% δ
1940s	11% αβε	3% δ	4% δ	5% δ	11%	6%
1950s	9% αβε	16% εδ	22% δ	15% δ	10%	12%
1960s	17% δ	13%	18% δ	15%	11%	13%
1970s	11%	11%	11%	11%	10%	3% δ
1980s	12%	13%	11%	12%	9%	6%
1990s	8%	8%	8%	8%	6%	6%
2000 or later	3%	6% β	2% δ	4% δ	6%	4%
Don't know	1% δ	1% βδ	--	1% βδ	4%	2%
Refused	--	2% γβ	--	1% γβ	1%	2%

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed; γ = from audit-approved; ε = from total; δ from non-participants.

The surveys asked respondents the size of their home. Overall, about one-half of the participants (51%) lived in homes of less than 2,000 square feet and nearly three-quarters (73%) lived in homes of less than 2,500 square feet. Slightly fewer than one-half (45%) of non-participants lived in homes of less than 2,000 square feet and nearly three-fifths (58%) lived in homes of less than 2,500 square feet. About two-fifths (42%) of low-moderate income respondents lived in homes of less than 2,000 square feet and about three-fifths (59%) lived in homes of less than 2,500 square feet.

Table 115: Size of Home
(all)

Size of home	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)	Low-moderate Income (n=106)
Less than 1,400 square feet	19%	14%	20%	17%	17%	22%
1,400 to less than 2,000 square feet	27%	37% δ	36%	34%	28%	20%
2,000 to less than 2,500 square feet	26% δ	20% δ	21% δ	22% δ	13%	17%
2,500 to less than 3,500 square feet	14%	14%	11%	13% δ	16%	9% δ
3,500 to less than 4,000 square feet		2% γ	1% δ	1% $\gamma\delta$	4% γ	3%
4,000 to less than 5,000 square feet	4% $\gamma\delta$	4% $\gamma\delta$	1%	2% γ	1%	2%
5,000 square feet or more	2% $\alpha\beta$	--	--	1% α	1% $\alpha\beta$	3%
Don't know	13%	9% δ	11% δ	10% δ	18%	24%
Refused	--	2% γ	--	1% $\gamma\beta$	1% $\gamma\beta\epsilon$	2%

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed; γ = from audit-approved; δ from non-participants.

The surveys asked respondents the number of rooms in their home, not counting bathrooms. Over four-fifths of participants (83%) had six or more rooms, with about two-fifths (39%) having eight or more rooms. Similarly, about three-fourths of non-participants had over six rooms (76%), with nearly two-fifths (36%) having over eight rooms; and over two-thirds of low-moderate income respondents had over six rooms (70%), with one-fourth (25%) having over eight rooms (Table 116).

Table 116: Number of Rooms
(all)

Rooms	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)	Low-moderate Income (n=106)
3	1%	2%	2%	2%	3%	5%
4	8% α	1% $\beta\epsilon\delta$	6%	4%	4%	5%
5	14%	12% δ	10% δ	12% δ	17%	19%
6	17% $\beta\delta$	18% $\beta\delta$	26% ϵ	19% δ	27%	27%
7	22% δ	26% δ	25% δ	25% δ	13%	18%
8+	39%	41% β	30% $\epsilon\delta$	39%	36%	25% δ
Mean	7.2	7.4	6.9	7.3	7.1	6.8
Median	7	7	7	7	6	6.0

Significantly different at the 90% confidence level: α = from audit-completed; ϵ = from total; δ from non-participants.

The surveys asked respondents how they pay their electric bill. Practically all of the participants (98%), non-participants (97%), and low-moderate income respondents (98%) paid the bill directly (Table 117).

Table 117: Payment of Electric Bill
(all)

Bill payment	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)	Low-moderate Income (n=106)
Pay directly	99%	97%	98%	98%	97%	98%
Paid for in some other way	1%	<1%	2%	1%	1%	--
Don't know	--	--	--	--	<1%	1%
Refused	--	3% $\gamma\beta$	--	2% $\gamma\beta$	2% $\gamma\beta$	1%

Significantly different at the 90% confidence level: β = from work-completed; γ = from audit-approved.

The surveys asked respondents how many people live in their home on a full-time basis (Table 118). For all participants, about two-fifths (41%) had two members in the household and nearly one-fifth (18%) had one member in the household. The average household size for participants was 2.6. About one-third (32%) of non-participant households had two people living in them. The average non-participant household size was 3.0. About one-fourth (26%) of low-moderate income households had just one person and two-fifths (40%) had two people living in them. The average low-moderate income household size was 2.5.

Table 118: Household Size
(all)

Household size	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)	Low-moderate Income (n=106)
1	22% αδ	15%	19%	18%	14%	26% δ
2	38%	45% β δ	36%	41% δ	32%	40%
3	16%	17%	15%	16%	19%	13%
4	15% β	15% β	23% ε	16%	20%	12% δ
5	6%	5% δ	3% δ	5% δ	10%	4% δ
6+	4%	3%	3%	3% δ	6%	3%
Mean	2.6	2.6	2.7	2.6	3	2.5
Median	2	2	2	2	3	2

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed; δ from non-participants.

The surveys asked respondents for the number of household members by age group (Table 119). Participants reported an average of 1.8 household members in the age group from 0-17 and an average of 1.3 residents in both the 18-24 and 25-34 year old age groups. The other age groups averaged approximately one household member per age group. Non-participants reported an average of 2.0 household members in the age group from 0-17 and an average of 1.0-1.3 residents in the other age groups. Low-moderate income respondents reported an average of 2.0 household members in the age group from 0-17 and an average of 1.0-1.2 residents in the other age groups.

Table 119: Residents By Age Group
(all)

Residents	Audit- approved (n=132)	Audit- completed (n=257)	HPwES Work- completed (n=147)	All Participants (n=536)	Non- participants (n=212)	Low- moderate Income (n=106)
0-17	1.9	1.8	1.7	1.8	2.0	2.0
18-24	1.2	1.5	1.1	1.3	1.2	1.1
25-34	1.1	1.3	1.3	1.3	1.3	1.2
35-44	1	1	1.1	1	1.1	1.1
45-54	1	1	1	1	1.1	1.2
55-64	1.1	1	1	1	1.1	1.0
65 or over	1	1.1	1	1.1	1	1.0

The surveys asked respondents to report their ages (Table 120). About three out of four participants (74%) and non-participants (74%) were over 45 years old. Nearly one-half (47%) of low-moderate income respondents were over 65 years old and about two-thirds (68%) were over 55 years old.

Table 120: Respondent Age

(all)

Age	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)	Low-moderate Income (n=106)
18-24	--	<1%	--	<1%	--	1%
25-34	5%	8%	7%	7%	9%	3% δ
35-44	20% δ	16%	13%	17%	13%	10%
45-54	21%	19%	24%	20%	25%	17% δ
55-64	26%	30%	26%	28%	29%	21%
65 or over	27%	24%	26%	26% δ	20%	47% δ
Refused	2% β	4% β	--	2% β	4% β	1% δ

Significantly different at the 90% confidence level: β = from work-completed; ε = from total; δ from non-participants.

The surveys asked respondents if English is the primary language spoken in their home (Table 121). Practically all of the participants (98%) and non-participants (97%) spoke English as their primary language.

Table 121: English as Primary Language Spoken in Home

(all)

English as primary language	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)	Low-moderate Income (n=106)
Percent Yes	98% β	98% β	100% εδ	98%	97%	98%

Significantly different at the 90% confidence level: β = from work-completed; ε = from total; δ from non-participants.

The surveys asked respondents if they consider themselves to be Spanish, Hispanic, or Latino (Table 122). Very few participants (4%), non-participants (6%), and low-moderate income respondents (5%) reported being Spanish, Hispanic or Latino.

**Table 122: Consider Self to be Spanish, Hispanic, or Latino
(all (percent))**

Spanish, Hispanic, or Latino	Audit- approved (n=132)	Audit- completed (n=257)	HPwES Work- completed (n=147)	All Participants (n=536)	Non- participants (n=212)	Low- moderate Income (n=106)
Percent Yes	4% β	4% β	-- $\epsilon\delta$	4%	6%	5%

Significantly different at the 90% confidence level: β = from work-completed; ϵ = from total; δ from non-participants.

Table 123 show respondents' reporting of their race. Four-fifths or more of participants (86%), non-participants (83%), and low-moderate income respondents (79%) reported being white.

Table 123: Respondent Race
(all)

Race	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)	Low-moderate Income (n=106)
White	84% β	84% β	95% εδ	86%	83%	79%
Black or African-American	5% β	7% β	2% εδ	5% δ	9%	14%
American Indian, Native Hawaiian, Pacific Islander, or Alaska Native	1%	<1%	2% γ	1% β	2% β	3%
Asian	5%βδ	2%β	--	2% β	1%	1%
Hispanic	--	1% γβδ	--	1% β	--	1%
European	1%	--	--	<1%	--	--
Middle Eastern	--	<1%	--	<1%	--	--
Something else	--	--	--	--	2% γαβε	-- δ
Don't know	--	1% γ	--	1% γ	1%	--
Refused	4%	5% β	--	4%	3%	2%

Significantly different at the 90% confidence level: β = from work-completed; = from audit-approved; ε = from total; δ from non-participants.

The surveys asked respondents for the highest grade of schooling they had completed (Table 124). Over two-thirds (68%) of all participants and over one-half (54%) of non-participants reported having at least an associate's degree. In contrast, around two-fifths (43%) of low-moderate income respondents reported not having gone beyond high school.

Table 124: Level of Education Completed

(all)

Education level	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)	Low-moderate Income (n=106)
Less than ninth grade	--	<1%	--	<1% βγ	--	1%
Ninth to twelfth grade; no diploma	2% β	<1%	--	1% β	2% β	4%
High school graduate (includes GED)	13%	17%	19%	16%	19%	38% δ
Some college, no degree	11% δ	9% δ	13% δ	10% δ	21%	16%
Associates degree	11%	14%	17%	13%	14%	7% δ
Bachelors degree	21%	26%	22%	24%	24%	19%
Graduate or professional degree	21% βε	28% δ	30% δ	31% δ	16%	12%
Don't know	5% αβε	1% βδ	--	<1%	--	
Refused	--	6% γβ	--	5% γβ	5% γβ	3%

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed; γ = from audit-approved; ε = from total; δ from non-participants.

Participant and non-participant reporting of total combined household income is shown in Table 125. Over two-fifths (44%) of participants reported incomes over \$50,000. Fourteen percent of participants refused to

answer the income question. One-half of non-participants (50%) reported incomes of over \$50,000. One-fifth (21%) of non-participants refused to answer the income question.

- Downstate non-participants (15%) were significantly more likely than Upstate A (1%) and Upstate B respondents (6%) to have incomes of \$150,000 or more.

Table 125: Household Income
(all)

Income	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)
Less than \$15,000	5%	3%	3%	4%	2%
\$15,000 to just under \$25,000	9% δ	6%	9% δ	7% δ	3%
\$25,000 to just under \$30,000	4%	6%	3%	4%	5%
\$30,000 to just under \$35,000	4%	5%	7%	5%	5%
\$35,000 to just under \$50,000	14% β	10% β	23% $\epsilon\delta$	13%	10%
\$50,000 to just under \$75,000	13%	15%	16%	13%	16%
\$75,000 to just under \$100,000	13% β	15% β	7% $\epsilon\delta$	15%	14%
\$100,000 to just under \$150,000	16%	16%	16%	16% δ	11%
\$150,000 or more	5%	9% β	3% $\epsilon\delta$	7%	9%
Don't know	2%	3%	3%	3%	4%
Refused	16%	14% δ	10% δ	14% δ	21%

Significantly different at the 90% confidence level: β = from work-completed; ϵ =from total; δ = from non-participants.

The screener for the low-moderate income survey qualified respondents with incomes of \$25,000 to \$50,000 for upstate counties and \$25,000 to \$75,000 for Downstate counties. Table 126 shows the reporting of total combined household income for the survey respondents. Overall, about seven out of ten (71%) low-moderate income respondent reported incomes under \$50,000 and one-third (33%) reported incomes under \$35,000.

**Table 126: Household Income
(low-moderate income respondents)**

Income	Low-moderate income respondents (n=106)
\$25,000 to just under \$35,000	33% δ
\$35,000 to just under \$50,000	38% δ
\$50,000 to just under \$75,000	25% δ
Don't know	3%
Refused	2% δ

Significantly different at the 90% confidence level: δ = from non-participants.

Slightly over one-half of participants (55%) and low-moderate income respondents (53%) were male, while slightly more than one-half of non-participants (55%) were female (Table 127).

**Table 127: Gender of Participants and Non-participants
(all)**

Gender	Audit-approved (n=132)	Audit-completed (n=257)	HPwES Work-completed (n=147)	All Participants (n=536)	Non-participants (n=212)	Low-moderate Income (n=106)
Female	55% $\alpha\beta$	43% δ	36% $\epsilon\delta$	45% δ	55%	47%
Male	45% $\alpha\beta$	57% β	65% ϵ δ	55% δ	45%	53%

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed; ϵ = from total; δ = from non-participants.

7.2 CONTRACTOR FIRMOGRAPHICS

The contractor survey asked respondents how long their company had been in business. Contractors reported having been in business an average of 23 years. The number of years in business ranged from one to 85 years (Table 128).

**Table 128: Length of Time in Business
(contractors)**

Length (Years)	Contractors (n=59)
Average	23
Median	17
Maximum	85
Minimum	1

The survey asked contractors about what percentage of their business in 2010 and so far in 2011 had come from the HPwES program. On average, contractors reported that 36% of their 2010 business and 32% of their 2011 business had come from the program (Table 129).

**Table 129: Average Percent of Business from HPwES Program
(contractors who knew what percentage of their business was from HPwES)**

Year	Sample Size	Average Percent of Business ¹
2010 Percent of Business from HPwES Program	52	36%
2011 Percent of Business from HPwES Program	54	32%

¹ Three HPwES contractors who were not in business for the full year in 2010 and four contractors who did not know what percentage of their business in 2010 was from the program were excluded from the 2010 analysis. Five contractors who did not know what percentage of their business in 2011 was from the program were removed from the 2011 analysis.

HPwES contractors reported that their companies had had an average of 16 employees in both October, 2010 and September, 2011. Almost one-half of the contractors (46%) indicated that they had an increase in the number of their employees between October 2010 and September 2011. They reported an average of 12 employees in October, 2010 and 16 employees in September, 2011. These contractors were asked to identify what percentage of this increase they would attribute to increased volumes of work from the HPwES program. On average, these contractors indicated that 24% of the increase was due to the HPwES program (Table 130).

**Table 130: Average Number of Employees
(contractors; contractors who indicated an increase in employees)**

Year	Average Number of Employees (n=56)	Average Number of Employees for contractors who indicated an increase in employees (n=26)	Percent increase in employees attributable to increased volume of work from HPwES (n=25)
October 2010	16	12	24%
September 2011	16	16	

Section 8

SUMMARY OF FINDINGS

The findings summarized in this section are separated into findings on MCA-related topics and findings on the process evaluation-related topics. Accordingly, the topic areas for both groups are structured according to those outlined in the evaluation work plan (see Section 2).

8.1 MARKET CHARACTERIZATION AND ASSESSMENT FINDINGS

The MCA findings address market awareness, customer interest in the New York HPwES and GJGNY funded offerings, program participation decision, GJGNY business and jobs impact, and competition for customers with utility rebate programs.

8.1.1 Market Awareness

This section discusses market awareness of NYSERDA programs, HPwES, and GJGNY-funded components.

8.1.1.1 Awareness of NYSERDA Programs

Awareness of NYSERDA programs in the market was low. The primary sources of awareness of the programs were TV advertising and word-of-mouth.

- Similar percentages of (12%) of non-participants (12%) and low-moderate income respondents (14%) reported being aware of NYSERDA programs. Among the non-participants who reported being aware of NYSERDA programs, the most frequently mentioned sources of information were TV ads (35%), followed by word-of-mouth (26%), and newspaper ads or stories (23%). Among the low-moderate income respondents, word-of-mouth was an important source of program information (29%), followed by newspaper ads or stories (24%). HPwES participants also exhibited relatively low awareness of NYSERDA programs (other than HPwES), with about one-tenth (9%) reporting awareness of the other programs.

8.1.1.2 Awareness of HPwES Program

Awareness of HPwES in the market was also very low. Overall, the most frequently mentioned sources of HPwES program awareness were contractors and word-of-mouth.

- A small fraction of non-participants (2%) and low-moderate income respondents (3%) reported unaided awareness of HPwES. However, after being prompted with a description of the program,

about one-third of non-participants (36%) and low-moderate income respondents (31%) reported awareness of HPwES. Staff recognized that increased awareness is needed for the program and thought that changing market conditions, such as increased fuel prices, would encourage more project activity.

- The review and analysis of the CRIS database and the participant survey findings suggested that contractors played a critical role in informing customers about the HPwES program and, importantly, also in encouraging participants to complete HPwES projects. While word-of-mouth was most commonly cited source of program information in the participant survey, contractors were the second most cited source. In both the CRIS database and the participant survey, HPwES contractors were the most commonly cited source by HPwES work-completed participants. Other frequently mentioned sources of program information for participants, in both the CRIS database and the survey, included TV ads, newspaper ads or stories, NYSERDA, and the internet.

8.1.1.3 Awareness of GJGNY-funded Components of HPwES

Among customers who were aware of HPwES, there was moderate awareness of the GJGNY-funded components—the free or reduced-cost energy audits and the low-interest loans. Interestingly, awareness of these GJGNY components appeared to be somewhat higher among non-participants than among participants. While mass media such as TV and newspaper advertising and stories were commonly cited by non-participants and low-moderate income respondents as a major source of information about the GJGNY components, they also frequently mentioned word-of-mouth as a major source of program information. Participants also cited word-of-mouth and TV ads as major sources of information about the free or reduced-cost energy audits, but HPwES contractors or auditors also were cited as significant sources of information about the audits and as the most important sources of information about the loans.

- Among the non-participants and low-moderate income respondents who were aware of HPwES, more than two-thirds of non-participants (69%) and about three-fifths of low-moderate income respondents (61%) reported being aware of the free or reduced-cost energy audits. In contrast, somewhat fewer participants (56%) reported being aware of the free or reduced-cost energy audits. The sources of information about the free or reduced-cost energy audits most commonly cited by non-participants were TV ads (31%), followed by newspaper ads or stories (28%), and word-of-mouth (22%). The low-moderate income survey respondents most frequently cited the internet (19%) and word-of-mouth (18%). Participants most frequently reported hearing about the free or reduced-cost energy audits through word-of-mouth (22%), followed by newspaper or magazine ads or stories (15%), TV ads (14%), and from a HPwES contractor or auditor (13%).
- Among the non-participants and low-moderate income respondents who were aware of HPwES, close to three-fifths each of non-participants (57%) and low-moderate income respondents (57%) reported being aware of the low-interest loans. In contrast, fewer (41%) participants reported that

they were aware of the low-interest loans prior to participation; and a total of about three-fifths (59%) reported being aware of the loans after participation. The largest sources of information about the low-interest loans cited by non-participants were TV ads (29%), followed by word-of-mouth (20%), and newspaper ads or stories (19%). The low-moderate income survey respondents most frequently cited newspaper ads or stories (15%) and home shows (15%). Participants most frequently reported hearing about the low-interest loans from a HPwES contractor or auditor (35%).

8.1.2 Overall Customer Interest in HPwES

While nearly one-fifth of non-participants and about one-fourth of low-moderate income respondents exhibited interest in participating in the HPwES program overall, their interest levels about doubled when asked about the cash-back incentives—around two-fifths of both non-participants and low-moderate income respondents were interested in the cash-back incentives. Non-participants were not interested in participating in the overall HPwES program primarily because they thought they did not need it as they had already installed most measures or their home was already energy efficient. Low-moderate income respondents were not interested in participating in the program primarily because they could not afford it.

- Nearly one-fifth of non-participants (17%) and about one-fourth of low-moderate income respondents (26%) said that they were interested or very interested in participating in the HPwES program. However, around three-fifths of non-participants (63%) and low-moderate income respondents (58%) were not interested in participating in the HPwES program. The reasons non-participants gave for being not at all interested in participating in the program varied. The most important reasons cited were that they had already installed most measures (21%) or their home was already energy efficient (19%). The most important reason low-moderate income respondents were not interested in participating in the program was that it was too expensive or that they did not have the money to install measures (26%).
- Non-participants and low-moderate income respondents who had heard of HPwES were asked why they had not participated in the program. Nearly one-quarter of non-participants said they did not have the time or were too busy (23%), one-fifth said their home was already energy efficient (20%), and nearly one-fifth said that they had already installed most measures (17%). Among the low-moderate income respondents, three-tenths said that it was too expensive or that they did not have the money (30%), and nearly two-tenths said they did not know that they were eligible to participate (17%).
- The surveyed non-participants and low-moderate income respondents also were asked about their interest in cash-back incentives from the HPwES program. Around two-fifths of non-participants (37%) and low-moderate income respondents (42%) were interested or very interested in cash-back incentives, while a similar percentage of non-participants (43%) and low-moderate income

respondents (45%) said that they were not interested. The most important reason these customers were not interested in the cash-back incentives was that they did not need them or simply were not interested, cited by about one-fourth of non-participants (24%) and one-third of low-moderate income respondents (32%).

8.1.3 Customer Interest in GJGNY-funded HPwES Offerings

The findings summarized in this section address customer interest in the GJGNY-funded offerings of the free or reduced-cost energy audit and GJGNY financing.

8.1.3.1 GJGNY Free or Reduced-cost Energy Audit

About one-fifth (19%) of non-participants and one-third (32%) of low-moderate income respondents expressed interest in receiving the GJGNY free or reduced-cost energy audit. About three-fifths (63%) of non-participants and one-half (51%) of low-moderate income respondents said they were not interested in receiving the audit. Non-participants and low-moderate income respondents most commonly said they were not interested because they did not need it (20% of non-participants and 17% of low-moderate income respondents); or because their home is already energy efficient (13% of non-participants and 19% of low-moderate income respondents). Additionally, 16% of non-participants said they were not sure if they would qualify and 16% of low-moderate income respondents did not have the time to participate.

8.1.3.2 GJGNY Financing

About one-fifth of non-participants (20%) and low-moderate income respondents (21%) expressed interest in taking advantage of GJGNY financing. About three-fifths of non-participants (60%) and of low-moderate income respondents (63%) said they were not interested in taking advantage of GJGNY financing. Non-participants and low-moderate income respondents most commonly said they were not interested because it was too expensive or they didn't have the money (20% of non-participants and 31% of low-moderate income respondents); or because they did not need it (21% each of non-participants and of low-moderate income respondents). Program staff also thought that customers are often unwilling to take on debt to finance energy-efficiency measures.

8.1.4 Program Participation Decision

From the perspectives of those involved in administering or delivering the program, lack of awareness of the program was a significant barrier to participation. About one-fourth (24%) of HPwES contractors mentioned lack of awareness or knowledge of the program as a barrier to program participation. The participant survey asked audit-completed and HPwES work-completed respondents to think back to when

they first decided to schedule an audit and participate in the HPwES program and to indicate the reasons they chose to participate at that time, as opposed to participating at an earlier or later date. Overall, the most frequently cited reason by these respondents was simply that they had just heard about the program (37%).⁸⁰

Level and Type of Market-actor Activity

The findings summarized in this section address HPwES contractor activity by region, contractor firmographics, and types of financing mechanisms used for energy-efficiency improvements.

8.1.4.1 HPwES Contractor Activity

NYSERDA data on HPwES contractor activity showed that Upstate-A HPwES contractors had much higher HPwES and GJGNY program activity than Downstate and Upstate-B contractors. These data showed that roughly one-half of GJGNY activity was by Upstate-A contractors. This higher level of activity may have been a reflection of earlier adoption of the program by Upstate-A contractors.

- Forty-seven percent of HPwES projects, 43% of audits, 62% of GJGNY work completed, and 48% of approved GJGNY loans were by Upstate-A HPwES contractors.
- Statewide, 144 of the 171 contractors completed HPwES projects, averaging 102 projects per contractor. Upstate-A contractors averaged by far the highest number of HPwES projects (180), compared to 38 projects by Upstate-B and 26 projects by Downstate contractors.
- Statewide, 133 contractors completed GJGNY free or reduced-cost energy audits, averaging 21 audits per contractor. Again, Upstate-A contractors averaged the highest number of GJGNY audits (34), over twice the 14 audits completed by Upstate-B contractors and nearly five times the seven audits by Downstate contractors.
- Statewide, 70 contractors completed an average of eight GJGNY projects per contractor. Again, Upstate-A contractors averaged the highest number of GJGNY projects (12), three times more than the four projects averaged by Downstate contractors, and four times as many as the three projects averaged by Upstate-B contractors.
- Statewide, 105 contractors had approved loans through the GJGNY program, averaging six loans per contractor and an average loan value of \$10,123. Upstate-A contractors averaged the highest number of GJGNY loans (9), about three times more than the three loans averaged by Upstate-B contractors, and the two loans averaged by Downstate contractors. However, Downstate

⁸⁰ Additional related findings are provided in the Process Evaluation Summary, Section 8.2.4.2, Participation Motivations and Barriers.

contractors had the highest average loan value (\$11,200), which may be related to home values in the region.

8.1.4.2 Training and Accreditation

When hiring new employees, HPwES contractors placed a higher premium on work experience and BPI certification than on worker readiness and job readiness training. However, the contractors thought that field training, sector training, and advanced technical training would be important for their existing employees to receive.

- Asked to rate specific qualifications for new employees, HPwES contractors gave the highest ratings (extremely important or important) to residential building construction experience (58%) and BPI certification (53%), while worker readiness or job readiness training (42%) was rated relatively lower.
- Nearly eight-tenths (78%) of HPwES contractors said that field training would be valuable or extremely valuable for their employees, and about seven-tenths also said that sector-based (69%) and advanced technical training (67%) would be valuable or extremely valuable.

8.1.4.3 GJGNY Business and Jobs Impact

The HPwES contractors participating in HPwES and offering GJGNY free or reduced-cost energy audits reported that HPwES accounted for about one-third of their revenues in 2010 (36%) and 2011 (32%). Nearly one-half (46%) of contractors reported an increase in the number of their employees in the period following the introduction of the GJGNY components into the HPwES program in November 2010. The contractors who reported an increase in employees estimated that 24% of this increase could be attributed to the HPwES program since the introduction of the GJGNY components. Thus, overall, contractors attributed over one-tenth (11%) of new employees hired to the introduction of GJGNY components into HPwES.

8.1.4.4 Types of Financing Used for Energy-efficiency Improvements

HPwES work-completed participants relied primarily on cash or out-of-pocket funds to pay for the energy-efficiency measures (75%) that they installed through the program; nearly two-fifths (37%) said that they used GJGNY financing.

Competition for Customers with Utility Rebate Programs

The surveyed respondents indicated substantially higher levels of awareness of utility energy-efficiency programs than of NYSERDA programs. Non-participants reported nearly four times greater awareness of

the utility programs (45%) than of NYSERDA programs (12%). Similarly, HPwES program participants revealed about three times greater awareness of the utility programs (26%) than of other NYSERDA programs (9%). The introduction of the GJGNY components into the HPwES program does not appear to have had a perceptible impact on participant rates of utility program participation. An about equal percentage of HPwES participants reported having participated in a utility program in the 10 months prior to the introduction of the GJGNY components (20%) as they did in the 10 to 11 months following the introduction of the GJGNY components (19%). Nearly one-fifth of audit-approved and audit-completed respondents (18%) reported having received non-HPwES program incentives or non-GJGNY financing to install energy-efficiency measures, most frequently citing the utilization of utility rebates (25%).

- Slightly fewer than one-half of non-participants (45%), about three-tenths (29%) of the low-moderate income respondents, and slightly fewer than three-tenths (26%) of participants said that they were aware of electric or gas utility programs to help them save energy. In contrast, as noted previously, about similar percentages of non-participants (12%) and low-moderate income respondents (14%) reported being aware of NYSERDA programs; and about one-tenth (9%) of HPwES program participants reported being aware of other NYSERDA programs.
- Among the respondents who were aware of utility programs, about one-fourth of non-participants (24%) and about one-fifth of low-moderate income respondents (19%) reported having participated in one of these programs. Also about one-fourth of HPwES program participants (24%) reported having participated in a utility program and about one-fifth (19%) of them reported having participated in a utility program after the introduction of GJGNY components into the HPwES program in mid-November 2010. Notably, one-fifth (20%) of the participants who reported having participated in a utility program also reported having participated in a utility program between January 2010 and mid-November 2010.
- When asked about their reasons for participating in the utility programs, over four-tenths of participants (43%) said that they wanted to save on energy or natural gas bills. Over three-tenths said that they planned to make improvements anyway (36%) or that they participated in utility programs because they offered rebates or were free (32%).
- Nearly one-fifth of audit-approved and audit-completed respondents (18%) reported having received non-program rebates or financing to install energy-efficiency measures. The source of the non-program rebates or financing most frequently cited by these respondents was utility rebates (25%), followed by tax credits (19%) and NYSERDA (16%).

Level and Type of Program Activity

This section discusses the level and type of program activity, including customer activity tracked in the NYSERDA CRIS database, and survey findings on recommended and installed measures.

8.1.4.5 NYSERDA Database Analysis

NMR conducted an analysis of the NYSERDA CRIS database on customer activity for the period of November 15, 2010 through October, 27, 2011. The large majority of participants (92%) received free GJGNY audits. The analysis also reviewed the number participants in each of the three program stages (audit-approved, audit-completed, and work-completed), as well as the average number of days between each stage. The findings suggest that there may be some backlog of program participants who have had an audit but have not had work completed. The largest group of participants (49%) was those who had an audit completed but did not have HPwES work completed, and the larger lag time (77 days) was between audit completion and work completion. In contrast, there were fewer participants at the audit approval (38%) or HPwES work-completed (13%) stages; and the average length of time between audit approval and audit completion was 28 days. Note, however, that some share of the 49% of participants who have had an audit but have not had work completed may have simply had the audit because it was free; and some part of the longer lag time of 77 days between audit completion and work completion may have been due to the time needed by participants to decide which measures to install and how to pay for them.

8.1.4.6 Recommended and Installed Measures

While insulation, air sealing, and ENERGY STAR-qualified heating equipment were most frequently recommended by the HPwES audit, the need to install the heating equipment appears to be a significant factor in motivating audit-completed participants to move to the next stage of program participation; work-completed respondents frequently reported installing ENERGY STAR heating equipment (72%) and they were significantly more likely (57%) than audit-completed respondents (41%) to have been recommended ENERGY STAR-qualified heating equipment. This may be understandable because of the relatively higher-cost heating equipment as compared to the other recommended measures and the benefit to participants of using the HPwES financial assistance to help pay for the heating equipment. Financial concerns were the primary driver of the decision to install the recommended measures (concern about energy bills), as well as of the decision to not install them (the high cost of the measures).

- The three most frequently recommended measures mentioned by both audit-completed and work-completed respondents were insulation (84%) and air sealing (72%), followed by ENERGY STAR-qualified heating equipment (44%). Work-completed respondents (57%) were significantly more likely than audit-completed respondents (41%) to have been recommended ENERGY STAR-qualified heating equipment. They were also significantly more likely to have been recommended energy efficient windows (33% versus 21%).
- Work-completed respondents most frequently reported having installed air sealing (76%), insulation (76%), and ENERGY STAR heating equipment (72%). Nearly two-fifths (38%) of audit-completed and audit-approved participants respondents reported that they had installed measures outside of the program. Audit-completed respondents most frequently reported having

installed air sealing (76%), insulation (72%), and energy efficient windows (58%). Audit-approved respondents most frequently reported having installed energy efficient windows (41%), insulation (40%), and air sealing (38%). Work-completed respondents (72%) were significantly more likely to install ENERGY STAR-qualified heating equipment than were audit-completed respondents (29%) or audit-approved respondents (24%).

- About one-half of both HPwES work-completed respondents (51%) and HPwES contractors (54%) cited the desire to save on energy costs/bills as single most important reason to install measures. The high cost of measures was cited as the single most important reason for not installing them, mentioned by over four-tenths of audit-completed and work-completed participants (41%) and by seven-tenths of contractors (70%).
- Upstate-B work-completed respondents reported higher levels of installing air sealing and insulation. Upstate-B work-completed respondents (88%) were significantly more likely than Statewide respondents (76%) to have installed air sealing. All of the Upstate-B work-completed respondents (100%) reported having installed insulation, which was significantly more frequently than Upstate-A (71%) and Downstate (86%) work-completed respondents.

8.2 PROCESS EVALUATION FINDINGS

The process evaluation findings address program and implementation staff roles and responsibilities, communication and outreach, administration, and program delivery and implementation.

8.2.1 Key Roles and Responsibilities of Program and Implementation Staff

Program staff members and implementation contractors generally indicated long-standing experience with the HPwES program and with GJGNY. A utility staff member noted that, when appropriate, they refer customers to the NYSERDA program and that NYSERDA refers customers to them. The staff member indicated that fuel type and customer needs typically define when a customer enters a utility program versus a NYSERDA program.

Program staff reported that they develop the financial and audit components, and general modifications to the program, engage in day-to-day implementation and supervising of staff, administer the contracts and approve the invoices for GJGNY, and conduct outreach and marketing. Implementation contractors work on delivering the HPwES program, including the GJGNY elements of free or reduced-cost energy audits and financing. Conservation Services Group (CSG) delivers the HPwES program, Energy Finance Solutions (EFS) underwrites and originates GJGNY loans, Honeywell provides independent quality assurance inspections on HPwES projects, BrandCool provides marketing for the program, BPI certifies HPwES contractors, and Constituency-Based Organizations (CBOs) lead community outreach. All of the interviewed the implementation contractors had been working on the implementation of the GJGNY

elements in the HPwES program since the launch of these elements in the fall of 2010. With the exception of interviewees representing more recently hired specialized contractors, BPI and BrandCool, the interviewees typically spend around eighty percent of their time on the HPwES program, and around fifty percent of their time specifically on the GJGNY elements associated with HPwES.

8.2.2 Communications, Marketing, and Outreach

The following communications, marketing, and outreach findings address coordination and communications protocols for internal NYSERDA program staff and for external communications, communications issues, overall program marketing and outreach, marketing of the GJGNY free or reduced-cost energy audits, marketing of GJGNY financing, and future directions for marketing.

8.2.2.1 Coordination and Communications Protocols

Program staff and implementation contractors reported having good working relationships with the various program implementation contractors and HPwES contractors.

When implementing the GJGNY elements of the HPwES program, the implementation contractors communicate and coordinate with a variety of different people, organizations, and contractors. All of the interviewees reported being in regular contact with each other and with NYSERDA staff via e-mail, telephone calls, or in-person meetings. The interviewees from CSG also reported frequent interactions with participating contractors. The interviewees representing EFS and BrandCool anticipated communicating and coordinating with the constituency-based organizations on a regular basis in the near future.

8.2.2.2 Communications Issues

Overall, the interviewees were satisfied with the level of communication with the individuals and groups they need to interact with in order to implement the HPwES program. None of the interviewees reported any major difficulties or issues in their communications with any of the other groups. There were, however, occasional mentions of areas of interest or concern:

- Training and working with the large numbers of HPwES contractors can be complicated.
- At times, busy contractors do not closely monitor their e-mail and may miss program announcements sent via this method, but a system to follow up with contractors is in place to ensure that the communication channel with this group remains open.
- Contractors need to have both technical skills and marketing skills in their customer communications.

8.2.2.3 Overall Program Marketing and Outreach

NYSERDA staff thought the program's advertising, which has included a broad spectrum of channels including mass media, has been effective. Over one-fifth (22%) of HPwES contractors were satisfied or very satisfied with NYSERDA HPwES marketing, however over two-fifths (44%) of HPwES contractors were somewhat dissatisfied with NYSERDA's marketing activities. As noted by NYSERDA staff, contractors are "the primary marketers of the program" and the large majority of contractors (92%) also reported marketing HPwES primarily through mass media.

- NYSERDA has historically advertised the program through various channels, including internet, billboard, print ads, television, radio, events, public relations, and cooperative advertising with HPwES contractors. NYSERDA marketing staff and the implementation contractors generally thought that program advertising had been effective. However, in the survey of HPwES contractors, the contractors leaned more towards not being satisfied with NYSERDA's HPwES marketing activities: over two-fifths (44%) indicated that they were not satisfied or not at all satisfied and only about one-fifth (22%) said they were satisfied or extremely satisfied.
- NYSERDA staff noted that HPwES contractors are "the primary marketers of the program." The vast majority (92%) of contractors in the survey of HPwES contractors reported marketing HPwES, primarily through newspaper, radio, and TV advertising. Implementation contractors were familiar with the cooperative contractor advertising, and some even recalled having heard contractor ads on the radio mentioning HPwES and free energy audits. One implementation contractor also thought that that the requirements associated with the cooperative marketing component were onerous to the contractors. Specifically, the requirements were exceedingly specific in the language that contractors could use in the ads, and that contractors were prohibited from promoting services that they offer in association with the program.

8.2.2.4 Marketing of Free or Reduced-cost Energy Audits

The implementation contractors reported that customers typically found out about the GJGNY free or reduced-cost audits through HPwES contractor marketing and outreach and, following the introduction of the free or reduced-cost audits, over one-fourth of HPwES contractors (28%) indicated that they had adjusted their marketing efforts to include promoting these audits. A majority of the contractors (58%) thought that the introduction of the free or reduced-cost energy audits had led to an increase in the installation of energy-efficiency measures through HPwES. Contractors who thought that the audits had not led to an increase in the installation of energy-efficiency measures most commonly indicated the reason was that customers would have an audit just because it was free or out of curiosity but were not interested in installing measures (35%).

- Nearly three-fifths (57%) of HPwES contractors surveyed stated that their marketing activities had not changed with the addition of the free or reduced-cost energy audit; however, slightly more than two-fifths (43%) replied that the addition had changed the way they marketed the program or attracted customers. About two-thirds (65%) of the contractors who had changed marketing efforts did so by promoting the free audits.
- HPwES contractors surveyed said that e-mail (46%) followed by program or implementation staff (27%) were their top sources of first learning about the GJGNY free or reduced-cost energy audits. According to the implementation contractors, customers typically find out about the free or reduced-cost energy audits through contractor marketing and outreach. Program staff members thought that the free or reduced-cost energy audits had been helpful in bringing customers into the program because customers do not want to have to pay money just to find out that they need to pay more money for energy-efficiency improvements. Nearly three-fifths (58%) of HPwES contractors surveyed reported that the introduction of the free or reduced-cost energy audits had led to an increase in the installation of energy-efficiency measures. However, HPwES contractors who thought the introduction of the free or reduced-cost energy audits had not led to an increase in the installation of energy-efficiency measures most commonly indicated the reason was that customers would have an audit just because it was free or out of curiosity, but were not interested in installing measures (35%); nearly one-fifth (17%) reported that customers did not install measures due to economic conditions or a lack of money.

8.2.2.5 Marketing of GJGNY Financing

The implementation contractors reported that customers have typically found out about the HPwES financing options from participating HPwES contractors, and about one-fourth (26%) of HPwES contractors reported promoting the added financing options in their marketing of the HPwES program. About two-fifths (39%) of participants reported that contractor advice had been influential or extremely influential to their decision on how to finance the installation of HPwES measures. Practically all contractors (95%) provided financing recommendations to customers. Of these contractors, nearly all (96%) indicated that they recommended program financing. A majority of contractors (56%) thought that customers would have installed fewer measures or downsized projects had program financing not been available.

- The implementation contractors reported that customers typically find out about the program's financing options from participating contractors. The large majority (85%) of HPwES contractors surveyed said they were very or extremely familiar with the program financing. About one-quarter (26%) of HPwES contractors reported promoting the added financing options in their marketing of the HPwES program. Nearly one-half (45%) of HPwES contractors indicated that they typically mentioned financing information at the time of the first call and slightly fewer

(41%) indicated that they typically mentioned financing information at the time of the first home visit, before the audit.

- HPwES contractor advice was rated as very influential for the choice of measures to install and on how to pay for them. Overall, 72% of audit-completed and work-completed respondents said that the contractor was influential or extremely influential in deciding which measures to implement. Over one-half (56%) of work-completed respondents had discussed financing with the contractor and over two-thirds of them (69%) said that the contractor’s advice had been influential or extremely influential.
- While the vast majority of HPwES contractors (95%) provide financing recommendations to customers, most (73%) do not screen or pre-qualify customers for financing. When asked about the financing that they do recommend, almost all of the contractors (96%) cited the program financing, followed by third-party financing that customers would find on their own (75%), other financing that the contractor offered or directed them to (63%), and Energy Smart loans (52%).⁸¹ Over one-half (56%) of contractors said that customers would have installed fewer measures or downsized projects had program financing not been available.

8.2.2.6 Future Directions for Marketing

Program staff thought that future marketing efforts would be less oriented to large-scale TV or radio marketing, and more focused on community mechanisms such as CBOs and local papers. BrandCool interviewees thought that future marketing may focus on simplifying the language of messaging to consumers, providing HPwES contractors and CBOs with marketing materials, as well as using traditional mass-media approaches.

8.2.3 Program Delivery and Implementation

The program delivery and implementation findings address administrative processes, program changes, program participation motivations and barriers, the importance and use of financing, and satisfaction with the program.

8.2.3.1 Administrative Processes

The implementation contractors reported that the process for free or reduced-cost energy audits generally runs smoothly. However, two areas were identified as occasional sources of delays: gathering the energy usage data from applicants and delayed delivery of the audit report by HPwES contractors. Suggestions for

⁸¹ Note that the high mentions of recommending GJGNY financing may have been an artifact of the respondent knowing that the survey was being conducted for NYSERDA.

addressing the issue focused on emphasizing to contractors the importance of their role in keeping information flowing. Program staff indicated that some contractors were frustrated that the \$250 payment that they received for the audit was too little to cover the work that it required. One staff member said that a notable concern for contractors was the use of the TREAT modeling software, which is very time-consuming.

Implementation contractors also reported that the process for program financing generally runs smoothly, but both program staff and implementation contractors reported that customers can have difficulties qualifying for financing. An implementation contractor reported receiving feedback from HPwES contractors that the loan approval process was “a bit cumbersome” and was sometimes delayed because applicants are “often asked for additional documentation.” The implementation contractor suggested providing HPwES contractors with more guidance and better tools to sell the loan and help their customers through the application process in order to overcome this obstacle.

8.2.3.2 Program Changes

NYSERDA has implemented a number of changes to the HPwES program that have affected program participation and, in turn, GJGNY-related activities. Most notably, cost-effectiveness tests have been put in place for the energy-efficiency measures. An April 1, 2011 rule change mandated that qualifying HPwES program projects would need to have a Savings-to-Investment Ratio (SIR) of greater than one. On July 1, 2011, because of New York State Department of Public Service (DPS) requirements, the SIR rule was changed to a Total Resource Cost (TRC) test that made approval for individual measures even more stringent. Most significantly, insulation was no longer pre-approved and required a site-specific TRC analysis. Central air conditioning also required a site-specific TRC analysis, except for Con-Ed and Central Hudson customers. Another consequence of the rule change was that domestic hot water heaters (including instantaneous models) and hard-wired lighting were no longer considered to be cost-effective.

Program staff reported that while positive changes, such as the GJGNY free or reduced-cost energy audits, had occurred, other changes had reduced uptake. Two staff members said that the TRC test had reduced the number of eligible measures and thus the flexibility in terms of the work that can be done. While over two-fifths (44%) of HPwES contractors surveyed reported being familiar or very familiar with the recent program changes, one-quarter (25%) were not very familiar or not at all familiar. About four-fifths (79%) of the HPwES contractors who were at least somewhat familiar with the changes believed they would reduce the number of projects they could complete through the HPwES program.

8.2.3.3 Program Participation Motivations

The primary driver of the decision to participate in the HPwES program was the desire to save on energy costs/bills; this was particularly important for Downstate customers, who pay higher electricity rates than

Upstate customers. An additional factor driving the decision by some customers to actually go ahead and have the audit appeared to be an interest in finding out how efficient their home was. Similarly, an additional factor driving the decision to by some customers to actually go ahead and install measures after having the audit appeared to be a need to replace broken equipment.

- Across the sources of information analyzed in this evaluation, the primary customer motivation cited for participation in HPwES was saving on energy costs/bills. When asked for the most important reason they were interested in having their home evaluated by an auditor, nearly one-half of participants (47%) said they had wanted to save on energy costs/bills. Across all three participant groups (audit-approved, audit-completed, work-completed), Downstate respondents (61%) generally reported wanting to save on energy costs significantly more frequently than respondents in the upstate regions, particularly Upstate-A (40%); this may be a reflection of the higher electricity rates Downstate than in the upstate regions. HPwES contractors also indicated that wanting to save on energy costs/bills (37%) was the primary customer motivation for participating in the program; nearly one-fifth (19%) of contractors also thought that the primary customer motivation for participation was receiving the audit for free or at a reduced cost.
- Although the initial decision to participate in the program and have an audit appears to have been motivated primarily by concern about energy costs, audit-completed participants (19%) were significantly more likely than audit-approved participants (12%) to be motivated to have the audit because they wanted to find out how efficient their home was. Additionally, the motivations cited most frequently by work-completed respondents for the decision to actually install measures when they did were the need to replace broken equipment (21%) and concern about heating costs in the winter (21%).

8.2.3.4 Program Participation Barriers

A major barrier to program participation was the difficulty associated with timing or scheduling the audit, cited by non-participants, participants, and HPwES contractors. Gathering energy usage data for the application also was a notable barrier cited by program participants. The majority of contractors also mentioned a lack of budget as the primary barrier preventing customers from installing recommended measures.

- Among non-participants who had heard of HPwES, nearly one-fourth (23%) most frequently said that they had not participated because they did not have the time or were too busy to participate in the program. One-tenth (10%) of audit-completed and work-completed respondents indicated that they had encountered barriers to participating in the program when they first decided to schedule an audit. These respondents most frequently cited difficulties associated with timing or scheduling (30%) and gathering energy usage data for the application (25%) as the primary barriers to participating in the program.

- Corroborating the participant perspectives, about one-third of HPwES contractors also cited lack of time (10%) or the hassle of scheduling (22%) as the primary barriers to customers having the audit. More than two-thirds (70%) of HPwES contractors said that not having enough money or a lack of budget for the measures was the primary barrier preventing audit-completed customers from implementing or installing measures recommended through the program.

8.2.3.5 Importance and Use of Financing and Incentives

The large majority program participants accord high importance to the free or reduced-cost audit, incentives, and financing in their decision to install energy-efficiency measures. Participants who had installed measures without HPwES incentives or GJGNY financing indicated that the primary reason they did not take advantage of these program benefits was that they did not need them.

- Four-fifths (80%) of work-completed participants said that receiving the HPwES incentive was important or extremely important to their decision to install the energy-efficiency measures. Slightly fewer than four-fifths (76%) of work-completed participants who received an HPwES incentive and used GJGNY financing said that receiving them was important or extremely important to their measure installation decision. And about four-fifths (79%) of audit-completed participants who installed measures and HPwES work-completed participants said that receiving the audit was important or extremely important to their decision to install the energy-efficiency measures.
- The survey asked audit-approved and audit-completed participants who installed measures but did not receive any incentives or financing why they decided to purchase and install the recommended energy-efficiency measures without using the financing or incentives available from the HPwES program. Over one-third of these audit-approved and audit-completed respondents said that they did not need incentives or financing (35%). Nearly one-fifth said that they did not know about them (18%) or did not qualify for financing (17%).

8.2.3.6 Program Satisfaction

A large majority of audit-completed (78%) and work-completed (95%) respondents were satisfied or very satisfied with the HPwES program. HPwES contractor satisfaction with the overall program was mixed, with around one-third each indicating satisfaction and dissatisfaction. The largest reasons cited for dissatisfaction were: measures were no longer eligible, difficult or changing standards for measure qualification, and reduced incentives. HPwES contractor satisfaction with specific program elements ranged from greatest satisfaction with the audit processes and procedures (51%) and the least satisfaction with program application processes and procedures (19%).

- Both audit-completed (78%) and work-completed (95%) respondents showed high levels of satisfaction with the HPwES program. Work-completed respondents (68%) were significantly more likely than audit-completed respondents (48%) to say that they were very satisfied with the program. Reflecting their stage of program participation, work-completed respondents (19%) were significantly more likely than audit-approved respondents (7%) to cite financial assistance as the most important reason for satisfaction with the program. Also perhaps reflecting their stage of program participation, audit-completed respondents (18%) were significantly more likely than work-completed respondents (11%) to cite the importance of results and recommendations for improving energy efficiency as the most important reason for satisfaction.
- Overall, slightly more than one-third (36%) of HPwES contractors said they were very satisfied or satisfied with the program and slightly fewer than one-third (31%) said they were either not satisfied or not at all satisfied with the program. The most commonly cited reasons for dissatisfaction were: measures were no longer eligible, difficult or changing standards for measure qualification, reduced incentives, paperwork, and bureaucracy or red tape. In regard to specific aspects of their experience with the HPwES program, the contractors expressed the highest satisfaction with the audit processes and procedures (51%) and the lowest satisfaction with the program application processes and procedures (19%); satisfaction with program and implementation staff communications (37%) and financing approval processes and procedures (37%) fell in the middle.

Program Strengths and Improvement Opportunities

Program staff and implementation contractors said that the free or reduced-cost energy audits are a great strength of the program as they help to reduce barriers to participation. However, they thought that the HPwES program still needs greater awareness in the population and improved financing options.

Section 9

CONCLUSIONS AND RECOMMENDATIONS

9.1 MARKET CHARACTERIZATION AND ASSESSMENT

The MCA conclusions and recommendations address program outreach, and training and accreditation.

9.1.1 Program Outreach

CONCLUSION 1: In the general population, saving energy or saving on energy bills are a primary concern and motivation for customer participation. Over one-half of non-participants (55%) said they were concerned or extremely concerned about their electricity or natural gas bills. Nearly one-half of participants cited wanting to save on energy costs/bills (47%) as a motivation for participating in the HPwES program. Similarly, wanting to save on energy costs/bills (37%) was the customer motivation most commonly mentioned by HPwES contractors.

RECOMMENDATION 1: Ensure that the marketing message to homeowners emphasizes the program benefits of saving on energy bills or saving energy. In order to support this effort, NYSERDA could provide sample data on potential net savings, in terms of financing costs and monthly savings on energy costs for different types of homes. Designing interactive and educational tools to assist and engage the homeowner in understanding the potential efficiencies is another approach that could be taken.

CONCLUSION 2: The low-moderate income respondents who were not interested in HPwES indicated a perceived lack of need for the program. In the low-moderate income population, the most commonly cited reason for lack of interest in the HPwES program was a lack of money (26%) or financial resources to install measures. Additional reasons cited by these respondents included that they had already installed most measures (15%), they did not need or were not interested in the program (13%), or that their home was already energy efficient (13%).

RECOMMENDATION 2: Utilize the CBOs to promote the benefits of participating in the program by highlighting the GJGNY free or reduced-cost energy audits and financing of HPwES-eligible energy-efficiency measures. In addition, program staff, implementation contractors, HPwES contractors, and CBOs should promote the GJGNY free or reduced-cost energy audits as a way of helping customers determine how energy efficient their homes actually are. Program marketing and promotions should also emphasize that the audit provides an opportunity to educate customers about energy efficiency, that having the audit does not require further commitment, and that participants can learn about energy efficiency and health and safety measures for their homes.

CONCLUSION 3: Difficulties associated with finding and selecting a HPwES contractor can be a barrier to customer participation in HPwES. One program staff member noted that the barrier can be geographic, in that, in some areas it is hard to find contractors, such as in the North Country. Another barrier that staff cited is the difficulty homeowners have identifying which contractor to pick from the list that they receive because a number of the contractors on the list for a particular zip code are actually located outside of that area. Homeowners may face challenges with finding a contractor they are comfortable with. Also, one program staff member speculated that there may be language barriers for some customers, which affects their ability to work with the contractors.

RECOMMENDATION 3: Improve the tracking and presentation of HPwES contractor information to customers. Explore incorporating additional software functionality which would allow the NYSERDA website to list or sort contractors by distance from home and languages spoken. Examples of other search criteria that NYSERDA could consider include the number of HPwES projects completed, types of measures implemented, any quality assurance and quality control information that is not confidential, and customer satisfaction rating. For customers lacking web access, NYSERDA could provide such information over the phone or by mail.⁸²

9.1.2 Training and Accreditation

CONCLUSION 4: Field training, sector training, and advanced technical training for existing employees were important to HPwES contractors. A notable majority of HPwES contractors surveyed reported that field training (78%)⁸³ would be valuable or extremely valuable for their employees, and about seven-tenths also said that sector-based⁸⁴ (69%) and advanced technical training⁸⁵ (67%) would be valuable or extremely valuable.

⁸² CBOs are undertaking “aggregation,” bringing a collection of eligible homes into the program using the same contractor or contractor team, which should also help to address the issue of finding and selecting contractors:

http://www.nyserda.ny.gov/Page-Sections/Green-Jobs-Green-New-York-Planning/Advisory-Council/~media/Files/EDPPP/Planning/GJGNY/Advisory%20Council%20Meetings/2010-05-26_GJGNY-draft-aggregation-model.ashx

⁸³ Field training includes support for HVAC, plumbing, electricians, etc.

⁸⁴ Sector-based training includes building science and “whole-house approach” training.

⁸⁵ Advanced technical training includes training in system design, and diagnostics: including lighting design and retrofits, heat pumps, steam and hot water system diagnostics, temperature control systems, energy management systems, indoor air quality and ventilation, high efficiency smart appliances, advanced insulation and air sealing techniques, and commercial cooling systems.

RECOMMENDATION 4: Continue to leverage existing training resources and expand curriculum to incorporate more specific field, sector, and advanced technical training. Ensure the HPwES contractors are made aware of the trainings, training incentives, and have convenient access to training locations.

CONCLUSION 5: When hiring new employees, HPwES contractors placed a higher premium on work experience and Building Performance Institute (BPI) certification than on worker readiness or job readiness training. Asked to rate specific qualifications for new employees, HPwES contractors gave the highest ratings (extremely important or important) to residential building construction experience (58%) and BPI certification (53%), while worker readiness or job readiness training (42%) was rated relatively lower.

RECOMMENDATION 5: Continue to support contractor training for BPI certification. Worker or job readiness training should prepare participants for BPI certification by utilizing worker and job readiness trainings including hands-on training such as internships or other real-world experience. These trainings and subsequent certifications will help meet the HPwES contractor needs for experienced workers.

9.2 PROCESS EVALUATION

The process evaluation conclusions and recommendations address program administration, the GJGNY free or reduced-cost energy audits, residential financing (i.e., energy loans, incentives, etc), participation decisions, program changes, recommended and installed measures, quality assurance and quality control, and regional analyses.

9.2.1 Program Administration

CONCLUSION 6: While program staff and implementation contractors are collecting good data some program databases are maintained independently and not integrated. At the time of the implementation contractor interviews, Energy Finance Solutions' (EFS) system was being updated to incorporate five to seven additional fields in order to track additional metrics for NYSERDA. The evaluation team was not able to evaluate HPwES project size by loan amount. This additional data could have helped to understand whether or not loans help to increase the number of energy efficiency measures completed.

RECOMMENDATION 6: Continue to enhance program data collection, tracking, and cross-contractor integration.

9.2.2 Green Jobs-Green New York Free or Reduced-cost Energy Audits

CONCLUSION 7: Pre-screening of customers by a program or contractor has been useful for increasing the proportion of people who install energy efficient measures after completing an audit. CBOs have been trained in prescreening tools to assess customer need for energy-efficiency work and willingness and ability to finance retrofits. Staff reported that CBOs and some HPwES contractors are informally pre-screening before conducting audits in order to confirm interest in the program and the likelihood that customers will move forward with the implementation of energy efficient measures. The secondary research conducted for this evaluation also found that in the New Hampshire HPwES program, which was implemented by multiple utilities, some of the utilities had higher closure rates (85-90%) than others (40%), at least in part because of pre-screening of customers based on a Home Heating Index (HHI), which uses utility data to determine eligibility.⁸⁶

RECOMMENDATION 7: Establish procedures to identify and more actively promote the program to customers who are more likely to need energy-efficiency work and are willing and able to finance retrofits. These procedures may be based on the prescreening tools already developed for the CBOs, input from the HPwES contractors, and measures such as HHI. This approach would result in a reduction in the number of participants who participate simply because the audit is offered at no or reduced cost but are less likely to install energy-efficiency measures.

⁸⁶ “Process Evaluation: New Hampshire Home Performance with ENERGY STAR® Program.” NMR Group Inc./The Cadmus Group. June 13, 2011.

9.2.3 Green Jobs-Green New York Residential Energy Loans

CONCLUSION 8: A notable share of HPwES contractors did not feel confident that they were knowledgeable enough about the GJGNY low-interest loans to effectively explain the loan products to customers. GJGNY was still in the early stages of development at the time of this evaluation and program changes on financing may have affected the ability of the surveyed contractors to promote the GJGNY loans effectively to customers. Nearly three-tenths (27%) of HPwES contractors said that the information they had received about the program financing options was not sufficient for them to be comfortable discussing with customers. An implementation contractor suggested providing contractors with more guidance and better tools to sell the loan and help their customers through the application process in order to overcome what he saw as a cumbersome and long loan application process. A program staff member suggested that an independent firm, such as EFS, might be better able to discuss GJGNY financing information because participants may not want to release their financial information to contractors.

RECOMMENDATION 8: Consider offering additional seminars and webinars to educate HPwES contractors about the GJGNY low-interest loans. NYSERDA could also provide HPwES contractors with more guidance and better tools to sell the loan and help their customers through the application process. Align these approaches with the CBO effort to educate customers about the loans as well. Although EFS offers customer service and pre-screening, consider using an independent firm, such as EFS, to discuss GJGNY financing information with participants directly.

9.2.4 Program Participation Decision

CONCLUSION 9: Notwithstanding NYSERDA’s effort to streamline the HPwES program and ease the time burden on customers, scheduling energy audits continues to be a notable barrier to participation. When asked about barriers to completing the energy audit, approximately one-third of audit-approved respondents cited a reason associated with timing or scheduling; eighteen percent of the respondents said they did not have time in their schedule to participate and an additional 14% indicated the hassle of scheduling the energy audit as a barrier. Similarly, non-participants who had heard of HPwES most frequently said that they had not participated because they did not have the time or were too busy to participate in the program (23%).

RECOMMENDATION 9: Identify ways for the HPwES contractors to ease the time burden for customers associated with scheduling or conducting the audit or installation of eligible measures. The program may achieve greater efficiencies by implementing processes to streamline program requirements, ensuring the effective scheduling of audits, simplifying paperwork, etc.

9.2.5 Program Changes

CONCLUSION 10: Lack of familiarity with and frequency of program changes likely affected HPwES contractor ability to explain the program and encourage conversions from audits to work completed. One-quarter (25%) of contractors surveyed said that they were not very familiar or not at all familiar with recent HPwES changes. Slightly under one-third (31%) indicated that they were either not satisfied or not at all satisfied with the HPwES program. Among the most commonly cited reasons for dissatisfaction were: some measures were no longer eligible, difficult or changing standards for measure qualification, and reduced incentives.

RECOMMENDATION 10: Improve the conversion from GJGNY energy audits to work completed or measures installed by providing HPwES contractors and CBOs clear and timely information about program changes. This information should, at a minimum, include the change, its impacts, and complete and uncomplicated rationale for the change. Review contractor awareness of, participation in, and perceived effectiveness of the monthly webinars, which cover program changes, details, opportunities, and offer a venue for feedback. Consider surveying contractors on the efficacy of the webinars and other informational tools.

9.2.6 Recommended and Installed Measures

CONCLUSION 11: Despite the HPwES incentives and GJGNY low-interest loans, a lack of money or limited budgets remains a barrier to homeowners installing energy efficient measures recommended in the energy audit. When asked why they did not install one or more of the recommended measures, over two-fifths (41%) of audit-completed and work-completed participants said that the measures were too expensive. The majority (70%) of contractors surveyed thought that not having enough money or a lack of a budget for the measures was the primary barrier to customers implementing or installing measures recommended through the program.

RECOMMENDATION 11: Identify ways to address concerns of consumers regarding financing the installation of HPwES-eligible energy-efficiency measures. In addition to increased marketing of the loan products, the program, CBOs, and individual HPwES contractors could provide customers with more information about the financial benefits of energy efficient measures. Increased use of testimonials and detailed explanations of benefits and costs might help to persuade participants to install measures. Although constraints from existing funding and cost-effectiveness tests may limit the amount of incentives that can be provided, increasing the incentives for some measures would be a way to help reduce this barrier.

CONCLUSION 12: The decision by consumers to install HPwES-eligible energy-efficiency measures appears to have been triggered largely by needing to replace broken equipment. Work-completed respondents frequently cited wanting to replace broken equipment as the reason to install the energy-

efficiency measures when they did (28%). Clearly, the benefits of the early replacement of energy consuming equipment is not realized or appreciated by the consumer.

RECOMMENDATION 12: Develop marketing and educational materials that promote the benefits of early replacement of energy consuming equipment. Educate HPwES contractors on how best to offer the consumer guidance about the benefits of early replacement.

9.2.7 Quality Assurance and Quality Control ⁸⁷

CONCLUSION 13: Given that GJGNY is integrated into HPwES, GJGNY depends on the quality of work performed in HPwES. One of the implementation contractors identified instances of sub-standard installations due to a lack of internal quality control by HPwES contractors. Where contractors had been observed to perform poorly, the QA interviewee believed it was often the result of the contractor’s inadequate organizational skills or business practices. A few contractors have been repeatedly missing opportunities to recommend some measures.

RECOMMENDATION 13. The HPwES program should review quality control policies and procedures to make sure that mechanisms are in place to verify quality services and installations, according to program standards. The program should also review its contractor training and support to ensure the consistency and quality of installations.

CONCLUSION 14: Customers have an insufficient understanding or appreciation of the value of having the Quality Assurance inspections conducted by the program. Two implementation contractor interviewees indicated customer reluctance to have the QA inspections because customers feel they do not get anything out of it and because they have difficulties finding time for the inspection.

RECOMMENDATION 14: Reinforce the importance of the QA process with customers by indicating the homeowner can receive a free, independent third-party review of the work completed by the HPwES contractor through the program. HPwES program marketing and promotions to customers should also emphasize the value and benefits of QA inspections. HPwES contractors should also be encouraged to highlight the QA process when explaining the benefits of participation as it shows that HPwES contractors are held to a high standard.

⁸⁷ The focus of this evaluation is on GJGNY. QC is not directly a GJGNY component, but rather a practice included in HPwES. While these analyses and recommendations provide only general guidance, details on QC issues should be addressed in a future evaluation of the HPwES program.

9.2.8 Regional Analysis

As described in the evaluation methodology section, the customer surveys targeted respondents across three New York State regions. These conclusions and recommendations address the Upstate-A, Upstate-B, and Downstate regions.

9.2.8.1 Upstate-A

CONCLUSION 15: Upstate-A customers appeared to be less inclined to implement HPwES-eligible energy-efficiency measures because they perceive their homes as already efficient, but they tend to participate in HPwES when equipment is broken. Upstate-A work-completed respondents were most likely to cite broken equipment (32%) as the primary reason for scheduling an audit and participating in HPwES when they did. Upstate-A non-participants most frequently said that their home is already energy efficient (23%) as a reason for not being interested in the GJGNY free or reduced-cost energy audit.

RECOMMENDATION 15: Develop targeted messages to educate Upstate-A homeowners on the benefits of energy efficient improvements and promote the benefits of early replacement and opportunities to install and finance eligible measures through HPwES.

9.2.8.2 Upstate-B

CONCLUSION 16. While many Upstate-B customers surveyed perceived their homes as already energy efficient, they indicated a strong interest in the free or reduced-cost energy audits further, participation in HPwES in the Upstate-B region was strongly motivated by costs of winter heating bills. The primary reason that Upstate-B non-participants were not interested in participating in HPwES was that they thought their homes were already energy efficient (31%). Upstate-B non-participants (18%) surveyed exhibited significantly stronger interest than those in other regions in receiving free or reduced-cost energy audits. Upstate-B work-completed respondents were most likely to cite concern about heating costs in the winter (30%) as the primary reason for participating in the GJGNY and HPwES program when they did.

RECOMMENDATION 16: Messaging to Upstate-B participants should emphasize that the free or reduced-cost energy audits could help to identify the specific measures that could make their homes more energy efficient which, in turn, would help reduce their winter heating costs. As suggested in Recommendation 1, NYSERDA could cite savings that have been achieved from the installation of energy efficient measures.

9.2.8.3 Downstate

CONCLUSION 17: Downstate customers are strongly motivated by the potential to save on energy bills, but are concerned whether or not they would qualify for the GJGNY free or reduced-cost energy audits. Downstate participants (61%) surveyed reported wanting to save on energy bills as the most important reason for deciding to apply for a free or reduced-cost energy audits significantly more frequently than do respondents in the upstate regions, particularly Upstate-A (40%). Downstate non-participants (42%) also were significantly more likely than Upstate-A (32%) or Upstate-B participants (24%) to be extremely concerned about their electric and natural gas bills. The most frequently cited reason by Downstate non-participants (26%) for not being interested in the free or reduced-cost energy audit was that they were not sure that they would qualify for it.

RECOMMENDATION 17: Promote the GJGNY program in the Downstate region with a focus on the easily achievable criteria for qualifying for the free or reduced-cost energy audit. In parallel, messaging to the Downstate consumer by the CBO, HPwES contractor and the program should concentrate on the benefits and opportunities to reduce energy bills by completing an audit and implementing measures.

Appendix A

DETAILED TABLES

The following detailed tables show the breakouts of all survey responses by user group and region.

The survey responses were tested for statistical significance by region and by status. Throughout the report the following notations are used to indicate statistical significance:

Significantly different at the 90% confidence level:

α = from audit-completed;

β = from work-completed;

γ = from audit-approved;

ϵ = from total;

δ = from non-participants;

a = from Upstate-A;

b = from Upstate-B;

c = from Statewide.

Section 3

PERSPECTIVES ON THE MARKET

3.1 KEY FINDINGS SUMMARY

No Tables

3.2 MARKET AND PROGRAM AWARENESS

No Tables

3.2.1 NYSERDA CRIS Database on Program Activity

**Table 131. Source of HPwES Program Information by Project Status (CRIS Database)
(audit-approved, audit-completed participants; multiple response¹)**

Source of information	Downstate	Upstate-A	Upstate-B	Statewide
Audit-approved	1,357	2,356	1,646	5,391
Contractor	26%	43%	25%	33%
NYSERDA	14%	10%	22%	15%
Neighbor/Friend	12%	14%	14%	13%
Internet	10%	7%	11%	9%
Newspaper	6%	7%	7%	7%
Home Show	2%	9%	5%	6%
Television	4%	6%	6%	5%
Constituency Based Organization	8%	3%	5%	5%
Energy \$mart Coordinator	7%	3%	5%	5%
Municipality	11%	1%	3%	4%
Circular/Flyer	4%	3%	2%	3%
Radio	1%	2%	2%	2%

Source of information	Downstate	Upstate-A	Upstate-B	Statewide
Other	27%	23%	24%	24%
Audit-completed	1,702	3,479	1,687	6,892
Contractor	36%	49%	40%	43%
Neighbor/Friend	10%	11%	14%	12%
NYSERDA	10%	7%	17%	10%
Newspaper	5%	8%	8%	8%
Home Show	3%	10%	5%	7%
Internet	10%	5%	8%	7%
Television	4%	6%	8%	6%
Constituency Based Organization	9%	3%	4%	5%
Circular/Flyer	3%	5%	3%	4%
Energy \$mart Coordinator	6%	3%	4%	4%
Municipality	9%	1%	2%	3%
Radio	<1%	2%	3%	2%
Other	25%	18%	12%	19%

¹Note that multiple response answers add to more than 100%.

Table 132. Source of HPwES Program Information by Project Status (CRIS Database) (work-completed participants, total participants; multiple response¹)

Source of information	Downstate	Upstate-A	Upstate-B	Statewide
HPwES Work-completed	136	1,375	274	1,786
Contractor	52%	71%	57%	67%
Neighbor/Friend	14%	8%	11%	9%
NYSERDA	13%	5%	13%	7%

Source of information	Downstate	Upstate-A	Upstate-B	Statewide
Home Show	1%	7%	4%	6%
Television	2%	5%	6%	5%
Newspaper	5%	4%	7%	5%
Internet	11%	3%	5%	4%
Circular/Flyer	3%	2%	2%	2%
Energy \$mart Coordinator	1%	2%	1%	2%
Constituency Based Organization	4%	1%	2%	1%
Municipality	5%	<1%	1%	1%
Radio	1%	1%	2%	1%
Other	21%	10%	9%	10%
Total	3,195	7,210	3,607	14,069
Contractor	32%	51%	35%	42%
Neighbor/Friend	11%	11%	14%	12%
NYSERDA	12%	8%	19%	11%
Newspaper	6%	7%	8%	7%
Home Show	3%	9%	5%	7%
Internet	10%	5%	9%	7%
Television	4%	6%	7%	6%
Energy \$mart Coordinator	6%	3%	4%	4%
Constituency Based Organization	8%	3%	4%	4%
Municipality	10%	1%	2%	3%
Circular/Flyer	3%	3%	3%	3%
Radio	<1%	2%	3%	2%

Source of information	Downstate	Upstate-A	Upstate-B	Statewide
Other	26%	18%	17%	20%

¹Note that multiple response answers add to more than 100%.

3.2.2 NYSERDA Programs: Awareness and Participation

3.2.2.1 Key Findings Summary

No tables

3.2.2.2 Non-participant Awareness

Table 133. Awareness of NYSERDA Programs (Non-participants)

Aware	Downstate (n=69)	Upstate-A (n=71)	Upstate-B (n=72)	Statewide (n=212)
Yes	10%	18%	11%	12%
No	82%	80%	89%	83%
Never heard of NYSERDA	7% ^b	3%	-- ^c	4%
Don't know	--	--	1%	<1%

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide.

**Table 134. Awareness of NYSERDA Programs
(low-moderate income respondents)**

Aware	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Yes	13%	15%	14%
No	87%	82%	85%
Never heard of NYSERDA	--	2%	1% δ
Don't know	--	2%	1%

Significantly different at the 90% confidence level: δ = from non-participants.

**Table 135. NYSERDA Programs Aware of
(non-participants aware of NYSERDA programs; multiple response)**

Programs	Downstate (n=8) (count)	Upstate-A (n=9) (count)	Upstate-B (n=12) (count)	Statewide (n=29)
HPwES	1	2	2	17%
Lighting programs	--	2	1	10%
New York ENERGY STAR Homes	--	1	1	7%
Appliances	--	--	2	7%
Weatherization	--	--	1	3%
Other	--	--	3	10%
Don't know	7	4	5	55%

Table 136. NYSERDA Programs Aware of
(low-moderate income respondents aware of NYSERDA programs; multiple response)

Programs	Downstate (n=6) (count)	Upstate (n=9) (count)	Total (n=15) (count)
HPwES	1	2	3
HEAP	1	1	2
Assisted HPwES	--	1	1
Other	1	--	1
Don't know	3	5	8

Table 137. Awareness of HPwES
(Non-participants)

Aware of HPwES	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Yes	21%abc	50%	50%	36%
No	78% abc	44%c	46%c	61%
Don't know	1%	6%	4%	3%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

Table 138. Awareness of HPwES
(low-moderate income respondents)

Aware of HPwES	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Yes	28%	35%	31%
No	70%	62%	66%
Don't know	2%	3%	3%

Table 139. Sources of Program Information
(non-participants aware of NYSERDA Programs; multiple response)

Sources of information	Downstate (n=19)	Upstate A (n=33)	Upstate B (n=37)	Statewide (n=89)
TV ad	19%ab	43%	41%	35%
Word-of-mouth	17%	36%	24%	26%
Newspaper ad or story	26%	15%	27%	23%
Bill inserts	3%a	17%	7%	10%
The internet (general)	12%	1%c	9%	7%
Radio ad	--abc	10%	9%	7%
Contractor/auditor	11%	3%	3%	6%
NYSERDA banner ad	3%	--c	6%	3%
General Mailing/flyer	7%	--c	3%	3%
Constituency Based Organization (CBO)	5%	1%	--	2%
NYSERDA website	--	--	3%	1%
Home show	--	1%	3%	1%
Local government sources	--	3%	--	1%
Other	--c	4%	3%	3%
Don't know	3%	3%	3%	3%
Refused	--	--	4%	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

Table 140. Sources of NYSERDA Program Information
(low-moderate income respondents aware of NYSERDA Programs; multiple response)

Sources of program Information	Downstate (n=14) (percent(count))	Upstate (n=25)	Total (n=39)
Word-of-mouth	21% (3)	36%	29%
Newspaper ad or story	(29%) 4	20%	24%
The internet (general)	21% (3)	--b	10%
TV ad	--	20%	10% $\bar{\delta}$
Radio ad	--	16%	8%
Home show	7% (1)	8%	8%
Bill inserts	7% (1)	4%	6%
Contractor/auditor	--	12%	6%
General mailing/flyer	7% (1)	--	4%
Local government sources	7% (1)	--	4%
Other	7% (1)	4%	6%
Don't know	14% (2)	8%	11%

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

3.2.2.3 Participant Sources of HPwES program information

**Table 141. Sources of Program Information
(audit-approved participants)**

Sources of information	Downstate (n=41)	Upstate A (n=49)	Upstate B (n=42)	Statewide (n=132)
Word-of-mouth	22%	19%	30% β	23%
Newspaper ad or story	7% β	13%	15%	12% β
Contractor	12% ^b	20% ^b	2% ^c αβ ^ε	12% β
TV ad	2% ^{abc} α ^ε	13%	11%	9% β
Local Government Sources	-- ^{abc} αβ ^ε	8%	8% β	6%
Oil/gas/utility company	7% β	2%	9% β	6% β
The Internet (General)	7% β	6%	2% α	5%
Home Show	5%	6%	2% β	4%
NYSERDA website	7% ^a	-- ^{bc} α	6% β	4%
CBO - Constituency Based Organization	10% ^a αβ	-- ^c	2%	3%
Radio ad	2%	5%	-- ^c	3% β
NYSERDA banner ad	-- ^{bc} α	-- ^{bc} α	6% β	2%
Office of the aging/senior center	-- ^c	5%	-- ^c	2%
Workshop (Community, church, union, local)	2%	--	2%	1%
Phone call	2%	2%	--	1%
Expo/fair	2%	--	--	1%
Vendor	-- β	2%	--	1%
Other	2%	--	--	1%
Don't know	7%	2% β	6%	4% β

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; α = from audit-completed; β = from work-completed; ε = from total.

**Table 142. Sources of Program Information
(Audit-completed participants)**

Sources of information	Downstate (n=82)	Upstate-A (n=92)	Upstate-B (n=83)	Statewide (n=257)
Word-of-mouth	23%	22%	27% β	24%
Contractor	11%	17%	11% β	14% β
TV ad	12% β	14%	12%	13%
Newspaper ad or story	14% β	12%	10% β	12% β
Home Show	3% ^c β	8%	6%	7% β
NYSERDA website	5%	6% β	7% β	6% β
The Internet (General)	6% β	3% ^b	9% β	6% β
Local Government Sources	5%	4%	2%	4%
Oil/gas/utility company	8% ^a β	2%	4% β	4% β
NYSERDA banner ad	3%	3%	2% β	3%
Mailing or Bill Inserts	3% ^a γβ	-- ^{bc}	4% γβ	2% γβ
Workshop (Community, church, union, local)	3% β	1%	1%	2% β
CBO - Constituency Based Organization	2%	-- ^c	1%	1%
Phone call	-- ^c	1%	-- ^c	1% β
Expo/fair	3% ^{ab} β	-- ^c	-- ^c	1% β
Office of the aging/senior center	-- ^c	1%	-- ^c	1% β
Vendor	-- ^c β	1%	-- ^c	1%
Radio ad	--	--	1%	<1% β

Sources of information	Downstate (n=82)	Upstate-A (n=92)	Upstate-B (n=83)	Statewide (n=257)
Don't know	2% β	2% β	1% β	2% β

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed; β = from work-completed; γ = from audit-approved.

Table 143. Sources of Program Information (HPwES work-completed participants)

Sources of information	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
Contractor	22%	25%	33% ε	26% ε
TV ad	--abc ε	21%	22%	19% ε
Word-of-mouth	33%abc	17%	11% ε	18%
Newspaper ad or story	--abc ε	6%	11%	6% ε
Home Show	--bc ε	3%b	11%c	3%
Local Government Sources	11%b	3%	--c ε	3%
NYSERDA website	11%abc	1%	--c ε	2% ε
NYSERDA banner ad	--c ε	3%	--c ε	2%
The Internet (General)	--c ε	3%	--c ε	2% ε
CBO - Constituency Based Organization	--c ε	3%	--c	2%
Vendor	11%abc ε	1%	--c	2%
Oil/gas/utility company	-- ε	1%	-- ε	1% ε
Don't know	11%	13% ε	11% ε	12% ε

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; ε = from total.

Table 144. Sources of Program Information
(All participants)

Sources of information	Downstate (n=154)	Upstate A (n=207)	Upstate B (n=175)	Statewide (n=536)
Word-of-mouth	23%	20% b	27%	23%
Contractor	12%a	20%b	9%c	15%
TV ad	8%ac	15%	13%	13%
Newspaper ad or story	10%	10%	12%	11%
Home Show	3%	6%	5%	5%
NYSERDA website	6%	3%	6%	5%
The Internet (General)	6%	4%	6%	5%
Local Government Sources	3%	5%	4%	4%
Oil/gas/utility company	7%a	2%b	6%	4%
NYSERDA banner ad	2%	3%	3%	3%
CBO - Constituency Based Organization	4%ab	1%	1%	2%
Radio ad	1%	1%	1%	1% β
Mailing or Bill Inserts	2% γβ	--	2% γβ	1% γβ
Workshop (Community, church, union, local)	3% β	1%	1%	1% β
Phone call	1%	1%	--	1% β
Expo/fair	3% β	--	--	1% β
Office of the aging/senior center	--	2% β	--	1% β
Vendor	1%	1%	--	1%
Other	1%	--	--	<1%

Sources of information	Downstate (n=154)	Upstate A (n=207)	Upstate B (n=175)	Statewide (n=536)
Don't know	4%	5%	3%	4%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; β = from work-completed; γ = from audit-approved.

3.2.2.4 Awareness of Free or Reduced-cost Energy Audits

Table 145. Percent Aware of HPwES Free or Reduced-cost Energy Audits (participants; non-participants aware of HPwES; (percent yes (sample size)))

Aware of audits	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	86% (41) αβε	83% (49) αβεδ	80% (42) αβε	83% (132) αβεδ
Audit-completed	42% (82) εδ	42% (92) εδ	48% (83) εδ	44% (257) εδ
HPwES Work-completed	33% (31) εδ	45% (66)	36% (50) εδ	43% (147) εδ
Total	57%(154) δ	53% (207)	59% (175)	56% (536) δ
Non-participants	80% (16)	61% (29)	68% (31)	69% (76)

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed; ε = from total; δ = from non-participants.

Table 146. Percent Aware of HPwES Free or Reduced-cost Energy Audits (low-moderate income respondents aware of HPwES)

Aware of audits	Downstate (n=13) (percent(count))	Upstate (n=21)	Total (n=34)
Yes	69% (9)	52%	61%
No	23% (3)	48%	35%
Don't know	8% (1)	--	4%

**Table 147. Sources of Information about the Free or Reduced-cost Energy Audits
(audit-approved participants who had heard of the free or reduced-cost energy audits)**

Sources of Audit Information	Downstate (n=35)	Upstate A (n=41)	Upstate B (n=32)	Statewide (n=110)
Word-of-mouth	28%	19%	22%	22%
Newspaper/magazine ad or story	10%	15%	19%	15%
TV ad	9%	17%	13%	14%
Contractor/auditor	9%	17%	10%	13% β
NYSERDA website	6%	4%	9%	6%
The Internet (General)	4%	5%	3%	5%
Oil/gas/utility company	4%	4%	6%	5% β
Home Show	3%	2%	2%	2%
Local Government Sources	1%	3%	2%	2%
NYSERDA banner ad	1%	3%	1%	2%
Community based/Non-Profit Organization	6%	1%	1%	2%
Radio ad	1%	1%	2%	2%
Mailing or Bill Inserts	3%	1%	--	1%
Expo/fair	1%	--	2%	1%
Office of the aging/senior center	--	2%	--	1%
Workshop (Community, church, union, local)	1%	--	1%	1%
Vendor	--	1%	--	<1%
Other	3%	1%	--	1%

Sources of Audit Information	Downstate (n=35)	Upstate A (n=41)	Upstate B (n=32)	Statewide (n=110)
Don't know	7%	5%	5%	5%

Significantly different at the 90% confidence level: β = from work-completed.

**Table 148. Sources of Information about the Free or Reduced-cost Energy Audits
(audit-completed participants who had heard of free or reduced-cost energy audits)**

Sources of Audit Information	Downstate (n=35)	Upstate A (n=39)	Upstate B (n=40)	Statewide (n=114)
Word-of-mouth	33%	25%	18%	24%
TV ad	13%	18%	15%	16%
Newspaper/magazine ad or story	10%	18%	18%	16%
Contractor/auditor	7%	8% β	13%	9% β
NYSERDA website	3%	5%	10%	6%
Oil/gas/utility company	7%	10%b β	--c ε	6% β
The Internet (General)	--ac ε	8%	5%	5%
Radio ad	--	--	5%	2%
Local Government Sources	3%	-- ε	3%	2%
Mailing or Bill Inserts	7%	--	--	2%
Expo/fair	3%	--	3%	2%
Office of the aging/senior center	--	3%	--	2%
NYSERDA banner ad	3%	-- ε	--	1%
Community based/Non-Profit Organization	3%	--	--	1%
Home Show	--	--	3%	1%
Workshop (Community, church, union, local)	--	--	3%	1%
Don't know	7%	5%	8%	6%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; β = from work-completed; ε = from total.

Table 149. Sources of Information About the Free or Reduced-cost Energy Audits (HPwES work-completed participants who had heard of free or reduced-cost energy audits)

Sources of Audit Information	Downstate (n=11) (Count) ¹	Upstate A (n=30)	Upstate B (n=19) (Count)	Statewide (n=60)
Contractor/auditor	1	27%	3	25% ε
TV ad	--	21%	3	20%
Newspaper/magazine ad or story	1	18%	3	18%
Word-of-mouth	3	12%	5	15%
The Internet (General)	--	6%	1	5%
NYSERDA website	2	-- ε	1	3%
NYSERDA banner ad	--	3%	--	3%
Radio ad	--	3%	--	3%
Local Government Sources	1	3%	--	3%
Mailing or Bill Inserts	--	3%	--	3%
Community based/Non-Profit Organization	--	--	1	<1%
Home Show	--	--	1	<1%
Don't know	3	3%	1	5%

¹With sample sizes of under 20, unweighted counts are presented and no significance tests are conducted. Significantly different at the 90% confidence level: ε = from total.

Table 150. Sources of Information about the Free or Reduced-cost Energy Audits (all participants who had heard of free or reduced-cost energy audits)

Sources of Audit Information	Downstate (n=81)	Upstate A (n=110)	Upstate B (n=93)	Statewide (n=284)
Word of Mouth	28%	19%	22%	22%

Sources of Audit Information	Downstate (n=81)	Upstate A (n=110)	Upstate B (n=93)	Statewide (n=284)
Newspaper/magazine ad or story	10% ^b	15%	19%	15%
TV ad	9% ^a	17%	13%	14%
Contractor/auditor	9% ^a	17%	10%	13%
NYSERDA website	6%	4%	9%	6%
The Internet (General)	4%	5%	3%	5%
Oil/gas/utility company	4%	4% ^β	6%	5% ^β
Home Show	3%	2%	2%	2%
Local Government Sources	1%	3%	2%	2%
NYSERDA banner ad	1%	3%	1%	2%
Community based/Non-Profit Organization	6% ^{ab}	1%	1%	2%
Radio ad	1%	1%	2%	2%
Mailing or Bill Inserts	3%	1%	-- ^c	1%
Expo/fair	1%	-- ^c	2%	1% ^β
Office of the aging/senior center	-- ^c	2%	-- ^c	1% ^β
Workshop (Community, church, union, local)	1%	-- ^c	1%	1% ^β
Vendor	--	1%	--	<1%
Other	3%	1%	-- ^c	1% ^{αβ}
Don't know	7%	5%	5%	5%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed; β = from work-completed.

Table 151. Sources of Program Information
 (non-participants who are aware of free or reduced-cost energy audits; multiple response)

Sources of audit information	Downstate (n=12) (count)	Upstate A (n=17) (count)	Upstate B (n=17) (count)	Statewide (n=46)
TV ad	2	7	5	31%
Newspaper ad or story	3	5	3	28%
Word-of-mouth	1	3	3	22%
Radio ad	1	1	2	10%
General Mailing/flyer	--	2	2	8%
The internet (general)	1	1	2	4%
NYSERDA banner ad	1	--	--	3%
Bill inserts	1	--	1	3%
Contractor/auditor	--	1	--	2%
Constituency Based Organization (CBO)	--	1	1	2%
Other	1	--	1	6%
Don't know	1	--	1	4%
Refused	1	--	--	4%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

Table 152. Sources of Information about the Free or Reduced-cost Energy Audits (low-moderate income respondents who had heard of the free or reduced-cost energy audits; multiple response)

Sources of Audit Information	Downstate (n=9) (count)	Upstate (n=11) (count)	Total (n =20)
The internet (general)	3	--	19%
Word-of-mouth	1	3	18%
Home show	1	2	14% $\bar{\delta}$
Newspaper ad or story	--	2	8% $\bar{\delta}$
Bill inserts	--	2	8%
Radio ad	--	2	8%
Contractor/auditor	--	2	8%
Constituency Based Organization (CBO)	1	--	7%
Local government sources	1	--	7%
General mailing/flyer	1	--	7%
National Grid	1	--	7%
TV ad	--	1	4% $\bar{\delta}$

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

3.2.2.5 Awareness of Low-interest Loans

Table 153. Percent Aware of HPwES Low-interest Loans Prior to Participation (participants; non-participants aware of HPwES (percent yes (sample size)))

Loan awareness prior to participation	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	71% (41) αβε	68% (49) αβε	74% (42) αβε	71% (132) αβε δ
Audit-completed	23% (82) εδ	27% (92) εδ	28% (83) βεδ	27% (257) εδ
HPwES Work-completed	13% (31)ac εδ	38% (66)b	9% (50)c εδ	33% (147) εδ
Total Participants	40% (154)	40% (207)	43% (175)	41% (536) δ
Non-participants	55% (16)	50% (29)	68% (31) δ	57% (76)

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; α = from audit-completed; β = from work-completed; δ = from non-participants.

Table 154. Percent Aware of Low-Interest Loans Following Participation (participants previously unaware of the low-interest loans; (percent yes (sample size)))

Aware of loans after participation	Downstate	Upstate A	Upstate B	Statewide
Audit-completed	54% (60)	40% (65)	45% (59)	45% (184)
HPwES Work-completed	50% (26)b	39% (41)b	70% (44)c β	45% (111)
Audit-completed and Work-Completed	54% (86)a	40% (106)	49% (103)	45% (295)

Significantly different at the 90% confidence level: b = from Upstate-B; c = from statewide; β = from work-completed.

**Table 155.Sources of Information About the Low-Interest Loans
(audit-approved participants who were aware of the low-interest loans)**

Sources of information	Downstate (n=29)	Upstate A (n=33)	Upstate B (n=31)	Statewide (n=93)
Contractor/auditor	14% ^{a αε}	32%	24% ^β	24% ^{αβε}
Word-of-mouth	14%	20%	21%	19% ^α
Newspaper/magazine ad or story	7%	10%	16% ^β	11% ^β
NYSERDA website	7%	10%	13%	10%
On the application	10% ^{αβ}	7% ^{αβ}	3% ^{αβ}	6% ^{αβ}
The Internet (General)	14% ^a	-- ^c	3%	5%
Home Show	7%	2%	3%	4%
NYSERDA banner ad	3%	2%	3%	3%
Oil/gas/utility company	7%	2%	-- ^c	3%
TV ad	-- ^α	2% ^β	3%	2% ^β
Community based/Non- Profit Organization	3%	2%	--	2%
Workshop (Community, church, union, local)	7%	--	--	2%
Radio ad	--	2%	--	1%
Local Government Sources	-- ^{αε}	--	3%	1%
Office of the aging/senior center	--	2%	--	1%
Vendor	--	2%	--	1%
Other	3%	--	3%	2%
Don't know	3%	2%	8% ^β	5%

Significantly different at the 90% confidence level: a = from Upstate-A; c= from statewide; α = from audit-completed; β = from work-completed; ε = from total.

**Table 156.Sources of Information About the Low-Interest Loans
(audit-completed participants who were aware of the low-interest loans)**

Sources of information	Downstate (n=52)	Upstate A (n=51)	Upstate B (n=49)	Statewide (n=152)
Contractor/auditor	48% ε	40%	33% β	40%
NYSERDA website	5% ^b	11%	17%	11%
Newspaper/magazine ad or story	5%	14% β	6% β	9% β
Word-of-mouth	10%	8% β	10%	9%
The Internet (General)	5%	4%	6% β	5%
TV ad	5%	4% β	4%	4% β
Home Show	2%	6% β	-- ^c	4%
Local Government Sources	7%	3%	-- ^c	3% β
Mailing or Bill Inserts	2%	3%	2%	2%
Oil/gas/utility company	2%	3%	-- ^c	2%
On the application	--	-- ^b	6%	2%
NYSERDA banner ad	--	--	4%	1%
Community based/Non-Profit Organization	--	--	2%	1%
Workshop (Community, church, union, local)	--	--	2%	1%
Expo/fair	2%	--	--	1%
Other	--	--	2%	1%
Don't know	7%	6%	4%	6% β

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide; β = from work-completed; ε = from total.

**Table 157. Sources of Information about the Low-Interest Loans
(work-completed HPwES participants who were aware of the low-interest loans)**

Sources of information	Downstate (n=17) (Count)	Upstate A (n=41)	Upstate B (n=35)	Statewide (n=93)
Contractor/auditor	7	34% ^b	71% ^c	39%
TV ad	--	20% ^{b ε}	-- ε	16% ε
Word-of-mouth	2	14%	14%	14%
NYSERDA website	6	7%	14%	11%
NYSERDA banner ad	--	5%	-- ^c ε	4%
Radio ad	--	5%	-- ^c	4%
The Internet (General)	1	2%	-- ε	2%
Newspaper/magazine ad or story	--	2% ε	-- ε	2% ε
Community based/Non-Profit Organization	--	2%	--	2%
Mailing or Bill Inserts	--	2%	--	2%
Oil/gas/utility company	--	2%	--	2%
Vendor	--	2%	--	2%
Home Show	--	-- ε	--	<1% ε
Local Government Sources	1	--	--	<1%
Workshop (Community, church, union, local)	--	--	--	<1%
Don't know	--	2%	-- ε	2%

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide; ε = from total.

**Table 158.Sources of Information about the Low-Interest Loans
(all participants who were aware of the low-interest loans)**

Sources of information	Downstate (n=98)	Upstate A (n=125)	Upstate B (n=115)	Statewide (n=338)
Contractor/auditor	34%	36%	32%	35%
Word-of-Mouth	12%	12%	15%	13%
NYSERDA website	8% ^b	10%	15%	11%
Newspaper/magazine ad or story	5%	10%	10%	9%
TV ad	3% ^a	8% ^b	3%	5%
The Internet (General)	8% ^a	2%	4%	4%
Home Show	4%	4%	1%	3%
On the application	4%	2%	4% β	3% β
NYSERDA banner ad	1%	2%	3%	2%
Oil/gas/utility company	4% ^b	2%	-- ^c	2%
Local Government Sources	4%	1%	1%	2%
Mailing or Bill Inserts	1%	2%	1%	1%
Community based/Non-Profit Organization	1%	1%	1%	1%
Radio ad	-- ^c	2%	-- ^c	1% α
Workshop (Community, church, union, local)	3% ^a	-- ^c	1%	1%
Vendor	-- ^c	1%	-- ^c	1%
Expo/fair	1%	--	--	--
Office of the aging/senior center	--	1%	--	--

Sources of information	Downstate (n=98)	Upstate A (n=125)	Upstate B (n=115)	Statewide (n=338)
Other	1%	--c	2%	1% β
Don't know	5%	4%	5%	5%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed; β = from work-completed.

Table 159. Sources of Information About the Low-Interest Loans (non-participants aware of the low-interest loans; multiple response)

Sources of loan information	Downstate (n=9) (count)	Upstate A (n=15) (count)	Upstate B (n=18) (count)	Statewide (n=42)
TV ad	1	6	5	29%
Word-of-mouth	3	2	2	20%
Newspaper ad or story	3	3	1	19%
Radio ad	--	--	2	10%
The internet (general)	--	1	3	5%
Constituency Based Organization (CBO)	1	1	1	5%
Bill inserts	1	1	1	4%
NYSERDA website	1	--	--	3%
General Mailing/flyer	--	1	1	3%
Contractor/auditor	--	1	--	2%
NYSERDA banner ad	--	--	1	2%
Home show	--	--	1	2%
Other	1	1	1	9%
Don't know	--	2	1	6%

Table 160. Sources of Information About the Low-Interest Loans
 (low-moderate income respondents who were aware of the low-interest loans; multiple response)

Sources of information	Downstate (n=8) (count)	Upstate (n=11) (count)	Total (n=19) (count)
Word-of-mouth	--	3	3
Newspaper ad or story	1	2	3
Home show	1	2	3
TV ad	--	2	2
Bill inserts	--	2	2
Radio ad	--	2	2
Contractor/auditor	--	2	2
General mailing/flyer	1	--	1
CBO	1	--	1
Local government sources	1	--	1
The internet	1	--	1
National Grid	1	--	1
Don't know	1	--	1

3.2.2.6 Staff perspectives

No tables

3.2.2.7 Implementation contractor perspectives

No tables

3.2.2.8 Awareness and Participation in Other NYSERDA Programs

**Table 161. Awareness of Other NYSERDA Programs
(all participants (percent yes (sample size)))**

Awareness of NYSERDA Programs	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	12% (41)	6% (49) ^b	19% (42)	12% (132) ^β
Audit-completed	9% (82)	7% (92) ^β	10% (83)	8% (257) ^β
HPwES Work-completed	12% (31) ^a	1% (66) ^{b ε}	18% (50)	4% (147) ^ε
All Participants	10% (154)	5% (207)	14% (175)	9%(536)

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; β = from work-completed ε = from total.

Table 162. Participant Awareness of Other NYSERDA Programs
 (audit-approved participants who are aware of other NYSERDA programs; multiple response)

Other NYSERDA Programs	Downstate (n=5) (count)	Upstate A (n=3) (count)	Upstate B (n=8) (count)	Statewide (n=16) (count)
Renewable energy program	2	1	2	5
Assisted Home Performance with ENERGY STAR	2	1	--	3
EmPOWER NEW YORK	--	1	1	2
Appliance rebate/replacement program	--	--	2	2
Weatherization	--	1	1	2
New York ENERGY STAR HOMES	1	--	--	1
Assisted New York ENERGY STAR Homes	--	--	1	1
Don't know	1	1	1	3

Table 163. Participant Awareness of Other NYSERDA Programs
 (audit-completed participants who are aware of other NYSERDA programs; multiple response)

Other NYSERDA Programs	Downstate (n=8) (count)	Upstate A (n=6) (count)	Upstate B (n=7) (count)	Statewide (n=21)
Renewable energy program	2	1	1	18%
Appliance rebate/replacement program	1	1	--	10%
New York ENERGY STAR HOMES	--	--	2	9%
EmPOWER NEW YORK	1	--	1	8%
Weatherization	1	--	1	8%
Assisted Home Performance with ENERGY STAR	--	1	--	7%
Don't know	3	3	3	44%

Table 164. Participant Awareness of Other NYSERDA Programs
 (HPwES work-completed participants who are aware of other NYSERDA programs;
 multiple response)

Other NYSERDA Programs	Downstate (n=4) (count)	Upstate A (n=1) (count)	Upstate B (n=11) (count)	Statewide (n=16) (count)
Appliance rebate/replacement program	1	--	3	4
EmPOWER NEW YORK	--	--	2	2
Tax credit for energy-efficiency improvements	1	--	--	1
Weatherization	--	--	1	1
Don't know	2	1	5	8

Table 165. Participant Awareness of Other NYSERDA Programs
 (all participants who are aware of other NYSERDA programs; multiple response)

Other NYSERDA Programs	Downstate (n=17) (percent (count))	Upstate A (n=10) (percent (count))	Upstate B (n=26)	Statewide (n=53)
Renewable energy program	29% (4)	20% (2)	18%	22%
Appliance rebate/replacement program	9% (2)	11% (1)	17%	13%
Assisted Home Performance with ENERGY STAR	16% (2)	20% (2)	--	11%
EmPOWER NEW YORK	6% (1)	10% (1)	14%	10%
Weatherization	8% (1)	10% (1)	13%	10%
New York ENERGY STAR HOMES	8% (1)	--	10%	6%
Assisted New York ENERGY STAR Homes	--	--	7%	1%
Tax credit for energy-efficiency improvements	2% (1)	--	--	1%
Don't know	32% (6)	49% (5)	27%	35%

Table 166. Participated in Other NYSERDA Programs
(all participants (count yes (*sample size*)))

	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	-- (5)	-- (3)	1 (8)	1 (16)
Audit-completed	-- (8)	2 (6)	1 (8)	3 (22)
HPwES Work-completed	-- (4)	-- (1)	1 (11)	1 (16)
All Participants	-- (17)	2 (10)	10% (27)	11% (54)

3.2.3 Utility Programs: Awareness and Participation

No tables

3.2.3.1 Key Findings Summary

No tables

3.2.3.2 Awareness of Utility Programs

Table 167. Respondent Awareness of Utility Energy-efficiency Programs
(participants; on-participants; (percent yes (*sample size*)))

Aware of Utility Programs	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	36% (41)	23% (49)	38% (42)	31% (132) δ
Audit-completed	30% (82) δ	22% (92)	25% (83)	25% (257) δ
HPwES Work-completed	44% (31)abc	19% (66)	27% (50)	23% (147) δ
All Participants	33% (154) ac δ	21% (207)b	30% (175)	26% (536) δ
Non-participants	58% (69)	35% (71)	28% (72)	45% (212)

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; δ = from non-participants.

Table 168. Respondent Awareness of Utility Energy-efficiency Programs (low-moderate income respondents)

Aware of utility programs	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Yes	35%	22%	29%
No	63%	75%	68%
Don't know	2%	3%	3%

Table 169. Respondent Awareness of Utility Energy-efficiency Programs (audit-approved participants aware of utility energy-efficiency programs; multiple response)

Utility programs	Downstate (n=15) (count)	Upstate A (n=11) (count)	Upstate B (n=16) (count)	Statewide (n=42)
Upgrade incentives/rebate for energy-efficiency measures/appliance retirement	3	3	3	22%
National Grid program	1	2	2	14%
Other utility company program	--	3	2	14%
NYSEG	--	1	2	8%
Con Edison program	3	--	--	6%
HEAP/Low income program	--	1	--	2%
Free home estimate/home audit/recommended actions	1	--	--	2%
National Fuel	--	1	--	2%
Don't know	7	--	7	31% β

Significantly different at the 90% confidence level: β = from work-completed.

Table 170. Respondent Awareness of Utility Energy-efficiency Programs (audit-completed participants aware of utility energy-efficiency programs; multiple response)

Utility programs aware of	Downstate Downstate (n=25)	Upstate A (n=20)	Upstate B B (n=21)	Statewide Statewide (n=66)
Upgrade incentives/rebate for energy-efficiency measures/appliance retirement	14%a	--bc	29% ε	28% β
National Grid program	--bc	6%b	24%	10%
Con Edison program	29%abc	--c	--c	8%
NYSEG	--c	9%	10%	7%
LIPA	19%	--	5%	7% β
Other utility company program	10%	6%	-- ε	5%
HEAP/Low income program	--	9%	--	5%
Central Hudson	--	--	14%	4% γ
Information in mail/flyers/bill inserts	5%	--	<1%	4% γ
National Fuel	--	6%	--	3%
Free home estimate/home audit/recommendations	5%	--	5%	3%
Orange & Rockland	5%	--	--	1%
Other	--	<1%	5%	1% β
Don't know	14%	25%	10% ε	18% β

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed; γ = from audit-approved.

Table 171. Respondent Awareness of Utility Energy-efficiency Programs (participants with HPwES work-completed aware of utility energy-efficiency programs; multiple response)

Utility programs	Downstate (n=13) (count)	Upstate A (n=13) (count)	Upstate B (n=14) (count)	Statewide (n=40)
Upgrade incentives/rebate for energy-efficiency measures/appliance retirement	4	--	4	10% ε
NYSEG	--	1	4	10%
Con Edison program	3	--	--	5%
National Grid program	--	1	--	5%
National Fuel	--	1	--	5%
Other utility company program	--	1	--	5%
HEAP/Low income program	--	1	--	5%
Information in mail/flyers/bill inserts	--	--	1	<1%
LIPA	1	--	--	<1%
ORANGE & ROCKLAND	1	--	--	<1%
Other	--	3	--	15% γε
Don't know	4	5	4	40%

Significantly different at the 90% confidence level: γ = from audit-approved; ε = from total.

Table 172. Respondent Awareness of Utility Energy-efficiency Programs
 (all participants aware of utility energy-efficiency programs; multiple response)

Utility programs	Downstate (n=53)	Upstate A (n=44)	Upstate B (n=51)	Statewide (n=148)
Upgrade incentives/rebate for energy efficient measures/appliance retirement	18%	27%	24%	23%
National Grid Program	3%bc	10%	17%	10%
Other utility company program	5%	12%	7%	8%
NYSEG	--abc	8%	13%	8%
ison program	26%abc	--c	--c	7%
LIPA	10%ab	--c	2%	3% β
HEAP/Low income program	--ac	8%b	--c	3%
National Fuel	--ac	7%b	--c	3%
Central Hudson	--bc	--bc	7%	2% γβ
Free home estimate/home audit/recommend actions	5%a	--c	2%	2% β
ORANGE & ROCKLAND	3%	--	--	1%
Information in mail/flyers/bill inserts	3%	--	--	1%
Other	--c	5%	2%	3% γ
Don't know	28%	23%	26%	26%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; γ = from audit-approved; β = from work-completed.

**Table 173. Respondent Awareness of Utility Energy-efficiency Programs
(non-participants aware of utility energy-efficiency programs; multiple response)**

Utility programs	Downstate (n=40)	Upstate A (n=24)	Upstate B (n=23)	Statewide (n=87)
Con Edison program	26%ab	--c	--c	16%
Upgrade incentives/rebate for energy efficient measures/appliance retirement	12%	21%b	5%	13%
Free home estimate/home audit/recommend actions	16%	5%	12%	13%
National Grid Program	9%b	1%bc	31%c	11%
Information in mail/flyers/bill inserts	6%	--bc	13%	6%
NYSEG	--b	--b	12%	3%
Orange & Rockland	3%	--	--	3%
LIPA	3%	--	--	2%
Central Hudson	--	--	8%	1%
Other	20%	9%	10%	16%
Don't know	18%a	57%bc	16%	25%
Refused	4%	--	--	3%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

Table 174. Respondent Awareness of Utility Energy-efficiency Programs
 (low-moderate income respondents aware of utility energy-efficiency programs; multiple response)

Utility programs aware of	Downstate (n=16) (count)	Upstate (n=13) (count)	Total (n=29)
National Grid program	5	3	29% δ
Con Edison program	6	--	25%
LIPA	4	--	17% δ
Upgrade incentives/rebate for energy-efficiency measures/appliance retirement	1	2	9%
Central Hudson	1	1	7%
Information in mail/flyers/bill inserts	1	1	7%
Free home estimate/home audit/recommended actions	--	1	3% δ
Other	1	--	4%
Don't know	1	4	14%
Refused	--	1	3%

Significantly different at the 90% confidence level: δ = from non-participants.

3.2.3.3 Participation in Utility Programs

Table 175. Participated in Utility Programs
 (participants and non-participants aware of utility programs (count/percent yes (sample size)))

Participation in Utility Programs	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	5 (15)	4 (11)	2 (16)	26% (42) β
Audit-completed	20% (25)	25% (20)	19% (21)	21% (66)
HPwES Work-completed	5 (13)	4 (13)	2 (14)	11% (40) εδ
Non-participants	31% (40)	18% (24)	28% (23)	24% (87)
All Participants	26% (53)	27% (44)	18% (51)	24% (148)

Significantly different at the 90% confidence level: β = from work-completed.

Table 176. Participated in Utility Programs
 (low-moderate income respondents aware of utility programs)

Participation in Utility Programs	Downstate (n=16) (count)	Upstate (n=13) (count)	Total (n=29)
Yes	4	1	19%
No	12	11	78%
Don't know	--	1	3%

Table 177. Utility Energy-Efficiency Programs Respondents Participated In (audit-approved participants who participated in utility energy saving programs; multiple response)

Utility Programs	Downstate (n=5) (count)	Upstate A (n=4) (count)	Upstate B (n=2) (count)	Statewide (n=11) (count)
Con Edison program	2	--	--	2
Other utility company program	1	1	--	2
HEAP/Low- income program	1	--	1	2
National Grid program	--	--	1	1
NYSEG	--	1	--	1
Free home estimate/home audit/recommend actions	--	1	--	1
Upgrade incentives/rebate for energy-efficiency measures/appliance retirement	--	1	--	1
Other	1	--	--	1
Don't know	1	--	--	1

Table 178. Utility Energy-Efficiency Programs Respondents Participated In (audit-completed participants who participated in utility energy saving programs; multiple response)

Participation in Utility Programs	Downstate (n=5) (count)	Upstate A (n=5) (count)	Upstate B (n=4) (count)	Statewide (n=14) (count)
Upgrade incentives/rebate for energy-efficiency measures/ appliance retirement	--	2	3	5
Other utility company program	1	4	--	5
Con Edison program	2	--	--	2
National Grid program	1	--	--	1
ORANGE & ROCKLAND	1	--	--	1
Free home estimate/home audit/recommend actions	--	--	1	1
Other	--	--	1	1

Table 179. Utility Energy-Efficiency Programs Respondents Participated In (participants with HPwES work-completed who participated in utility energy saving programs; multiple response)

Participation in Utility Programs	Downstate (n=4) (count)	Upstate A (n=3) (count)	Upstate B (n=4) (count)	Statewide (n=11) (count)
NYSEG	--	--	2	2
Upgrade incentives/rebate for energy-efficiency measures/appliance retirement	2	--	--	2
National Grid program	--	--	1	1
LIPA	1	--	--	1
Other utility company program	--	1	--	1
HEAP/Low income program	--	1	--	1
Free home estimate/home audit/recommend actions	--	1	--	1
Other	--	--	1	1
Don't know	1	--	--	1

Table 180. Utility Energy-Efficiency Programs Respondents Participated In
 (all participants who participated in utility energy saving programs; multiple response)

Participation in Utility Programs	Downstate (n=14) (count)	Upstate A (n=12) (count)	Upstate B (n=10) (count)	Statewide (n=36)
Other utility company program	2	6	--	31%
Upgrade incentives/rebate for energy efficient measures/appliance retirement	2	3	3	23%
Con Edison program	4	--	--	11%
Free home estimate/home audit/recommend actions	--	2	1	10%
HEAP/Low income program	1	1	1	10%
National Grid Program	1	--	2	7%
NYSEG	--	1	2	5%
ORANGE & ROCKLAND	1	--	--	2%
LIPA	1	--	--	1%
Other	1	--	2	7%
Don't know	2	--	--	4%

Table 181. Utility Energy-Efficiency Programs Respondents Participated in (non-participants who participated in utility programs; multiple response)

Participation in Utility Programs	Downstate (n=13) (count)	Upstate A (n=4) (count)	Upstate B (n=4) (count)	Statewide (n=21)
Upgrade incentives/rebate for energy efficient measures/appliance retirement	5	1	1	38%
Con Edison program	1	--	--	8%
Other utility company program	1	--	1	6%
National Grid program	--	--	1	4%
Free home estimate/home audit/recommend actions	1	--	--	3%
Other	4	1	1	30%
Don't know	1	2	--	12%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

Table 182. Utility Energy-efficiency Programs Respondents Participated In
(low-moderate income respondents who participated in utility energy-efficiency programs;
multiple response)

Programs	Downstate (n=4) (count)	Upstate (n=1) (count)	Total (n=5) (count)
Con Edison program	2	--	2
Upgrade incentives/rebate for energy-efficiency measures/appliance retirement	1	--	1
National Grid program	1	--	1
LIPA	1	--	1
Don't know	--	1	1

Table 183. When Respondents Participated in Utility Program
(audit-approved participants who participated in utility programs)

When Participated	Downstate (n=5) (count)	Upstate A (n=4) (count)	Upstate B (n=2) (count)	Statewide (n=11) (count)
After November 15th, 2010	1	1	--	2
Between January, 2010 and November 15th, 2010	2	1	--	3
Before January 2010	2	2	2	6
Don't know	1	--	--	1

Table 184. When Respondents Participated in Utility Program
 (audit-completed participants who participated in utility program; multiple response)

When Participated	Downstate (n=5) (count)	Upstate A (n=5) (count)	Upstate B (n=4) (count)	Statewide (n=14) (count)
After November 15th, 2010	1	--	2	3
Between January, 2010 and November 15th, 2010	2	1	--	3
Before January 2010	2	5	3	10

Table 185. When Respondents Participated in Utility Program
 (participants with HPwES work-completed who participated in utility program)

When Participated	Downstate (n=3) (count)	Upstate A (n=3) (count)	Upstate B (n=4) (count)	Statewide (n=10) (count)
After November 15th, 2010	2	--	3	5
Between January, 2010 and November 15th, 2010	--	--	--	--
Before January 2010	1	3	1	5

Table 186. When Respondents Participated in Utility Program
 (all participants who participated in utility program; multiple response)

When Participated	Downstate (n=13) (count)	Upstate A (n=12) (count)	Upstate B (n=10) (count)	Statewide (n=35)
After November 15th, 2010	4	1	5	19%
Between January, 2010 and November 15th, 2010	4	2	--	20%
Before January 2010	5	10	6	69%
Don't know	1	--	--	3%

Table 187. Respondents' Reasons for Participating in Utility Program
 (audit-approved participants who participated in a utility program; multiple response)

Reasons for participating	Downstate (n=5) (count)	Upstate A (n=4) (count)	Upstate B (n=2) (count)	Statewide (n=11) (count)
Save energy/gas bills	3	2	--	5
Planned/needed to make improvements/repairs anyway	2	1	2	5
Rebate/free	2	--	--	2
Other	--	1	--	1

Table 188. Respondents' Reasons for Participating in Utility Program
 (audit-completed participants who participated in a utility program; multiple response)

Reasons for participating	Downstate (n=5) (count)	Upstate A (n=5) (count)	Upstate B (n=4) (count)	Statewide (n=14) (count)
Rebate/free	2	2	2	6
Save energy/gas bills	2	1	3	6
Planned/needed to make improvements/repairs anyway	2	3	--	5
Other	1	--	--	1

Table 189. Respondents' Reasons for Participating in Utility Program
 (participants with HPwES work-completed who participated in a utility program; multiple response)

Reasons for participating	Downstate (n=4) (count)	Upstate A (n=3) (count)	Upstate B (n=4) (count)	Statewide (n=11) (count)
Rebate/free	3	1	1	5
Save energy/gas bills	1	2	1	4
Planned/needed to make improvements/repairs anyway	--	--	1	1
Other	--	--	1	1

Table 190. Respondents’ Reasons for Participating in Utility Program
 (all participants who participated in utility program; multiple response)

Reasons for participating	Downstate (n=14) (count)	Upstate A (n=12) (count)	Upstate B (n=10) (count)	Statewide (n=36)
Save energy/gas bills	6	5	4	43%
Planned/needed to make improvements/repairs anyway	4	4	3	36%
Rebate/free	7	3	3	32%
Other	1	1	1	7%

Table 191: Perception of Customer Awareness of Utility Energy-efficiency Programs
 (contractors)

Level of awareness	Contractors (n=59)
Extremely aware (5)	10%
4	9%
3	34%
2	42%
Not at all aware (1)	5%

3.3 NON-PARTICIPANT ENERGY-EFFICIENCY BEHAVIORS AND PLANS

3.3.1 Key Findings and Summary

No Tables

3.3.2 Energy Saving Actions

Table 192. Actions Taken by Non-participants in the Past Year to Reduce Energy Usage or Improve Home Energy Efficiency (non-participants)

Actions taken	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Air sealing (includes caulking windows, etc.)	39%	45%	47%	43%
Adding or upgrading insulation	45%ab	22%c	25%	34%
Installing energy efficient windows	27%	32%	36%	30%
Installing energy efficient doors	31%a	17%bc	35%	28%
Installing ENERGY STAR-qualified heating equipment	21%b	27%	36%	26%
Installing ENERGY STAR-qualified cooling equipment, this includes individual air conditioners and not just central air conditioning	23%	35%b	22%	26%
Structural repairs (repairing an outside wall or roof)	22%	27%	23%	24%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

Table 193. Actions Taken by Non-participants in the Past Year to Reduce Energy Usage or Improve Home Energy Efficiency (low-moderate income respondents)

Actions taken	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Air sealing (includes caulking windows, etc.)	46%	42%	44%
Installing energy efficient windows	28%	37%	32%
Installing ENERGY STAR-qualified cooling equipment, this includes individual air conditioners and not just central air conditioning	37%	25%	32%
Structural repairs (repairing an outside wall or roof)	33%	32%	32%
Adding or upgrading insulation	26%	27%	26%
Installing energy efficient doors	24%	27%	25%
Installing ENERGY STAR-qualified heating equipment	17%	20%	19%

Table 194. Likelihood of Actions in the Next Year to Reduce Energy Usage or Improve Home Energy Efficiency (non-participants)

Likely/very likely actions in the next year	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Air sealing (includes caulking windows, etc.)				
Very likely (5)	12%	16%	13%	14%
4	5%	3%	9%	5%

Likely/very likely actions in the next year	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
3	9%	7%	10%	9%
2	13%ab	5%	2%c	8%
Not at all likely (1)	61%	69%	67%	64%
Adding or upgrading insulation				
Very likely (5)	11%	9%	11%	10%
4	4%	2%	4%	3%
3	10%a	21%bc	5%c	12%
2	6%	4%	3%	4%
Not at all likely (1)	70%	65%	77%	70%
Installing energy efficient windows				
Very likely (5)	11%	12%	10%	11%
4	1%	4%	1%	2%
3	5%a	13%	5%	7%
2	5%	5%	4%	5%
Not at all likely (1)	77%	66%b	80%	75%
Installing energy efficient doors				
Very likely (5)	11%	9%	5%	9%
4	5%	5%	6%	5%
3	6%b	13%	17%	10%
2	8%a	--b	6%	6%
Not at all likely (1)	70%	73%	67%	70%
Installing ENERGY STAR-qualified heating equipment				
Very likely (5)	3%	9%	8%	6%
4	--a	6%b	--	2%
3	7%	3%	3%	5%

Likely/very likely actions in the next year	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
2	6%	2%	3%	4%
Not at all likely (1)	85%	80%	86%	84%
Installing ENERGY STAR-qualified cooling equipment, this includes individual air conditioners and not just central air conditioning				
Very likely (5)	7%	2%	4%	5%
4	1%	1%	4%	2%
3	7%	3% ^b	10%	7%
2	8% ^b	7% ^b	1% ^c	6%
Not at all likely (1)	76% ^a	87%	82%	80%
Structural repairs (repairing an outside wall or roof)				
Very likely (5)	21% ^b	11%	5% ^c	14%
4	1%	1%	1%	1%
3	7%	15% ^b	5%	9%
2	6%	6%	4%	5%
Not at all likely (1)	65% ^b	67% ^b	85% ^c	70%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide.

Table 195. Likelihood of Actions in the Next Year to Reduce Energy Usage or Improve Home Energy Efficiency (low-moderate income respondents)

	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Air sealing (includes caulking windows, etc.)			
Very likely (5)	24%	17%	21%
4	9%	17%	12%
3	11%	5%	8%

	Downstate (n=46)	Upstate (n=60)	Total (n=106)
2	4%	8%	6%
Not at all likely (1)	52%	53%	53%
Adding or upgrading insulation			
Very likely (5)	26%	20%	23%
4	7%	5%	6%
3	11%	12%	11%
2	7%	5%	6%
Not at all likely (1)	50%	58%	54%
Installing energy efficient windows			
Very likely (5)	17%	17%	17%
4	9%	12%	10%
3	9%	17%	12%
2	4%	7%	5%
Not at all likely (1)	61%	48%	55%
Structural repairs (repairing an outside wall or roof)			
Very likely (5)	15%	17%	16%
4	9%	10%	9%
3	7%	7%	7%
2	7%	7%	7%
Not at all likely (1)	63%	60%	62%
Installing ENERGY STAR-qualified cooling equipment, this includes individual air conditioners and not just central air conditioning			
Very likely (5)	17%	8%	13%
4	9%	7%	8%
3	4%	5%	5%
2	9%	2%	6%

	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Not at all likely (1)	61%a	78%	69%
Installing energy efficient doors			
Very likely (5)	15%	7%	12%
4	9%	7%	8%
3	13%	18%	15%
2	4%	3%	4%
Not at all likely (1)	59%	65%	61%
Installing ENERGY STAR-qualified heating equipment			
Very likely (5)	15%	7%	12%
4	7%	7%	7%
3	15%	7%	12%
2	7%	7%	7%
Not at all likely (1)	57%a	73%	64%

3.3.3 Motivations for Taking Actions to Save Energy

Table 196. Primary Reason for Having Taken or Planning to Take Actions to Reduce Energy Usage or Improve Home Energy Efficiency (non-participants)

Reason for action	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
To save on energy bills	44%	37%	45%	42%
To save energy	25%	26%	24%	25%
Home repairs/replace	11%	6% ^b	15%	11%
Upgrade/remodel/improve appearance/resale	5% ^a	13%	10%	8%
To improve home comfort	6%	5%	1% ^c	5%
To help the environment	4%	2%	1%	3%
To take advantage of available rebates or incentives	-- ^a	7% ^b	--	2%
Discounted/on sale/inexpensive	--	1%	1%	1%
Other	5% ^a	--	1%	3%
Don't know	1%	2%	1%	1%
Refused	5%	1%	2%	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide.

Table 197. Primary Reason for Having Taken or Planning to Take Actions to Reduce Energy Usage or Improve Home Energy Efficiency (low-moderate income respondents)

Reason for action	Downstate (n=46)	Upstate (n=60)	Total (n=106)
To save on energy bills	50% ^b	41% ^b	46%
To save energy	24%	16%	21%
Home repairs/replace equipment	11% ^a	26%	18%
To improve home comfort	9%	10%	9%
Upgrade/remodel/improve appearance/resale	--	3%	1% ^δ
To help the environment	--	2%	1%
Other	4%	--	3%
Don't know	2%	2%	2%

Significantly different at the 90% confidence level: b = from total.

Table 198. Other Reasons for Having Taken or Planning to Take Actions to Reduce Energy Usage or Improve Home Energy Efficiency
 (non-participants who indicated primary reasons; multiple response)

Other reasons for action	Downstate (n=68)	Upstate A (n=69)	Upstate B (n=70)	Statewide (n=207)
To save on energy bills	17%	28%	17%	19%
To help the environment	8%	8%	15%	10%
To save energy	1%	13%	10%	7%
To improve home comfort	3%	3%	9%	6%
Upgrade/remodel/improve appearance/resale	1%	6%	8%	4%
To take advantage of available rebates or incentives	--	--	5%	1%
Home repairs/replace	2%	--	1%	2%
To improve safety	2%	--	--	1%
Other		6%	1%	2%
No other reasons	66%	42%	46%	55%
Don't know	1%	1%	1%	1%
Refused	--	--	1%	<1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

Table 199. Other Reasons for Having Taken or Planning to Take Actions to Reduce Energy Usage or Improve Home Energy Efficiency
(low-moderate income respondents who indicated primary reasons; multiple response)

Other reasons for action	Downstate (n=45)	Upstate (n=58)	Total (n=103)
To save on energy bills	22%	19%	21%
To save energy	18%	9%	14% $\bar{\delta}$
Upgrade/remodel/improve appearance/resale	9%	14%	11% $\bar{\delta}$
To improve home comfort	2% ^{ab}	16%	8%
To help the environment	9%	2%	6%
Home repairs/replace	2%	5%	4%
Improve safety	2%	--	1%
Other	2%	2%	2%
None	42%	43%	43%

Significantly different at the 90% confidence level: a= from upstate; b = from total; $\bar{\delta}$ = from non-participants.

3.3.4 Barriers to Talking Actions to Save Energy

Table 200. Barriers to Taking Actions to Reduce Energy Usage or Improve Home Energy Efficiency
(non-participants who took or plan to take action)

Barriers to action	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Yes	31%	24%	29%	29%
No	67%	76%	71%	70%
Don't know	2%	--	--	1%

Table 201. Barriers to Taking Actions to Reduce Energy Usage or Improve Home Energy Efficiency
(low-moderate income respondents)

Barriers to action	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Yes	46%	32%	40% $\bar{\delta}$
No	54%	68%	60% $\bar{\delta}$

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

Table 202. Most Important Barrier for Homeowners to Taking Actions to Reduce Energy Usage or Improve Home Energy Efficiency
(non-participants who indicated that there are barriers)

Most important barrier to taking action	Downstate (n=23)	Upstate A (n=16) (percent count)	Upstate B (n=23)	Statewide (n=62)
High cost of measure(s)	85%	64%(11)	82%	79%
Finding an affordable/qualified contractor	4%	34%(4)	2%	10%
Waiting for old equipment to break/wear out	--	1% (1)	4%	2%
Other	11%	--	12%	9%

Table 203. Most Important Barrier for Homeowners to Taking Actions to Reduce Energy Usage or Improve Home Energy Efficiency
 (low-moderate income respondents who indicated that there are barriers)

Most important barrier to taking action	Downstate (n=21)	Upstate (n=19) (percent(count))	Total (n=40)
High cost of measure(s)	95%	84% (16)	91% $\bar{\delta}$
Not eligible for financing	--	5% (1)	2%
Other	--	11% (2)	4%
Don't know	5%	--	3%

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

Table 204. Other Barriers to Taking Actions to Reduce Energy Usage or Improve Home Energy Efficiency
 (non-participants who indicated that there are barriers)

Other barriers to taking action	Statewide (n=18)
High cost of measure(s)	4
Waiting for old equipment to break/wear out	2
Finding an affordable/qualified contractor	2
No available rebates/incentives	1
Other	3
Don't know	5
Refused	1

Table 205. Other Actions to Reduce Energy Usage or Improve Home Energy Efficiency (non-participants; multiple response)

Other actions	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Shut off lights/turn things off when not in use/unplug	9% ^b	14%	22%	14%
Switch to energy efficient lighting/CFLs/LEDs	9% ^a	19% ^b	7%	11%
Lower thermostat/programable thermostat	5% ^a	13%	10%	9%
Insulation/caulking/sealing	5%	5%	9%	6%
Switch to/use alternate fuel source	5%	3%	8%	5%
Purchase new HVAC equipment/water heater	8% ^b	4% ^b	-- ^c	5%
New windows and doors	4%	10% ^b	1% ^c	5%
Purchase/upgrade to energy efficient appliances	3%	4%	1%	3%
Other	10%	6%	11%	9%
None	47%	46%	41%	45%
Don't know	10% ^{ab}	-- ^c	3%	6%
Refused	--	--	2%	<1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

Table 206. Other Actions to Save Energy
(low-moderate income respondents; multiple response)

Other actions	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Switch to energy efficient lighting/CFLs/LEDs	17%	12%	15%
Shut off lights/turn things off when not in use/unplug	11%	17%	13%
Install new windows/doors	9%	8%	9%
Lower thermostat settings/programmable thermostat	11%	3%	8%
Insulation/caulking/sealing	7%	10%	8%
Switch to/use alternate fuel source	7%	7%	7%
Purchase/upgrade to energy efficient appliances	9%	5%	7%
Purchase new HVAC equipment/water heater	2%	2%	2%
Other	7%	10%	8%
None	44%	37%	41%
Don't know	4%	10%	7%
Refused	--	3%	2%

3.3.5 Non-participant Concern about Utility Bills

Table 207. Concern with Electricity and Natural Gas Bills (non-participants)

Concern about bills	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Extremely Concerned (5)	42% ^b	32%	24% ^c	35%
4	21%	15%	23%	20%
3	20%	15%	23%	20%
2	2% ^a	20% ^b	8%	8%
Not at all concerned (1)	15%	19%	18%	17%
Don't know	--	--	--	--
Refused	--	--	3%	1%

Table 208. Concern with Electricity and Natural Gas Bills (low-moderate income respondents)

	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Extremely concerned (5)	57% ^a	28% ^b	44%
4	13%	13%	13%
3	9% ^a	27%	17%
2	4%	10%	7%
Not at all concerned (1)	17%	20%	19%
Refused	--	2%	1%

Significantly different at the 90% confidence level: a= from upstate; b = from total.

Section 4

PROGRAM PARTICIPATION DECISION

4.1 KEY FINDINGS: SUMMARY

No Tables

4.2 MOTIVATIONS AND BARRIERS

4.2.1 Program Participation Motivations

**Table 209. Why Participants Chose to Participate When They Did
(audit-completed participants; multiple response)**

Why participated when they did	Downstate n=82)	Upstate A (n=92)	Upstate B (n=83)	Statewide (n=257)
Had just heard about the program	42%	44% β	42% β	43% β
Concerned about heating costs in the winter	17%	9%	12% β	12%
Contractor's suggestion / advice	7%	11%	8%	9%
My energy bills were increasing	12%ab	5% β	7%	8%
Had the time/convenient	4% β	5%	10% β	6% β
Broken equipment (repair or replace)	4%	9% βε	4% β	6% βε
Word-of-mouth	12%ab	4%	2%c	6%
Had just bought the house	4% β	5% β	2%	4% β
I didn't have the money before	1%	4%	4%	3%
Audit was free at the time	6%a β	1%	5%	3%

Why participated when they did	Downstate n=82)	Upstate A (n=92)	Upstate B (n=83)	Statewide (n=257)
Was concerned about cooling costs in the summer	2%	3%	1%	2%
Rebate expiring soon	2% β	1% β	4%	2% β
Making other improvements/remodeling at the time	1%	2%	2%	2%
Delayed by program earlier (Auditor not available, etc)	1%	1%	1%	1% β
To check home efficiency	2%	1% ε	--	1%
To help the environment	--	1%	1%	1% β
Other	--	1%	4% β	2% β
Don't know	4%b	3%b	1%c βε	3%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed; ε = from total.

**Table 210. Why Participants Chose to Participate When They Did
(HPwES work-completed participants; multiple response)**

Why participated when they did	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
Broken equipment (repair or replace)	7% ^{ac}	32% ^{b ε}	16% ^{c ε}	28% ε
Had just heard about the program	32% ^a	17% ε	26% ε	19% ε
My energy bills were increasing	10%	14%	14%	13%
Concerned about heating costs in the winter	13% ^b	11% ^b	30% ^{c ε}	13%
Contractor's suggestion / advice	7%	11%	10%	10%
Word-of-mouth	19% ^{abc}	6%	4%	7%
Rebate expiring soon	19% ^{abc ε}	6%	4%	7% ε
I didn't have the money before	3%	6%	8%	6%
Making other improvements/remodeling at the time	7% ^b	6% ^b	-- ^{c ε}	5%
Was concerned about cooling costs in the summer	-- ^{bc}	2%	4%	2%
Audit was free at the time	-- ε	2%	2%	1% ε
Had time/convenient	-- ε	2%	2% ε	1% ε
To check home efficiency	--	2%	--	1%
Had just bought the house	-- ε	-- ε	-- ε	1% ε
Don't know	3%	2%	2%	2

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; ε = from total.

**Table 211. Why Participants Chose to Participate When They Did
(audit-completed and HPwES work-completed participants; multiple response)**

Why participated when they did	Downstate (n=113)	Upstate A (n=158)	Upstate B (n=133)	Statewide (n=404)
Had just heard about the program	40%	34%	40%	37%
Was concerned about heating costs in the winter	17%a	9%	14%	12%
Broken equipment (repair or replace)	4%ac	17%bc	5%c	11%
Contractor's suggestion / advice	7%	11%	9%	10%
My energy bills were increasing	12%	8%	8%	9%
Word-of-mouth	13%abc	5%	3%	6%
Had the time/convenient	3%b	4%b	9%	5%
I didn't have the money before	2%	5%	4%	4%
Rebate expiring soon	4%	3%	4%	3%
Had just bought the house	4%	4%	2%	3%
Making other improvements/remodeling at the time	2%	4%	2%	3%
Audit was free at the time	5%a	1%bc	5%	3%
Was concerned about cooling costs in the summer	2%	3%	2%	2%
To check home efficiency	2%a	15%bc	--c	1%

Why participated when they did	Downstate (n=113)	Upstate A (n=158)	Upstate B (n=133)	Statewide (n=404)
Delayed by program earlier (Auditor not available, etc)	1%	1%	1%	1% β
To help the environment	--c	1%	1%	1% β
Other	--bc	1%	3% β	1% β
Don't know	4%	3%	1%c	3%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed.

Table 212. Most Important Reason for Deciding to Apply for a Free or Reduced-cost Energy Audit (audit-approved participants)

Reason for applying	Downstate (n=41)	Upstate A (n=49)	Upstate B (n=42)	Statewide (n=132)
To save on energy costs/bills	69% ^{abc β}	52% ^β	43%	53% ^β
To get an expert's advice about energy-efficiency measures	5%	14%	15%	12%
To find out how energy efficient my home was/to get my home	12%	14%	9% ^α	12% ^α
To save energy - Not further specified	7%	6%	9%	7% ^α
Improve comfort/insulation/safety of home	7% ^β	5%	6% ^{αβ}	6% ^{αβ}
Broken or failing equipment - repair or replacement	-- ^{bc α}	5% ^β	9% ^α	5% ^β
I was thinking about/planning to install energy efficient me	-- ^{bc β}	2%	6% ^β	2% ^β
Rebate/Free	-- ^β	2%	-- ^β	1% ^{βε}
Other	--	2%	2%	1%
Don't know	--	--	2%	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed; β = from work-completed; ε = from total.

Table 213. Most Important Reason for Deciding to Apply for a Free or Reduced-cost Energy Audit (audit-completed participants)

Reason for applying	Downstate (n=82)	Upstate A (n=92)	Upstate B (n=83)	Statewide (n=257)
To save on energy costs/bills	58% ^{ac}	39% ^b	54%	48% β
To find out how energy efficient my home was	17%	20%	19%	19%
To get an expert's advice about energy-efficiency measures	9% β	12%	14%	12%
Broken or failing equipment - repair or replacement	3% β	8% ^b	1% ^c β	5% β
I was thinking about/planning to install energy-efficiency measures	-- ^{ac} β	6% ^b	1% ^c	4%
To save energy - Not further specified	3% β	2% β	4%	3% β
To help the environment	3%	2%	1%	2%
Rebate/Free	-- ^{ac} β	4%	1% β	2% β
Improve comfort/insulation/safety of home	5% ^b β	1%	-- ^c ϵ	2%
Age/size of house	2%	1%	3% $\gamma\beta$	2% γ
Other	-- ^c	1%	1%	1% β
Don't know	-- ^c	2%	-- ^c	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; β = from work-completed; γ = from audit-approved.

Table 214. Most Important Reason for Deciding to Apply for a Free or Reduced-cost Energy Audit
 (participants with HPwES work-completed)

Reason for applying	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
To save on energy costs/bills	50% ^{ac}	31%	42%	34% ^ε
To find out how energy efficient my home was	13%	15%	17%	15%
Broken or failing equipment - repair or replacement	-- ^{abc} ^ε	14%	8%	12% ^ε
To get an expert's advice	-- ^{abc} ^ε	11%	17%	11%
Rebate/Free	13% ^ε	9%	8% ^ε	10% ^ε
To save energy - Not further specified	13%	8%	8%	9%
I was thinking about/planning to install energy efficient measures	13% ^b ^ε	8% ^b	-- ^c ^ε	7%
Improve comfort/insulation/safety of home	-- ^ε	1%	-- ^ε	1% ^ε
Age/size of house	--	1%	--	1%
To help the environment	--	--	--	--
Don't know	--	1%	--	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed; ε = from total.

Table 215. Most Important Reason for Deciding to Apply for a Free or Reduced-cost Energy Audit (all participants)

Reason for applying	Downstate (n=154)	Upstate A (n=207)	Upstate B (n=175)	Statewide (n=536)	Contractors (n=59)
To save on energy costs/bills	61% ^{abc}	40% ^{bc}	49%	47%	37% ^{γαε}
To find out how energy efficient my home was	15%	17%	15%	16%	19%
To get an expert's advice about energy-efficiency measures	7% ^{abc}	12%	14%	12%	5% ^{γαβε}
Broken or failing equipment - repair or replacement	2% ^{ac}	9%	5%	6%	-- ^{γαβε}
To save energy - Not further specified whether for cost, environment	5%	5%	6%	5%	-- ^{γαβε}
I was thinking about/planning to install energy efficient measures	1% ^{ac}	6%	3%	4%	2%
Rebate/Free	1% ^{ac}	5% ^b	1% ^c	3%	19% ^{γαβε}
Improve comfort/insulation/safety of home	5%	2%	2%	3%	2%
To help the environment	2%	1%	1%	1%	5% ^{γβε}
Age/size of house	1%	1%	1%	1%	--
Other	-- ^c	1%	1%	1% ^β	3%
Don't know	-- ^c	1%	1%	1%	2%

Significantly different at the 90% confidence level: γ = from audit approved; α = from audit-completed; β = from work-completed; ε = from total.

Table 216. Other Reasons Participants Decided to Apply for a Free or Reduced-cost Energy Audit

(audit-approved participants; multiple response)

Other reasons for applying	Downstate (n=41)	Upstate A (n=49) (count)	Upstate B (n=41)	Statewide (n=131)
To save on energy costs/bills	12%	8%	19%	13%
To get an expert's advice about what energy-efficiency measures to install/how to make home more energy efficient	12%	4%	12%	9%
To find out how energy efficient my home was	10%	4%	12%	8%
To save energy—not further specified	5%	8%	7%	7%
To help the environment	2%	8% β	10%	7% β
Rebate/Free	2%	6% α	2%	4% αε
I was thinking about/planning to install energy efficient measures anyway	2%	-- αβε	-- αβε	1% αβε
Broken or failing equipment – repair or replacement	--c αε	4%	5% β	3% β
Improve comfort/insulation/safety of home	7%ab	--c	--c αβ	2%
Increase value of home	2%	--	--	1%
No other reason	49%	63%b	42%	52%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed; β = from work-completed; γ = from audit-approved; ε = from total.

Table 217. Other Reasons Participants Decided to Apply for a Free or Reduced-cost Energy Audit (audit-completed participants; multiple response)

Other reasons for applying	Downstate (n=82)	Upstate A (n=90)	Upstate B (n=83)	Statewide (n=255)
To save on energy costs/bills	17%	14%	11%	14%
To get an expert's advice about what energy-efficiency measures to install/how to make home more energy efficient	10% β	8%	5%	7%
To find out how energy efficient my home was	7%	6%	6%	6%
To save energy—not further specified whether for cost, environment	6%	3% b β	10%	6%
I was thinking about/planning to install energy-efficiency measures anyway	4%	3%	6%	4%
To help the environment	4%	3% β	6%	4%
Broken or failing equipment - repair or replacement	5% b	7% b	-- c $\beta\varepsilon$	4% β
Improve comfort/insulation/safety of home	5% a	-- bc	5%	3%
Rebate/Free	1%	-- b	4% c	1%

Other reasons for applying	Downstate (n=82)	Upstate A (n=90)	Upstate B (n=83)	Statewide (n=255)
Other	--	1%	2%	1%
No other reason	51%	58%	53%	57%

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide; β = from work-completed; ε = from total.

Table 218. Other Reasons Participants Decided to Apply for a Free or Reduced-cost Energy Audit (HPwES work-completed participants; multiple response)

Other reasons for applying	Downstate (n=31)	Upstate A (n=65)	Upstate B (n=50)	Statewide (n=146)
To save on energy costs/bills	16%	14%	10%	14%
Broken or failing equipment - repair or replacement	7%	9%	16% ε	10% ε
To get an expert's advice about what energy-efficiency measures to install/how to make home more energy efficient	3%bc ε	9%	12%	9%
To find out how energy efficient my home was	7%	8%	6%	7%
I was thinking about/planning to install energy-efficiency measures anyway	4%	5%	6%	5%
To save energy—not further specified whether for cost, environment	3%	3%	2% ε	3% ε

To help the environment	7% ^a	--bc ϵ	8% ^c	2% ϵ
Improve comfort/insulation/safety of home	3%	--b	8% ^c	1%
Rebate/Free	--	2%	2%	1%
Increase value of home	--	2%	--	1%
No other reason	55%	59% ^b	42% ^c	56%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; ; c= from statewide; ϵ = from total.

Table 219. Other Reasons Participants Decided to Apply for a Free or Reduced-cost Energy Audit
(all participants; multiple response)

Other reasons for applying	Downstate (n=154)	Upstate A (n=204)	Upstate B (n=174)	Statewide (n=532)
To save on energy costs/bills	15%	13%	14%	14%
To get an expert's advice about what energy-efficiency measures to install/how to make home more energy efficient	10%	7%	8%	8%
To find out how energy efficient my home was	8%	6%	8%	7%
To save energy—not further specified whether for cost, environment	5%	4% ^b	8%	6%
Broken or failing equipment - repair or replacement	3% ^a	7% ^b	3%	5%
To help the environment	3% ^b	4% ^b	8%	5%

Other reasons for applying	Downstate (n=154)	Upstate A (n=204)	Upstate B (n=174)	Statewide (n=532)
I was thinking about/planning to install energy-efficiency measures anyway	3%	3%	4%	3%
Rebate/Free	2%	2%	3%	2%
Improve comfort/insulation/safety of home	6%ac	--bc	3%	2%
Increase value of home	1%	<1%	1%	1%
Other	--	1%	1%	1%
No other reason	51%a	62%b	50%	56%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

4.2.2 Program Participation Barriers

4.2.2.1 Customer and Contractor Perspectives

Table 220. Percent of Participants Indicating Barriers to Participating in the Program (participants (percent yes (sample size)))

Barriers to participating in program	Downstate	Upstate A	Upstate B	Statewide
Audit-completed	14% (82)	8% (92)	13% (83)	11% (257)
HPwES Work-completed	13% (31)	8% (66)	9% (50)	9% (147)
Audit-completed and HPwES Work-completed	14% (113)	8% (158)	12% (133)	10% (404)

Table 221. Most Important Barrier to Overcome in Order to Participate (audit-completed participants indicating barriers)

Most important barrier to overcome	Downstate (n=11) (count)	Upstate A (n=7) (count)	Upstate B (n=11) (count)	Statewide (n=29)
The hassle of scheduling, etc.	6	2	3	33%
Gathering energy use data for application	1	1	5	24%
Lengthy/difficult application process	1	2	--	12%
Difficulty finding/scheduling a contractor	1	--	2	9%
Did not qualify for program loan	--	1	1	9%
Didn't have time to participate	--	1	--	6%
Not enough money/didn't fit into budget	1	--	--	3%
Other	1	--	--	3%

Table 222. Most Important Barrier to Overcome in Order to Participate (HPwES work-completed participants indicating barriers)

Most important barrier to overcome	Downstate (n=5) (count)	Upstate A (n=5) (count)	Upstate B (n=5) (count)	Statewide (n=15) (count)
Did not qualify for program loan	2	1	--	3
The hassle of scheduling, etc.	1	1	1	3
Difficulty finding/scheduling a contractor	2	--	--	2
Gathering energy use data for application	--	2	--	2
Not enough money/didn't fit into budget	--	1	1	2
Lengthy/difficult application process	--	--	1	1
Didn't have time to participate	--	--	1	1
Other	--	--	1	1

**Table 223. Most Important Barrier to Overcome in Order to Participate
(Audit-completed and HPwES work-completed participants indicating barriers)**

Most important barrier to overcome	Downstate (n=16) (count)	Upstate A (n=12) (count)	Upstate B (n=16) (count)	Statewide (n=44)
The hassle of scheduling, etc.	7	3	4	30%
Gathering energy use data for application	1	3	5	25%
Did not qualify for program loan	2	2	1	12%
Lengthy/difficult application process	1	2	1	10%
Difficulty finding/scheduling a contractor	3	--	2	10%
Didn't have time to participate	--	1	1	5%
Not enough money/didn't fit into budget	1	1	1	5%
Other	1	--	1	3%

**Table 224. Other Barriers to Overcome in Order to Participate
(audit-completed participants indicating other barriers)**

Other barriers to overcome	Downstate (n=3) (count)	Upstate A (n=1) (count)	Upstate B (n=1) (count)	Statewide (n=5) (count)
Lengthy/difficult application process	1	--	1	2
The hassle of scheduling, etc.	--	1	--	1
Gather energy use data for application	1	--	--	1
Difficulty finding/scheduling a contractor	1	--	--	1
Other	1	--	--	1

**Table 225. Other Barriers to Overcome in Order to Participate
(participants with HPwES work-completed indicating barriers)**

Other barriers to overcome	Downstate (n=0) (count)	Upstate A (n=2) (count)	Upstate B (n=1) (count)	Statewide (n=3) (count)
Not enough money/didn't fit into budget	--	1	--	1
Didn't have time to participate	--	--	1	1
The hassle of scheduling, etc.	--	1	--	1

**Table 226. Other Barriers to Overcome in Order to Participate
(Audit-completed and HPwES work-completed participants indicating barriers)**

Other barriers to overcome	Downstate (n=3) (count)	Upstate A (n=3) (count)	Upstate B (n=2) (count)	Statewide (n=8) (count)
The hassle of scheduling, etc.	--	2	--	2
Lengthy/difficult application process	1	--	1	2
Not enough money/didn't fit into budget	--	1	--	1
Didn't have time to participate	--	--	1	1
Gather energy use data for application	1	--	--	1
Difficulty finding/scheduling a contractor	1	--	--	1
Other	1	--	--	1

**Table 227. Most Important Reason for Audit-approved Participants for Not Having an Audit/ Primary Barrier Preventing Customers from Participating in Audits
(audit-approved participants; contractors)**

Reason for not having an audit	Downstate (n=38)	Upstate A (n=45)	Upstate B (n=34)	Statewide (n=117)	Contractors (n=59)
Didn't have time to participate/Lack of time	26%	15%	14%	18%	10% γ
The hassle of scheduling, etc.	8%	20%	12%	14%	22%

Reason for not having an audit	Downstate (n=38)	Upstate A (n=45)	Upstate B (n=34)	Statewide (n=117)	Contractors (n=59)
Not enough money/didn't fit into budget	18%	8%	12%	12%	5% γ
Applied for/contacted program, but have not heard back	8%	11%	12%	11%	-- γ
Difficulty finding/scheduling a contractor	8%	5%	9%	7%	-- γ
Not scheduled in time to get the reduced cost	5%	5%	2%	4%	-- γ
Delayed due to weather/equipment upgrade	3%	2%	9%	4%	-- γ
Did not understand/have enough info about the program	--c	5%	7%	4%	-- γ
Have not gotten results yet	3%	5%	2%	4%	-- γ
Gathering energy use data for application	8%	2%	--	3%	-- γ
Waiting for old equipment to break/wear out	--c	5%	2%	3%	-- γ
Lack of knowledge/awareness	--	--	--	--	24% γ
Gathering energy use data	--	--	--	--	10% γ

Reason for not having an audit	Downstate (n=38)	Upstate A (n=45)	Upstate B (n=34)	Statewide (n=117)	Contractors (n=59)
Not wanting to feel obligated to install measures	--	--	--	--	5% γ
Not expecting to qualify/changes in program requirements	--	--	--	--	5% γ
Other	8%	7%	9%	8%	-- γ
Refused	3%	--	2%	1%	--
Don't know	3%	11%	7%	8%	-- γ

Significantly different at the 90% confidence level: c= from statewide γ = from audit-approved.

Table 228. Other Reasons Audit-approved Respondents for Not Having an Audit (audit-approved participants; multiple response)

Other reasons for not having an audit	Downstate (n=39)	Upstate A (n=44)	Upstate B (n=39)	Statewide (n=122)
The hassle of scheduling, etc.	8%	7%	3% ^c	6%
Didn't have time to participate	5%	7%	3%	5%
Did not understand/have enough info about the program	3%	--	2%	1%
Difficulty finding/scheduling a contractor	3%	2%	--	2%
Not enough money available/didn't fit into budget	--	2%	--	1%
Applied for/contacted program, but have not heard back	--	--	3%	1%
Other	5%	5%	5%	5%
No other reasons	77%	80%	82%	80%
Don't know	3%	--	--	1%

Significantly different at the 90% confidence level: c= from statewide

4.2.3 Measure Installation Decision

Table 229. Primary Motivations for Customers to Implement or Install Measures (contractors)

Motivations	Contractors (n=59)
To save on energy costs/bills	54%
To save energy—not further specified whether for cost, environment	19%
Appeal of incentives, rebates or low-interest financing	14%
To find out how energy efficient their home is/to get their home evaluated	3%
They were considering installing energy-efficiency measures anyway	2%
To get an expert’s advice about what energy-efficiency measures to install/how to make their home more energy efficient	2%
To replace broken or malfunctioning equipment	2%
Payback (years)	2%
None. Customers want the free audit and then they are gone.	2%
Quality of the salesman and audit	2%

Table 230. Customer Primary Barriers for Implementing or Installing Measures (contractors)

Barriers	Contractors (n=59)
Not enough money available/lack of budget	70%
Not qualifying/changes in program requirements/savings to investment ratio	14%
Not receiving meaningful information from audit/not understanding audit report	5%
Lack of time	3%
The hassle of scheduling, etc.	2%
Health and safety thing has to be fixed before implementing measures	2%
They feel they can do better going on their own and shopping for individual savings	2%
Other	3%

4.3 NON-PARTICIPANT INTEREST IN PROGRAM

4.3.1 Non-participant survey

Table 231. Reasons for Not Participating in HPwES (non-participants who had heard of HPwES but did not participate; multiple response)

Reasons for not participating	Downstate (n=16) (percent (count))	Upstate A (n=29)	Upstate B (n=31)	Statewide (n=76)
Do not have the time / too busy	30% (5)	22%	17%	23%
My home is already energy efficient	25% (4)	20%	17%	20%

Reasons for not participating	Downstate (n=16) (percent count))	Upstate A (n=29)	Upstate B (n=31)	Statewide (n=76)
I have already installed most measures	20% (4)	26% ^b	5% ^c	17%
Aware of the program, but did not know I was eligible to participate	9% (1)	13%	17%	13%
Too expensive / don't have the money to install measures	6% (1)	9%	6%	7%
Not interested in installing measures	4% (1)	11%	3%	6%
Told I could not by the program	8% (1)	--	--	2%
Too much hassle to participate in the program	--	4%	1%	2%
Can install the measures ourselves	--	3%	4%	2%
Other	--	11%	17%	10%
Don't know	9% (1)	1% ^b	13% ^c	1%

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide.

Table 232. Reasons for Not Participating in HPwES
(low-moderate income respondents who had heard of HPwES but did not participate;
multiple response)

Reasons for not participating	Downstate (n=13) (percent(count))	Upstate (n=21)	Total (n=34)
Too expensive / don't have the money to install measures	23% (3)	38%	30%
Aware of the program, but did not know I was eligible to participate	23% (3)	10%	17%
Do not have the time / too busy	15% (2)	10%	13%
I have already installed most measures	15% (2)	10%	13%
My home is already energy efficient	8% (1)	10%	9%
Told I could not by the program	8% (1)	5%	6%
Too much hassle to participate in the program	8% (1)	5%	4%
Not interested in installing measures	8% (1)	--	4%
Can install the measures ourselves	8% (1)	--	4%
Other	--	19%	9%
Don't know	--	5%	2%
Refused	--	5%	2%

Table 233: Reasons for Not Participating in HPwES
(non-participants, low-moderate income respondents who undertook energy usage reduction actions in the last year and who heard of HPwES but did not participate; multiple response)

Reasons for not participating	Non-participant (n=64)	Low-moderate Income (n=29)
Do not have the time / too busy	21%	10%
My home is already energy efficient	21%	10%
I have already installed most measures	18%	15%
Aware of the program, but did not know I was eligible to participate	15%	7%
Not interested in installing measures	7%	5%
Too expensive / don't have the money to install measures	5%	28% $\bar{\delta}$
Told I could not by the program	3%	7%
Can install the measures ourselves	3%	5%
Too much hassle to participate in the program	1%	5%
Other	11%	11%
Don't know	7%	3%
Refused	1%	3%

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

Table 234: Reasons for Not Participating in HPwES
 (non-participants, low-moderate income respondents who did not undertake energy usage reduction actions in the last year and who heard of HPwES but did not participate; multiple response)

Reasons for not participating	Non-participant (n=12) (count)	Low-moderate Income (n=5) (count)
Do not have the time / too busy	4	1
My home is already energy efficient	3	--
I have already installed most measures	2	--
Aware of the program, but did not know I was eligible to participate	--	3
Too expensive / don't have the money to install measures	2	3
Too much hassle to participate in the program	1	--
Other	1	--

Table 235. Homeowner Interest in Participating in HPwES
 (non-participants)

Interest in participating	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Very Interested (5)	6% ^b	8% ^b	18% ^c	9%
4	12% ^b	6%	4%	8%
3	20%	13%	19%	18%
2	3% ^b	9%	12%	7%
Not at all interested (1)	57%	63% ^b	46%	56%
Don't know	1%	1%	1%	1%
Refused	1%	--	--	1%

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide.

**Table 236. Homeowner Interest in Participating in HPwES
(low-moderate income respondents)**

Interest in participating	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Very Interested (5)	20%	15%	18% $\bar{\delta}$
4	9%	7%	8%
3	11%	20%	15%
2	17%	13%	16% $\bar{\delta}$
Not at all interested (1)	41%	43%	42% $\bar{\delta}$
Don't know	2%	--	2%

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

**Table 237: Homeowner Interest in Participating in HPwES
(non-participants, low-moderate income respondents who undertook energy usage
reduction actions in the last year)**

Interest in participating	Non-participants (n=180)	Low-moderate Income (n=94)
Very Interested (5)	9%	16%
4	7%	8%
3	18%	17%
2	6%	13%
Not at all interested (1)	58%	45% $\bar{\delta}$
Don't know	1%	2%
Refused	1%	--

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

**Table 238: Homeowner Interest in Participating in HPwES
(non-participants, low-moderate income respondents who did not undertake energy usage reduction actions in the last year)**

Interest in participating	Non-participants (n=32)	Low-moderate Income (n=12) (percent (count))
Very Interested (5)	11%	29% (4)
4	19%	11% (1)
3	19%	--
2	15%	38% (4)
Not at all interested (1)	36%	23% (3)

Table 239. Most Important Reason Not Interested in Participating in HPwES (non-participants not interested in HPwES)

Most important reason not interested	Downstate (n=41)	Upstate A (n=55)	Upstate B (n=45)	Statewide (n=141)
I have already installed most measures	19%	31% ^b	10% ^c	21%
My home is already energy efficient	12% ^b	21%	31%	19%
Too expensive / don't have the money to install measures	12%	5% ^b	24%	13%
Do not have the time / too busy	10%	10%	12%	10%
Not interested in installing measures	11%	8%	4%	9%
Know what we need/would do ourselves	7% ^b	9% ^b	-- ^c	6%
Do not plan to stay in house much longer	8% ^{ab}	1%	-- ^c	5%
Too much hassle to participate in the program	4%	4%	5%	4%
Do not know enough about the program	6%	1%	2%	3%
Other	5%	8%	6%	6%
Don't know	3%	--	4%	2%
Refused	3%	--	2%	3%

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide.

**Table 240. Most Important Reason Not Interested in Participating in HPwES
(low-moderate income respondents not interested in HPwES)**

Most important reason not interested	Downstate (n=27)	Upstate (n=34)	Total (n=61)
Too expensive / don't have the money to install measures	26%	26%	26% $\bar{\delta}$
I have already installed most measures	15%	14%	15%
My home is already energy efficient	11%	14%	13%
Not interested in installing measures	19%	6%	13%
Do not plan to stay in house much longer	7%	9%	8%
Do not have the time / too busy	4%	6%	5%
Know what we need/would do ourselves	7%	3%	5%
Too much hassle to participate in program	--	3%	1%
Other	4%	12%	7%
Don't know	4%	3%	3%
Refused	4%	3%	3%

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

Table 241. Other Reasons Not Interested in Participating in HPwES
 (non-participants not interested in HPwES who indicated a primary reason; multiple response)

Other reasons not interested	Downstate (n=38)	Upstate A (n=54)	Upstate B (n=42)	Statewide (n=134)
Do not have the time / too busy	2%a	12%b	1%	5%
I have already installed most measures	7%	3%	4%	5%
Too expensive / don't have the money to install measures	4%	1%	5%	3%
My home is already energy efficient	--	2%	1%	2%
Not interested in installing measures	--ac	6%b	--c	2%
Too much hassle to participate in the program	3%	1%	--	2%
Do not know enough about the program	--	1%	--	<1%
None	73%	74%	75%	74%
Other	--bc	--bc	7%	2%
Don't know	3%	--bc	7%	3%
Refused	5%	1%	--c	3%

Table 242: Most Important Reason Not Interested in Participating in HPwES (non-participants, low-moderate income respondents who undertook energy usage reduction actions in the last year who are not interested in HPwES)

Most important reason not interested	Non-participants (n=123)	Low-moderate Income (n=54)
I have already installed most measures	21%	17%
My home is already energy efficient	21%	14%
Too expensive / don't have the money to install measures	14%	20%
Not interested in installing measures	10%	15%
Do not have the time / too busy	9%	3% δ
Know what we need/would do ourselves	7%	6%
Do not plan to stay in house much longer	5%	8%
To much hassle to participate in the program	3%	1%
Do not know enough about the program	2%	--
Other	6%	8%
Don't know	1%	4%
Refused	4%	4%

Significantly different at the 90% confidence level: δ = from non-participants.

Table 243: Most Important Reason Not Interested in Participating in HPwES
 (non-participants, low-moderate income respondents who did not undertake energy usage reduction actions in the last year who are not interested in HPwES)

Most important reason not interested	Non-participants (n=18) (count)	Low-moderate Income (n=7)
My home is already energy efficient	3	--
Do not have the time / too busy	3	1
I have already installed most measures	2	--
Do not know enough about the program	2	--
Too expensive / don't have the money to install measures	1	5
Do not plan to stay in house much longer	--	1
Other	2	--
Don't know	3	--

Table 244. Interest in Receiving a Free or Reduced-cost Audit
 (non-participants)

Interest in audit	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Very Interested (5)	6% ^b	9% ^b	18%	10%
4	9%	9%	10%	9%
3	17%	12%	12%	15%
2	10%	5%	7%	8%
Not at all interested (1)	56%	59%	48%	55%
Don't know	2%	5%	1%	2%
Refused	2%	--	3%	2%

Significantly different at the 90% confidence level: b = from Upstate-B.

Table 245. Interest in Participating in Receiving a Free or Reduced-cost Audit (low-moderate income respondents)

Interest in audit	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Very Interested (5)	20%	18%	19% δ
4	17%	8%	13%
3	7%	17%	11%
2	4%	8%	6%
Not at all interested (1)	44%	47%	45% δ
Don't know	9%	2%	6%

Significantly different at the 90% confidence level: δ = from non-participants.

Table 246: Interest in Receiving a Free or Reduced-cost Energy Audit (non-participants, low-moderate income respondents who undertook energy usage reduction actions in the last year)

Interest in audit	Non-participants (n=180)	Low-moderate Income (n=94)
Very Interested (5)	9%	19% δ
4	9%	13%
3	13%	12%
2	6%	3%
Not at all interested (1)	60%	49% δ
Don't know /Refused	4%	4%

Significantly different at the 90% confidence level: δ = from non-participants.

Table 247: Interest in Receiving a Free or Reduced-cost Energy Audit
 (non-participants, low-moderate income respondents who did not undertake energy usage reduction actions in the last year)

Interest in audit	Non-participants (n=32)	Low-moderate Income (n=12) (percent (count))
Very Interested (5)	16%	17% (2)
4	12%	17% (2)
3	28%	6% (1)
2	20%	27% (3)
Not at all interested (1)	22%	12% (2)
Don't know /Refused	3%	21% (2)

Table 248. Why Not Interested in Receiving a Free or Reduced-cost Energy Audit
 (non-participants not interested in receiving a free or reduced-cost energy audit: multiple response)

Why not interested in audit	Downstate (n=44)	Upstate A (n=51)	Upstate B (n=46)	Statewide (n=141)
Don't need it/not interested	20%	21%	17%	20%
Not sure if I would qualify	26%ab	8%	4%c	16%
Too expensive/don't have the money/not spending the money	17%	8%	15%	14%
Home is already efficient	5%ab	23%	21%	13%
Do not have time/too busy/too much of a bother	4%b	8%	14%	7%

Why not interested in audit	Downstate (n=44)	Upstate A (n=51)	Upstate B (n=46)	Statewide (n=141)
Can do the work ourselves	3%	9%	12%	7%
Skeptical of program/scam/people in the house/just trying to sell me something	4%	12% ^b	-- ^c	5%
Don't plan to stay in house much longer/leave for next owner	3%	2%	1%	2%
Need more information	--	3%	--	1%
Other	5%	4%	9%	5%
Don't know	7% ^a	--	3%	4%
Refused	9%	10%	12%	10%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

Table 249. Why Not Interested in Receiving a Free or Reduced-cost Energy Audit (low-moderate income respondents not interested in receiving a free or reduced-cost energy audit; multiple response)

Why not interested in audit	Downstate (n=22)	Upstate (n=33)	Total (n=55)
Home is already efficient	23%	15%	19%
Don't need it/not interested	18%	15%	17% δ
Do not have time/too busy/too much of a bother	14%	18%	16% δ
Too expensive/don't have the money/not spending the money	5% ^a	21%	12%
Can do the work ourselves	9%	6%	8%
Don't plan to stay in house much longer/Leave for next owner	5%	6%	5%
Skeptical of program/scam/people in the house/Just trying to sell me something	5%	6%	5%
Not sure if I would qualify	5%	3%	4%
Need more information	--	3%	1%
Other	14% ^a	-- ^b	7%
Don't know	9%	9%	9%
Refused	--	3%	1%

Significantly different at the 90% confidence level: a= from upstate; b = from total; δ = from non-participants.

Table 250: Why Not Interested in Receiving a Free or Reduced-cost Energy Audit (non-participants, low-moderate income respondents who undertook energy usage reduction actions in the last year who are not interested in receiving a free or reduced-cost energy audit: multiple response)

Why not interested in audit	Non-participants (n=127)	Low-moderate Income (n=50)
Don't need it/not interested	19%	14%
Not sure if I would qualify	17%	4% $\bar{\delta}$
Too expensive/don't have the money/not spending the money	14%	14%
Home is already efficient	14%	21%
Do not have time/too busy/too much of a bother	7%	13%
Can do the work ourselves	7%	8%
Skeptical of program/scam/people in the house/just trying to sell me something	5%	6%
Don't plan on staying in the home	2%	4%
Need more information	1%	2%
Other	5%	8%
Don't know	4%	10%
Refused	11%	2%

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

Table 251: Why Not Interested in Receiving a Free or Reduced-cost Energy Audit (non-participants, low-moderate income respondents who had not undertake energy usage reduction actions in the last year who are not interested in receiving a free or reduced-cost energy audit: multiple response)

Why not interested in audit	Non-participants (n=14) (count)	Low-moderate Income (n=5)
Don't need it/not interested	3	2
Home is already efficient	2	--
Do not have time/too busy/too much of a bother	2	2
Not sure if I would qualify	1	--
Too expensive/don't have the money/not spending the money	1	--
Skeptical of program/scam/people in the house/just trying to sell me something	1	--
Don't plan to stay in the house much longer	1	1
Other	2	--
Don't know	2	--
Refused	1	--

Table 252. Interest in Taking Advantage of GJGNY Financing (non-participants)

Interest in financing	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Very Interested (5)	10%	13%	12%	11%
4	9%	14% ^b	5%	9%
3	13%	13%	23%	15%
2	6%	7% ^b	1%	5%
Not at all interested (1)	58%	52%	55%	55%
Don't know	3%	1%	2%	2%
Refused	2%	--	1%	1%

Significantly different at the 90% confidence level: b = from Upstate-B.

Table 253. Why Not Interested in Taking Advantage of GJGNY Financing (non-participants not interested in taking advantage of GJGNY financing; multiple response)

Reasons not interested in financing	Downstate (n=45)	Upstate A (n=49)	Upstate B (n=45)	Statewide (n=139)
Don't need it/not interested	17%	25%	25%	21%
Too expensive/don't have the money/not spending the money	23% ^a	10%	14%	20%
Prefer to pay cash/don't need to finance/can afford to pay	10% ^a	27% ^b	7%	12%
Don't want more debt/don't like to borrow	8%	6%	10%	8%

Reasons not interested in financing	Downstate (n=45)	Upstate A (n=49)	Upstate B (n=45)	Statewide (n=139)
Home is already efficient	8%	6%	9%	8%
Not sure if I would qualify	5%	10% ^b	1%	4%
Don't plan to stay in house much longer/leave for next owner	3%	2%	1%	3%
Can do the work ourselves	3%	--	1%	2%
Skeptical of program/scam/people in the house/just trying to sell me something	2%	2%	1%	2%
Do not have time/too busy/too much of a bother	--	2%	1%	1%
Need more information	--	--	1%	<1%
Other	1%	2%	5%	2%
Don't know	7%	2%	5%	5%
Refused	13%	6% ^b	20%	14%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B.

**Table 254. Interest in Taking Advantage of GJGNY Financing
(low-moderate income respondents)**

Interest in financing	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Very Interested (5)	11%	13%	12%
4	9%	10%	9%
3	9%	13%	11%
2	4%	7%	5%
Not at all interested (1)	61%	53%	58%
Don't know	7%	2%	4%
Refused	--	2%	1%

Table 255. Why Not Interested in Taking Advantage of GJGNY Financing
(low-moderate income respondents not interested in taking advantage of GJGNY
financing; multiple response)

Reasons not interested in financing	Downstate (n=30)	Upstate (n=36)	Total (n=66)
Too expensive/don't have the money/not spending the money	27%	36%	31% $\bar{\delta}$
Don't need it/not interested	27%	14%	21%
Home is already efficient	20% ^a	6%	14%
Prefer to pay cash/Don't need to finance	3% ^a	22%	11%
Don't want more debt/Don't like to borrow	3%	8%	5%
Do not have time/too busy/too much of a bother	3%	6%	4%
Don't plan to stay in house much longer/Leave for next owner	7%	-- ^b	4%
Can do the work ourselves	7%	--	4%
Not sure if I would qualify	--	6%	2%
Need more information	--	3%	1%
Other	7%	3%	5%
Don't know	--	3%	1%
Refused	--	6%	2%

Significantly different at the 90% confidence level: a= from upstate; b = from total; $\bar{\delta}$ = from non-participants.

Table 256. Interest in Taking Advantage of Cash-back Incentives (non-participants)

Interest in cash-back incentives	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Very Interested (5)	21%	26%	24%	23%
4	14%	16%	10%	14%
3	19%	16%	19%	18%
2	6%	3%	5%	5%
Not at all interested (1)	39%	37%	37%	38%
Don't know	1%	<1%	4%	2%
Refused	--	<1%	1%	1%

Table 257. Interest in Taking Advantage of Cash-back Incentives (low-moderate income respondents)

Interest in cash-back incentives	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Very Interested (5)	26%	27%	26%
4	17%	13%	16%
3	11%	12%	11% $\bar{\delta}$
2	9%	8%	9%
Not at all interested (1)	35%	37%	36%
Don't know	2%	2%	2%
Refused	--	2%	1%

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

Table 258: Interest in Taking Advantage of Cash-back Incentives
 (non-participants, low-moderate income respondents who undertook energy usage reduction actions in the last year)

Interest in cash-back incentives	Non-participants (n=180)	Low-moderate Income (n=94)
Very Interested (5)	22%	25%
4	13%	13%
3	16%	13%
2	4%	8%
Not at all interested (1)	42%	39%
Don't know/Refused	2%	2%

Table 259: Interest in Taking Advantage of Cash-back Incentives
 (non-participants, low-moderate income respondents who had not undertaken energy usage reduction actions in the last year)

Interest in cash-back incentives	Non-participants (n=32)	Low-moderate Income (n=12) (percent(count))
Very Interested (5)	29%	33%(4)
4	16%	33%(4)
3	32%	--
2	9%	10% (1)
Not at all interested (1)	12%	12% (2)
Don't know/Refused	3%	11% (1)

**Table 260. Why Not Interested in Taking Advantage of Cash-back Incentives
(non-participants not interested in taking advantage of cash-back incentives)**

Why not interested in cash-back incentives	Downstate (n=32)	Upstate A (n=34)	Upstate B (n=30)	Statewide (n=96)
Don't need it/not interested	28%	20%	20%	24%
Home is already efficient	10%	19%	8%	12%
Too expensive/don't have the money/not spending the money	15%	9%	11%	12%
Can do the work ourselves	9%	6%	2%	7%
Skeptical of program/scam/people in the house/just trying to sell me something	4%	2% ^b	15%	6%
Do not have time/too busy/too much of a bother	--	4%	9%	3%
Don't plan to stay in house much longer/leave for next owner	-- ^a	13% ^{bc}	--	3%
Not sure if I would qualify	2%	1%	--	1%
Need more information	--	2%	3%	1%

Why not interested in cash-back incentives	Downstate (n=32)	Upstate A (n=34)	Upstate B (n=30)	Statewide (n=96)
Prefer to pay cash/don't need to finance/can afford to pay	--	--	--	--
Don't want more debt/don't like to borrow	--	--	--	--
Other	6%	7%	1%	5%
Don't know	13% ^a	2%	7%	8%
Refused	14%	17%	20%	18%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

**Table 261. Why Not Interested in Taking Advantage of Cash-back Incentives
(low-moderate income respondents not interested in taking advantage of cash-back incentives; multiple response)**

Why not interested in cash-back incentives	Downstate (n=20)	Upstate (n=26)	Total (n=46)
Don't need it/not interested	35%	27%	32%
Home is already efficient	25%	8%	18%
Too expensive/don't have the money/not spending the money	10%	23%	16%
Can do the work ourselves	15% ^a	-- ^b	9%
Need more information	10%	4%	7%
Prefer to pay cash/Don't need to finance	10%	4%	7%
Do not have time/too busy/too much of a bother	5%	8%	6%
Not sure if I would qualify	-- ^a	12%	5%
Don't plan to stay in house much longer/Leave for next owner	5%	--	3%
Skeptical of program/scam/people in the house/Just trying to sell me something	--	4%	2%
Other	5%	4%	5%
Don't know	--	7%	3%
Refused	--	7%	3%

Significantly different at the 90% confidence level: a= from upstate; b = from total.

Table 262: Why Not Interested in Taking Advantage of Cash-back Incentives (non-participants, low-moderate income respondents who undertook energy usage reduction actions in the last year and who are not interested in taking advantage of cash-back incentives; multiple response)

Why not interested in cash-back incentives	Non-participants (n=88)	Low-moderate Income (n=43)
Don't need it/not interested	22%	32%
Too expensive/don't have the money/not spending the money	13%	15%
Home is already efficient	11%	19%
Can do the work ourselves	7%	9%
Skeptical of program/scam/people in the house/just trying to sell me something	6%	2%
Don't plan to stay in the house much longer	3%	3%
Do not have time/too busy/too much of a bother	2%	7%
Not sure if I would qualify	1%	5%
Need more information	1%	5%
Other	5%	5%
Don't know	8%	4%
Refused	19%	4% $\bar{\delta}$

Significantly different at the 90% confidence level: $\bar{\delta}$ = from non-participants.

Table 263: Why Not Interested in Taking Advantage of Cash-back Incentives
 (non-participants, low-moderate income respondents who did not undertake energy usage reduction actions in the last year and who are not interested in taking advantage of cash-back incentives; multiple response)

Why not interested in cash-back incentives	Non-participants (n=8) (count)	Low-moderate Income (n=3)
Don't need it/not interested	3	1
Home is already efficient	2	--
Need more information	1	1
Do not have time/too busy/too much of a bother	1	
Too expensive/don't have the money/not spending the money	--	1
Other	1	--

Section 5

PROGRAM IMPLEMENTATION

5.1 SUMMARY

No tables

5.2 BACKGROUND AND PROGRAM ROLES

No tables

5.3 LEVEL AND TYPE OF MARKET ACTOR ACTIVITY

No tables

5.4 PROGRAM MARKETING

5.4.1 Summary

No tables

5.4.2 Program Staff Perspectives

No tables

5.4.3 Implementation Contractor Perspectives

No tables

5.4.4 HPwES Contractor Perspectives

Table 264. HPwES Contractor Use of Marketing Activities to Attract Potential Customers to HPwES (contractors)

Use of marketing activities to attract customers	Contractors (n=59)
Yes	92%
No	9%

Table 265. HPwES Contractor Marketing Activities (contractors who had engaged in marketing activities to attract customers; multiple response)

Marketing activities	Contractors (n=54)
Newspaper advertising	57%
Radio advertising	41%
TV advertising	37%
Internet advertising/Company Website	24%
Direct mail	24%
Home shows	20%
NYSERDA website	6%
Word-of-mouth	6%
E-mail lists(blasts)/Direct E-mail	6%
Yellow Pages	6%
Ads on Company Vehicles	6%
Presentations/Trade shows/Bag stuffers	4%
Phone on hold message/Business cards	4%
Billboards	2%
Other	6%

Table 266. Contractor Lead Generation

(contractors who had not engaged in any marketing activities to attract customers; multiple response)

How generate leads or attract customers	Contractors (n=5) (count)
NYSERDA website	3
Customer referrals/Word-of-mouth	3
Utility company	1

Table 267. Whether or Not GJGNY has Changed the Way Contractors Market HPwES

(contractors who indicated they had engaged in marketing activities to attract customers)

If GJGNY has changed marketing of program	Contractors (n=54)
Yes	43%
No	57%

Table 268. Changes in Contractor Marketing Efforts
(contractors who indicated that GJGNY has changed the way they market HPwES; Multiple Response)

Changes in marketing efforts	Contractors (n=23)
We promote the free audits	65%
We promote the financing options	26%
We receive more leads through the program	26%
We increased marketing	9%
Free audits require attracting more specific clients	9%
Changes have created a disincentive for customers	4%
Decreased our own marketing	4%
Created more complications/paper work	4%
Other	13%

Table 269. Contractor Satisfaction with NYSERDA HPwES Marketing
(contractors)

Level of satisfaction	Contractors (n=59)
Extremely satisfied (5)	5%
4	17%
3	34%
2	29%
Not at all satisfied (1)	15%

5.5 SUMMARY

No tables

5.6 PROGRAM ADMINISTRATION AND DELIVERY

5.6.1 Audits

5.6.1.1 Summary

No tables

5.6.1.2 Program Staff Perspectives

No tables

5.6.1.3 Implementation Contractor Perspectives

No tables

5.6.1.4 HPwES Contractor Perspectives

Table 270. Primary Source of Learning about the Free or Reduce Cost Audit for HPwES Contractors (contractors)

Sources	Contractors (n=59)
E-mail (sender not specified)	46%
NYSERDA or CSG Staff or Program manager	27%
Another HPwES contractor	7%
Webinar	5%
A customer	2%
Word-of-mouth	2%
Presentations/Trade Shows	2%
Other	5%
Don't know	5%

Table 271. Whether or Not GJGNY Free or Reduced-cost Audits Increased Installation of HPwES Measures (contractors)

Do audits increase installation of HPwES measures?	Contractors (n=59)
Yes	58%
No	39%
Don't know	3%

Table 272. Contractor Reasons for No Increase in Energy-Efficiency Measures (contractors who believed audits had not led to an increase in installation of HPwES measures; multiple response)

Reasons	Contractors (n=23)
Customers get audit just because it is free or out of curiosity but aren't interested in installing measures	35%
Customers getting audits do not have enough money to pay for installations/economic condition	17%
Company already offered free audits	13%
Program is complicated/requirements are too burdensome	13%
Measures not cost effective/people expect higher incentives	9%
There are too many contractors out there simply just to do the free audits and get the \$200 and are not interested in doing the other measures	4%
I don't think it's attracting new customers. I think the new customers are coming from us, the contractors, because we're already doing the marketing	4%
Don't know	4%

5.6.2 Program Rules, Incentives, and Utility Rebates

5.6.2.1 Summary

No tables

5.6.2.2 Program Staff Perspectives

No tables

5.6.2.3 HPwES Contractor Perspectives

Table 273. Contractor Familiarity with HPwES Changes (contractors)

Level of familiarity	Contractors (n=59)
Extremely familiar (5)	27%
4	17%
3	29%
2	15%
Not at all familiar (1)	10%
Don't know	2%

Table 274. Contractor Perceived Impact of Change (contractors whose familiarity with the HPwES change was two or higher)

Impact	Contractors (n=52)
Increase the number of projects	6%
Decrease the number of projects	79%
Have no impact on the number of projects	10%
Don't know	6%

**Table 275. Likelihood of Customers to Seek Utility Rebate
(contractors)**

Measures (n=59)	Likely	Unlikely	Don't know
Energy efficient heating equipment	83%	17%	--
Energy efficient cooling equipment	59%	36%	--
Insulation	39%	56%	5%
Air sealing	34%	64%	2%
Energy efficient windows	27%	68%	5%
Energy efficient doors	22%	73%	5%

**Table 276: Reasons Customers Seek Utility Rebate
(contractors who believed customers were likely to seek a utility rebate for at least one
type of measure)**

Reasons (n=54)	Yes	No	Don't know	Refused
Contractor recommends the rebates	70%	26%	2%	2%
Utility marketing	67%	20%	11%	2%
The rebates are higher/more savings	57%	35%	7%	--
The rebates can be combined with HPwES rebates	56%	39%	4%	2%
Other	20%	80%	--	--

5.6.3 Financing

5.6.3.1 Summary

No tables

5.6.3.2 Program Staff Perspectives

No tables

5.6.3.3 Implementation Contractor Perspectives

No tables

5.6.3.4 HPwES Contractor Perspectives

Table 277. Contractor Familiarity with Program Financing (contractors)

Level of familiarity	Contractors (n=59)
Extremely familiar (5)	48%
4	37%
3	10%
2	3%
Not at all familiar (1)	--
Don't know	2%

Table 278. Primary Source Contractors Use to Learn about Financing Options (contractors familiar with program financing)

Sources	Contractors (n=58)
E-mail (sender not specified)	40%
NYSERDA or CSG Staff or Program manager	33%
Webinar	7%
Another HPwES contractor	7%
Word-of-mouth	3%
NYSERDA website	2%
A customer	2%
Other	3%
Don't know	3%

Table 279. Whether Financing Options Information was Sufficient or Not (contractors)

Was the information sufficient?	Contractors (n=59)
Yes	73%
No	27%

Table 280. Help for Comfort Discussing Financing by Hosting a Seminar/Webinar (contractors who thought the financing information was not sufficient)

Level of helpfulness	Host a seminar/webinar (n=16; count)	Walk through the changes over the phone or in person (n=16; count)	Provide additional information in some other way (n=16; count)
Extremely helpful (5)	5	6	3
4	5	8	2
3	2	--	5
2	3	1	3
Not at all helpful (1)	--	1	--
Don't know	1	--	3

Table 281: When Contractors Provide Customers with GJGNY Financing Information (contractors; multiple response)

When financing information is provided for customers	Contractors (n=59)
At the time of first call	48%
At the time of home visit (before the audit)	41%
At the time of the audit	36%
With the audit report	32%

Table 282: Contractors Screen/Pre-qualify or Provide Recommendations for Financing (contractors)

If screened/prequalified customers for financing	Contractors (n=59)
Yes	25%
No	73%
Don't know	2%
If provided financing recommendations to customers	
Yes	95%
No	5%

Table 283: Financing Options Recommended to Customers by Contractors (contractors who said they provide financing recommendations to customers; multiple response)

Financing Options (n=56)	Yes	No	Don't know
Green Jobs-Green New York financing	96%	4%	--
Third-party financing that the customers find on their own	75%	23%	2%
Other financing that the contractor offered or directed them to	63%	36%	2%
Energy \$mart Loans	52%	46%	2%
Other	13%	88%	--

Table 284. Reasons for Not Providing Financing Recommendations to Customers (contractors who said they do not provide financing recommendations to customers)

Reasons	Contractors (n=3) (counts)
Provide the information, but let customer decide on their own	2
Majority of business focused on incentive; financing not an issue	1

Table 285: Actions Customers Would Have Taken without GJGNY Financing (contractors)

Percieved actions taken	Contractors (n=59)
Customers would have installed fewer measures (downsized projects)	56%
Customers would not have installed any of the measures	27%
Customers would have installed the same number of measures	10%
May have installed more measures with alternative financing, GJGNY is restrictive	2%
No customers have taken GJGNY financing	3%
Don't know	2%

5.7 CUSTOMER PARTICIPATION IN GJGNY AND UTILITY PROGRAMS

No tables

5.8 CONTRACTOR CERTIFICATION AND TRAINING

5.8.1 Summary

No tables

5.8.2 Implementation Contractor Perspectives

No tables

5.8.3 HPwES Contractor Perspectives

**Table 286: Energy-Efficiency Certification Necessary
(contractors; multiple response)**

Certifications	Contractors (n=59)
LEED Accredited	14%
EPA Renovation, Repair, and Painting (RRP) Renovator	10%
OSHA	9%
NATE Certification	9%
LEAD Safety	9%
Equipment Vendor or Manufacturer Certifications	3%
Refrigerant/EPA 608	3%
Thermal imaging	3%
ENERGY STAR certified	2%
HERS (Home Energy Rating System Rater)	2%
Mold Certification	2%
RESENET Certification	2%
Asbestos	2%
HVAC Certification	2%
ASHRAE	2%
NAHB	2%
Air Sealing Training	2%
Other	3%
None	46%
Don't know	3%

Table 287: Value of Energy-Efficiency Employee Training Programs and Services (contractors)

Training programs (n=59)	Extremely Valuable (5)	4	3	2	Of No Value at All (1)	Don't know
Field Training – including support for HVAC, plumbing, electricians, etc.	49%	29%	15%	3%	3%	--
Sector-Based Training	44%	25%	20%	5%	3%	2%
Advanced Technical Training	36%	31%	10%	15%	9%	--
Training to Address Certification and Accreditation	34%	29%	17%	12%	9%	--
Professional Development and Continuing Education Programs	31%	31%	27%	9%	2%	2%
Vocational and Technical Skills Training	22%	25%	37%	3%	9%	3%
Internships and Apprenticeship Programs	22%	25%	25%	17%	10%	--
Work readiness skills training	20%	10%	34%	12%	24%	-
Other (n=11; count)	10	--	1	--	--	--

**Table 288: Difficulty of Finding Skilled Contactors
(contractors)**

Level of difficulty	Contractors (n=59)
Not at all difficult (1)	3%
2	3%
3	32%
4	27%
Extremely difficult (5)	32%
Don't know	2%

**Table 289: Importance of Qualifications
(contractors)**

Level of Importance	Residential building construction experience (n=59)	BPI certification (n=59)	Worker Readiness/Job Readiness Training (n=59)
Extremely important (5)	25%	36%	22%
4	33%	17%	20%
3	35%	22%	32%
2	5%	15%	17%
Not at all important (1)	--	10%	9%

5.9 PROGRAM STRENGTHS AND IMPROVEMENT OPPORTUNITIES

5.9.1 Summary

No tables

5.9.2 Program Staff Perspectives

No tables

5.9.3 Implementation Contractor Perspectives

No tables

5.9.4 HPwES Contractor Perspectives

Table 290. Contractor Satisfaction with Program (contractors)

Level of satisfaction	Contractors (n=59)
Very satisfied (5)	12%
4	24%
3	34%
2	22%
Not at all satisfied (1)	9%

Table 291: Reasons for Contractor Dissatisfaction with Program (contractors whose overall level of satisfaction was 1 or 2; multiple response)

Reason	Contractors (n=14) (count)
Some measures no longer eligible/changing or difficult standards for measure qualification/reduction of rebates	9
Program is too complicated, burden of paperwork/Bureaucracy/Red tape	6
Refused	2

Table 292. Other Reasons for Contractor Dissatisfaction with Program
 (contractors whose overall level of satisfaction was 1 or 2; multiple response)

Reasons	Contractors (n=9) (count)
Some measures no longer eligible/changing or difficult standards for measure qualification/reduction of rebates	4
Program is too complicated, burden of paperwork/bureaucracy/red tape	2
Other	3

Table 293. Contractor Satisfaction with Facets of the Program
 (contractors)

Level of satisfaction	Audit processes and procedures (n=59)	Communications with program and implementation staff (n=59)	Financing approval processes and procedures (n=59)	Program application processes and procedures (n=59)
Very satisfied (5)	12%	15%	5%	5%
4	39%	22%	32%	14%
3	32%	32%	20%	36%
2	9%	24%	25%	37%
Not at all satisfied (1)	9%	7%	15%	9%
Don't know	--	--	2%	--

**Table 294: Other Issues Mentioned by Contractors
(contractors; multiple response)**

Issues	Contractors (n=59)
Approval process is too long for audits and/or financing	14%
Program is too complicated, burden of paperwork/Bureaucracy/ Red tape	10%
Dissatisfaction with new guidelines and measures that are no longer eligible for the program	10%
Payments for audits are too low/free audits don't lead to increase in installation jobs	10%
Dissatisfaction with frequency and quantity of program changes	9%
Communication needs to be improved	9%
Program doesn't understand contractor needs/viewpoint, not enough contractor input	7%
Other	9%
None	46%

Section 6

PROGRAM PARTICIPATION AND EXPERIENCES

6.1 SUMMARY

No tables

6.2 CRIS DATABASE ANALYSIS

Table 295. Project Status
(participants: CRIS Database)

Project status	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	43% (1,445)	33% (2,536)	46% (1,745)	38% (5,751)
Audit-completed	53% (1,810)	48% (3,722)	47% (1,787)	49% (7,344)
HPwES Work-completed	4% (143)	19% (1,446)	8% (296)	13% (1,886)

Table 296. Project Status by Audit Type
(participants: CRIS database)

Audit Type	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	1,141	2,140	1,453	4,734
Free Audit	89%	94%	92%	91%
Reduced-cost audit	11%	6%	9%	9%
Audit-completed	1,810	3,722	1,786	7,318
Free Audit	91%	94%	90%	92%
Reduced-cost audit	9%	6%	10%	8%
HPwES Work-completed	143	1,445	296	1,885
Free Audit	79%	95%	93%	93%
Reduced-cost audit	21%	5%	7%	7%
Total	3,094	7,303	3,535	13,932
Free Audit	89%	94%	91%	92%
Reduced-cost audit	11%	6%	9%	8%

¹ 994 cases with missing information on free versus reduced-cost audits were removed from the analysis.

Table 297. Project Status by Interest in HPwES Loan
(participants: CRIS database)

Interest in HPwES Loan	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	49% (1,019)	37% (1,781)	44% (1,302)	42% (4,102)
Audit-completed	50% (1,322)	47% (2,554)	49% (1,259)	41% (5,135)
HPwES Work-completed	34% (112)	24% (1,125)	48% (230)	29% (1,467)
Total	49% (2,453)	32% (5,460)	47% (2,791)	40% (10,704)

6.3 PROJECT STATUS BY UTILITY

Table 298. Project Status by Electric Utility
(participants: CRIS database)

Electric Utility	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	1,428	2,499	1,728	5,655
National Grid	<1%	51%	43%	36%
NYSEG	6%	14%	37%	19%
RG &E	<1%	30%	<1%	13%
LIPA	42%	<1%	--	11%
Con Edison	32%	<1%	<1%	8%
Central Hudson	3%	--	18%	6%
O & R	15%	<1%	<1%	4%
Municipal Utility	1%	4%	2%	3%
NYPA	--	<1%	<1%	<1%
Audit-completed	1,808	3,706	1,784	7,298
National Grid	<1%	35%	36%	27%
RG &E	<1%	44%	<1%	22%
NYSEG	6%	16%	46%	21%
LIPA	50%	<1%	--	12%
Con Edison	28%	<1%	<1%	7%
Central Hudson	4%	--	16%	5%
Municipal Utility	1%	6%	2%	4%
O & R	11%	<1%	<1%	3%
NYPA	--	<1%	<1%	<1%

Table 299. Project Status by Electric Utility
 (participants: CRIS database)

Electric Utility	Downstate	Upstate A	Upstate B	Statewide
HPwES Work-Completed	142	1,443	295	1,880
National Grid	1%	43%	36%	39%
RG &E	--	43%	<1%	33%
NYSEG	4%	12%	57%	19%
LIPA	33%	--	--	3%
Con Edison	32%	<1%	--	2%
O & R	26%	<1%	--	2%
Municipal Utility	--	2%	1%	1%
Central Hudson	5%	--	6%	1%
Total	3,378	7,648	3,807	14,833
National Grid	<1%	42%	43%	32%
RG &E	<1%	39%	<1%	20%
NYSEG	6%	15%	39%	20%
LIPA	46%	<1%	--	11%
Con Edison	30%	<1%	<1%	7%
Central Hudson	4%	--	16%	5%
Municipal Utility	1%	4%	2%	3%
O & R	13%	<1%	1%	3%
NYPA	--	<1%	<1%	<1%

Table 300. Project Status by Gas Utility
(participants: CRIS database)

Gas Utility	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	772	2072	813	3657
National Grid	47%	33%	58%	33%
RG & E	--	34%	<1%	30%
NYSEG	1%	9%	33%	14%
National Fuel Gas Distribution Corp.	<1%	24%	<1%	14%
Con Edison	28%	--	<1%	5%
O & R	20%	<1%	<1%	3%
Central Hudson	3%	--	7%	2%
KeySpan	<1%	--	--	<1%
NYPA	--	--	<1%	<1%
LIPA	<1%	<1%	--	<1%
Audit-completed	879	3124	835	4838
RG & E	<1%	52%	<1%	34%
National Grid	49%	18%	46%	29%
NYSEG	<1%	12%	45%	15%
National Fuel Gas Distribution Corp.	<1%	17%	<1%	12%
Con Edison	29%	--	<1%	5%
O & R	16%	<1%	<1%	3%
Central Hudson	5%	--	8%	2%
KeySpan	<1%	--	--	<1%
NYPA	--	<1%	<1%	<1%
LIPA	<1%	<1%	--	<1%

Table 301. Project Status by Gas Utility
(participants: CRIS database)

Gas Utility	Downstate	Upstate A	Upstate B	Statewide
HPwES Work-Completed	80	1,281	144	1,505
RG & E	--	48%	<1%	41%
National Grid	24%	22%	37%	23%
National Fuel Gas Distribution Corp.	1%	24%	--	20%
NYSEG	--	6%	60%	11%
Con Edison	33%	<1%	--	2%
O & R	39%	<1%	--	2%
LIPA	--	<1%	--	<1%
Central Hudson	4%	--	2%	<1%
KeySpan	--	--	--	--
NYPA	--	--	--	--
Total	1,731	6,477	1,792	10,000
National Grid	47%	24%	51%	33%
RG & E	<1%	46%	<1%	30%
NYSEG	<1%	10%	41%	14%
National Fuel Gas Distribution Corp.	<1%	21%	<1%	14%
Con Edison	29%	<1%	<1%	5%
O & R	18%	<1%	<1%	3%
Central Hudson	4%	--	7%	2%
KeySpan	<1%	--	--	<1%
NYPA	--	<1%	<1%	<1%
LIPA	<1%	<1%	--	<1%

6.4 RECOMMENDED AND INSTALLED MEASURES

6.4.1 Recommended Measures

**Table 302. Recommended Measures
(audit-completed participants)**

Measures	Downstate (n=82)	Upstate A (n=92)	Upstate B (n=83)	Statewide (n=257)
Insulation	85%	83%	86%	84%
Air sealing	74%	68%b	79% β	72%
ENERGY STAR-qualified heating equipment	41%	41% β	39% β	41% β
Energy efficient doors	38%	23%	25%	27%
ENERGY STAR-qualified cooling equipment	26%b	28%b	14%c	24%
Energy efficient windows	20%	22% β	22%	21% β
CFL Bulbs/Fix lighting	5% β	4%	5%	5%
New/ENERGY STAR appliance	3% β	6% β	4% β	5% β
New water heater/system	3% β	4%	5% β	4%
Fix ducts/vents/fan	3%	4%	3%	4% β
Cracks in foundation/house	--ac	4%	1%	2%
Fix gas lines/CO2 leaks	--ac	4%b	--c	2%
Floor/ceiling repairs	3%b β	2%	--c	2% β
New/repair furnace	--c	1%	--c	1%

Measures	Downstate (n=82)	Upstate A (n=92)	Upstate B (n=83)	Statewide (n=257)
Programmable thermostat	--c	1%	--c	1% β
Solar/geothermal	--bc	--bc	3% β	1% β
New/repair roof/chimney	--c	1%	1%	1%
Fix/prevent water leaks/water damage	2%	1%	3% β	2% β
Other	6%a β	1%	3% β	3%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed.

**Table 303. Recommended Measures
(HPwES work-completed participants)**

Measures	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
Insulation	88%	81% ^b	91% ^c	82%
Air sealing	75%	73%	64% ϵ	70%
ENERGY STAR-qualified heating equipment	50%	59% ϵ	46%	57% ϵ
Energy efficient windows	33%	35%	25%	33% ϵ
Energy efficient doors	33%	26%	36%	28%
ENERGY STAR-qualified cooling equipment	30%	29%	25% ϵ	28%
Fix ducts/vents/fans	11%	9%	9% ϵ	10% ϵ
New water heater system	-- ^{ac}	6% ^b	-- ^c ϵ	4%
CFL bulbs/fix lighting	-- ^{abc} ϵ	4%	9%	4%
New/repair chimney	-- ^c	3%	-- ^c	2% ϵ
New/repair furnace	--	1%	--	1%
Fix gas lines/CO2 leaks	--	1%	--	1%
New/ENERGY STAR appliances	--	1%	-- ϵ	1% ϵ
Other	-- ^c	3%	-- ^c	2%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; ϵ = from total.

Table 304. Recommended Measures
(audit-completed and HPwES work-completed participants)

Measures	Downstate (n=113)	Upstate A (n=158)	Upstate B (n=133)	Statewide (n=404)
Insulation	85%	82%	87%	84%
Air sealing	74%	70%	77%	72%
ENERGY STAR-qualified heating equipment	42%	47%	40%	44%
Energy efficient doors	37%abc	24%	27%	27%
ENERGY STAR-qualified cooling equipment	26%b	28%b	15%c	25%
Energy efficient windows	21%	26%	22%	24%
CFL Bulbs/Fix lighting	3%	3%	4%	3%
New/ENERGY STAR appliance	2%	3%	2%	3%
New water heater/system	2%	3%	3%	3%
Fix ducts/vents/fan	3%	5%	2%	4%
Cracks in foundation/house	--abc	2% β	2% β	1% β
Fix gas lines/CO2 leaks	--ac	3%b	--c	1%
Floor/ceiling repairs	2%	1%	--c	1% β
New/repair furnace	--c	1%	--c	1%
New/repair roof/chimney	--c	1%	1%	1%
Fix/prevent water leaks/water damage	1%	1%	1%	1%

Measures	Downstate (n=113)	Upstate A (n=158)	Upstate B (n=133)	Statewide (n=404)
Programmable thermostat	--	1%	--	<1%
Solar/geothermal	--	--	1%	<1%
Other	2%	1%	1%	2%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed.

6.4.2 Installed Measures

Table 305. Installed Energy-efficiency Measures (participants; (percent yes (sample size)))

Installation	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	29% (41)	32% (49)	40% (42)	34% (132)
Audit-completed	42% (82)	40% (92)	36% (83)	39% (257)
Audit-approved and Audit-completed	34% (123)	38% (141)	38% (125)	38% (389)

Table 306. Energy-efficiency Measures Installed
(audit-approved participants who installed measures)

Measures	Downstate (n =12) (count)	Upstate A (n=16) (count)	Upstate B (n=17) (count)	Statewide (n=45)
Energy efficient windows	4	6	8	41%
Insulation	4	7	7	40% αβε
Air sealing	4	7	6	38% αβε
Energy efficient doors	5	4	4	28%
ENERGY STAR-qualified heating equipment	4	4	3	24% βε
Structural repairs	2	2	3	16%
ENERGY STAR-qualified cooling equipment	2	4	1	15% β
Other	1	--	4	11% αβε

Significantly different at the 90% confidence level: α = from audit-completed; β = from work-completed; ε = from total.

Table 307. Recommended Measures Installed
(audit-completed participants who installed recommended measures; (count/percent yes
(sample size))

Measures	Downstate	Upstate A	Upstate B	Statewide
Air sealing	91% (28)abc βε	73% (29)	67% (22) β	76% (79) ε
Insulation	75% (31)	75% (31)	64% (29) β	72% (91)
Energy efficient windows	1 (5)	6 (10)	5 (7)	58% (22)
Energy efficient doors	7 (16)	2 (11)	2 (8)	29% (35)
ENERGY STAR-qualified heating equipment	2 (11)	6 (15)	2 (14)	29% (40) β
ENERGY STAR-qualified cooling equipment	3 (9)	2 (9)	-- (6)	19% (24) β
Structural repairs	11% (34)	9% (37)	14% (30)	11% (101)
Other	26% (34)	27% (37)	39% (30)	30% (101)

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed; ε = from total.

Table 308. Recommended Measures Installed
 (participants with HPwES work-completed who installed measures; (count/percent yes
 (sample size)))

Measures	Downstate	Upstate A	Upstate B	Statewide
Air sealing	75% (26)	75%(43)	88% (33) ^{c ε}	76% (102) ε
Insulation	86% (26) ^{ab ε}	71% (53) ^b	100% (45) ^{c ε}	76% (124) ε
Energy efficient windows	5 (10)	11 (23)	3 (12)	47% (45)
Energy efficient doors	4 (10)	7 (17)	8 (17)	42% (44)
ENERGY STAR-qualified cooling equipment	8 (9)	7 (19)	5 (12)	42% (40) ε
ENERGY STAR-qualified heating equipment	13 (15)	72% (39) ε	67% (24)	72% (78)
Structural repairs	13% (31)	10% (66)	17% (50)	11% (147)
Other	33% (31)	27% (66)	27% (50)	28% (147)

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; ε = from total.

Table 309. Measures Installed

(all participants who installed measures; (count/percent yes (sample size)))

Measures	Downstate	Upstate A	Upstate B	Statewide
Air sealing	71% (49)	68%(60)	57% (50)	66%(226)
Insulation	65%(48)	68% (68)	62% (70)	66% (260)
Energy efficient windows	33% (27)b	48% (49)	52% (36)	46% (112)
Energy efficient doors	43% (38)	28% (44)	27% (42)	31% (124)
ENERGY STAR-qualified cooling equipment	29% (30)b	29% (44)b	7% (35)c	22% (109)
ENERGY STAR-qualified heating equipment	39% (38)	52% (70)b	24% (55)c	42% (163)
Structural repairs	13% (77)	10% (117)	16% (97)	12% (293)
Other	23% (77)	23% (119)	31% (97)	25% (293)

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide.

6.4.3 Measure Installation Motivations

6.4.3.1 Reasons for Installing Energy-efficiency Measures

Table 310. Most Important Reason for Installing Energy-efficiency Measures (HPwES work-completed participants)

Reasons	Downstate (n=31)	Upstate A (n=58)	Upstate B (n=48)	Statewide (n=137)
To save on energy costs/bills	60%	47% ^b	64% ^c	51%
Needed the new equipment/measures – necessity/need	10% ^{ac}	23%	18%	21%
To save energy – not further specified whether for cost or environment	10%	9%	9%	9%
I was thinking about/planning to install energy-efficiency measures anyway	10% ^b	9% ^b	-- ^c	8%
To increase comfort level in home	-- ^{abc}	5%	9%	5%
Rebate/financial assistance	10% ^b	2%	-- ^c	2%
Add value to home	--	2%	--	1%
To fix issues with home	--	2%	--	1%
Other	--	2%	--	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide.

Table 311. Other Reasons for Installing Energy-efficiency Measures (HPwES work-completed participants; multiple response)

Reasons	Downstate (n=31)	Upstate A (n=58)	Upstate B (n=48)	Statewide (n=137)
To increase comfort in home	19%	21%	23%	21%
To save on energy costs/bills	7%	12%	8%	11%
Needed the new equipment/measures	--abc	12%	13%	11%
To save energy—not further specified whether for cost or environment	7%	3%	6%	4%
Rebate/financial assistance'	--c	3%	--c	3%
I was thinking about/planning to install energy-efficiency measures anyway	3%	2%	2%	2%
Followed contractors suggestions	--	2%	2%	2%
To help the environment	7%a	--	2%	1%
To fix issues with home	--a	--b	6%	1%
Add value to home	--	--	4%	1%
No other reasons	61%b	53%	40%c	53%

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide.

6.4.3.2 Reasons for Timing of Measure Installation

Table 312. Reasons for Installing Measures at that Time
(participants with HPwES Work-completed; multiple response)

Reasons	Downstate (n=31)	Upstate A (n=65)	Upstate B (n=50)	Statewide (n=146)
To replace a broken or failing (malfunctioning) system	10%ac	28%	18%	21%
Concerned about heating costs in the winter	16%	20%	26%	21%
Had just had the audit	26%	15%	14%	17%
Program rebates were available	17%	12%	10%	12%
Program financing was available	13%	5%	10%	8%
Convenient time/did not want to wait	3%	8%	8%	7%
I didn't have the money before	3%	6%	10%	7%
My energy bills were increasing	7%	3%	6%	5%
Tax credits available	3%	3%	4%	4%
Was concerned about old or inefficient heating equipment	--ac	6%b	--c	3%
To improve health, safety, or comfort in home	3%	3%	--c	2%
Was concerned about cooling costs in the summer	--c	3%	--c	1%

Reasons	Downstate (n=31)	Upstate A (n=65)	Upstate B (n=50)	Statewide (n=146)
Had the money at the time	--	3%	--	1%
Recommended	3%	--	--	1%
Don't know	--bc	--bc	2%c	1%
Refused	3%	--	--	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

6.4.3.3 Reasons for Not Installing Measures

Table 313. The Most Important Reason for Not Installing Recommended Measures (audit-completed participants who did not install one or more of the recommended measures)

Reason	Downstate (n=31)	Upstate A (n=35)	Upstate B (n=28)	Statewide (n=94)
Too expensive/cost too much	50%	41%	37%	42%
Didn't think it was necessary	19%	16%	22%	18%
Too busy/not enough time	--bc	4%	15% βε	6%
Not enough rebates/incentives/financing	4%	5%	--c	4%
Already installed these measures	--c βε	--c βε	4%	4%
Planned to do it in the future	--c	5%	4%	4%
Didn't think it would save energy	--c	4%	4%	3%
No recommendations yet/no quote	4%	--c	7%	3%
Planning to move soon	4%	4%	--c	3% β
Not a priority for me	--	4% β	-- β	2% βε
Problem/difficulty installing measures	-- β	--	4%	1%
Other	--c	5%	--c	3%
Don't know	8%	9%	4%	7%
Refused	8%	--	--	2%

Significantly different at the 90% confidence level: c= from statewide; α = from audit-completed; β = from work-completed; ε = from total.

Table 314. The Most Important Reason for Not Installing Recommended Measures (participants with HPwES work-completed who did not install one or more of the recommended measures)

Reason	Downstate (n=29)	Upstate A (n=62)	Upstate B (n=47)	Statewide (n=138)
Too expensive/cost too much	50%	37%	40%	39%
Didn't think it was necessary	25%	19%	20%	20%
Not a priority for me	--abc	15%	10% ε	13% ε
Already installed these measures	13%b	9%b	--c	8%
Planned to do it in the future	--bc	3%	10%	4%
Too busy/not enough time	--ac	5%b	--c	4%
Didn't think it would save energy	--	2%	--	1%
Not enough rebates/incentives/financing	--	2%	--	1%
Problem/difficulty installing measures	13%abc ε	--	--	1%
No recommendations yet/no quote	--b	--b	10%c	1%
Other	--	2%	--	1%
Don't know	--abc ε	6%	10%	6%
Refused	-- ε	2%	--	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; ε = from total.

Table 315. The Most Important Reason for Not Installing Recommended Measures (audit-completed and HPwES work-completed participants who did not install one or more of the recommended measures)

Reason	Downstate (n=60)	Upstate A (n=97)	Upstate B (n=75)	Statewide (n=232)
Too expensive/cost too much	50%	39%	38%	41%
Didn't think it was necessary	21%	18%	22%	19%
Not a priority for me	--ac	10%b	3%	7%
Already installed these measures	6%	7%	3%	6%
Planned to do it in the future	--abc	4%	5%	4%
Too busy/not enough time	-- abc	4%b	11%	5%
Didn't think it would save energy	--c	2%	3%	2%
Not enough rebates/incentives/financing	3%	3%b	--c	3%
Problem/difficulty installing measures	3%	--	3%	1%
No recommendations yet/no quote	3%	--bc	8%c	2%
Planning to move soon	3%	2%	--c	2% β
Other	--ac	3%b	--c	2%
Don't know	6%	7%	5%	7%
Refused	6%b	1%	--c	2%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; β = from work-completed.

Table 316. Other Reasons for Not Installing Recommended Measures
(audit-completed participants who did not install one or more of the recommended
measures; multiple response)

Other reasons	Downstate (n=27)	Upstate A (n=32)	Upstate B (n=28)	Statewide (n=87)
Too expensive/cost too much	11%	6%	4%	7%
Didn't think it was necessary	7%	--c	4%	3%
Not a priority for me	--	--	7%	2%
Inconvenient timing	4%	--	4%	2%
Too busy/not enough time	4%	-- ε	4%	1%
Not enough rebates/incentives/financing	4%	--	--	1%
No recommendations yet/no quote	--	--	4%	1%
No other reasons	70%a	94%bc	75%	83%
Don't know	4%	--	--	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; ε = from total.

Table 317. Other Reasons for Not Installing Recommended Measures
 (participants with HPwES work-completed who did not install one or more of the recommended measures; multiple response)

Other reasons	Downstate (n=29)	Upstate A (n=60)	Upstate B (n=45)	Statewide (n=134)
Too expensive/cost too much	7%	5%	9%	6%
Didn't think it was necessary	4%	5%	2%	5% ε
Didn't think it would save energy	7%	2%	4%	3% γ
Planned to do it in the future	3%	2%	--	2%
Inconvenient timing	--	2%	--	1%
Would require too much work	--	2%	4%	1%
Not enough rebates/incentives/financing	3%	--	2%	1%
Too busy/not enough time	--c	3%	2%	3%
No other reasons	79%	88%	84%	87%
Not a priority for me	--	--	4%	1%

Significantly different at the 90% confidence level: c= from statewide; γ = from audit-approved ε = from total.

Table 318. Other Reasons for Not Installing Recommended Measures
(audit-completed and HPwES work-completed participants who did not install one or more
of the recommended measures)

Other reasons	Downstate (n=56)	Upstate A (n=92)	Upstate B (n=73)	Statewide (n=221)
Too expensive/cost too much	10%	6%	5%	6%
Too busy/ not enough time	3%	5% ^c	3%	1%
Didn't think it was necessary	6%	3%	3%	4%
Didn't think it would save energy	2%	1%	1%	1%
Planned to do it in the future	1%	1%	--	1%
Inconvenient timing	3%	1%	3%	2%
Would require too much work	--	1%	--	1%
Not enough rebates/incentives/financing	4%	--	1%	1%
Not a priority for me	-- ^b	-- ^b	6% ^c	1%
No recommendations yet/no quote	--	--	3%	1%
No other reasons	73% ^{ac}	91% ^b	78%	85%
Don't know	3%	--	--	<1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

6.5 CONTRACTOR INFLUENCE

**Table 319. Contractor Influence on Which Measures to Install
(HPwES work-completed and audit-completed participants who installed measures)**

Influence	Downstate	Upstate A	Upstate B	Statewide
Audit-completed	32	35	29	96
Extremely influential (5)	42%	42%	36%	40%
4	35%	31%	18% βε	28%
3	15%	9%	18%	13%
2	4%	4%	11%	6%
Not at all influential (1)	4%b	9%	18%	10%
Don't know	--	6%	--	3%
HPwES Work-completed	31	66	50	147
Extremely influential (5)	56%b	49%b	33%c	47%
4	33%	25%	42%	28%
3	11%	15%	8%	14%
2	--bc	3%	8%	3%
Not at all influential (1)	--abc	6%	8%	5%
Don't know	--c	3%	--c	2%
Total	63	101	79	243
Extremely influential (5)	46%	46%	35%	44%
4	34%	28%	25%	28%
3	14%	13%	15%	13%
2	3%b	3%b	10%	5%

Influence	Downstate	Upstate A	Upstate B	Statewide
Not at all influential (1)	3%bc	7%b	15%	8%
Don't know	--ac	4%b	--c	3%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed; ε = from total.

Table 320. Influence of the Advice from the Audit or Installation Contractor on Deciding How to Pay for or Finance the Measures Installed (audit-completed participants with measures installed)

Influence	Downstate (n=32)	Upstate A (n=35)	Upstate B (n=29)	Statewide (n=96)
Extremely influential (5)	24%	11%	14%	15%
4	8%	15%	7%	11%
3	12%	17%	21%	17%
2	8%	6%	11%	8%
Not at all influential (1)	44%	45%	43%	44%
Don't know	4%	6%	4%	5%

Table 321. Financing Discussion with Contractor (HPwES work-completed participants)

Discussion	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
Yes	44%	56%	64%	56%
No	44%	40%	36%	40%
Don't know	11%b	4%b	--c	4%

Table 322. Influence of Advice about Financing
(participants with HPwES work-completed who discussed how to pay or finance the
measures they installed with the installation contractor or during the audit)

Influence of advice	Downstate (n=14) (percent (count))	Upstate A (n=37)	Upstate B (n=32)	Statewide (n=83)
Extremely influential (5)	40% (6)	54%	38%	50%
4	20% (2)	17%	25%	19%
3	20% (2)	20%	13%	19%
2	-- (--)	--bc	13% ^c	2%
Not at all influential (1)	20% (4)	10%	13%	11%

6.6 FINANCING AND INCENTIVES

6.6.1 Use of Financing and Incentives

6.6.1.1 Sources of Financing Used by Work-completed Respondents

Table 323. Sources of Financing Used to Pay for Measures
(HPwES work-completed participants who identified funding sources; multiple response)

Sources of financing	Downstate (n=26)	Upstate A (n=47)	Upstate B (n=36)	Statewide (n=109)
Cash or out of pocket funds	69%	75%	78%	74%
Green Jobs-Green New York Financing (through the program)	46%	34%	50%	37%
Outside or third-party financing such as a home equity or personal loan	4%	4%	3%	4%
ENERGY \$mart Loans (through the program)	8%	--b	6%	2%
Credit cards	4%	--b	8%c	1%
Don't know	--	2%	--	2%

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide.

6.6.1.2 Reason for Not Using Program Incentives or Financing

Table 324. Why Decided Not to Use Rebates or Financing
 (audit-approved participants with measures installed but no incentives or financing used;
 multiple response)

Reasons	Downstate (n=7) (count)	Upstate A (n=10) (count)	Upstate B (n=14) (count)	Statewide (n=31)
Did not qualify for financing	--	3	3	20%
Did not need it/not worth it	2	2	--	12% αε
Did not know about them	1	1	2	13%
Better financing through another program	--	1	2	10%
Have not heard back from the program yet	--	1	2	10% α
Too much of a hassle	2	--	--	5%
Wanted the work done immediately	--	--	2	7%
Took advantage of a sale	--	--	2	7%
Rebates higher through another program	1	--	--	3%
Did work myself	--	--	1	3%
Other	1	1	1	10% α
Don't know	1	1	1	10%

Significantly different at the 90% confidence level: α = from audit-completed; ε = from total.

Table 325. Why Decided Not to Use Incentives or Financing
(audit-completed participants with measures installed but no incentives or financing used;
multiple response)

Reasons	Downstate (n=23)	Upstate A (n=30)	Upstate B (n=26)	Statewide (n=79)
Did not need it/not worth it	52%	30% ^b	65% ^{c ε}	45%
Did not know about them	9% ^b	20%	27%	20%
Did not qualify for financing	13%	20%	8%	15%
Too much of a hassle	4%	17%	8%	12%
Wanted the work done immediately	4%	10%	12%	9%
Did work myself	13%	3%	4%	6%
Better financing through another program	-- ^c	7%	4%	5%
Would not have qualified	-- ^{ac}	10% ^b	-- ^c	5% ^γ
Took advantage of a sale	--	3%	--	2%
No rebates available yet	--	--	8%	2%
Haven't received rebate yet	9%	--	--	2%
Rebates higher through another program	4%	--	--	1%
Other	--	--	--	2%
Don't know	--	3%	4%	3%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; ^γ = from audit-approved; ^ε = from total.

Table 326. Why Decided Not to Use Rebates or Financing
(audit-approved and audit-completed participants with measures installed but no incentives or financing used; multiple response)

Reasons	Downstate (n=30)	Upstate A (n=40)	Upstate B (n=40)	Statewide (n=110)
Did not need it/not worth it	46%	28%	38%	35%
Did not know about them	10%	18%	22%	18%
Did not qualify for financing	9%	22%	13%	17%
Too much of a hassle	11%	13%	5%	10%
Wanted the work done immediately	3%	8%	13%	8%
Better financing through another program	--abc	7%	8%	6%
Would not have qualified	--ac	8%b	--c	4%
Took advantage of a sale	--	3%	6%c	3%
Did work myself	9% β	3%	5%	5%
No rebates available yet	--	--	5%	2%
Haven't received rebate yet	6%	--	--c	1%
Rebates higher through another program	7%	--	--	1%
Have not heard back from the program yet	--	2%	6%	3% α
Other	10%	2%	3%	4%

Reasons	Downstate (n=30)	Upstate A (n=40)	Upstate B (n=40)	Statewide (n=110)
Don't know	4%	5%	5%	5%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed.

6.6.1.3 Non-Program Rebates or Financing Received

Table 327. Received Rebates or Financing to Install Measures
(audit-approved and audit completed participants who installed measures; (percent yes (sample size)))

Received rebates	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	2 (9)	2 (13)	2 (16)	19% (38)
Audit-completed	27% (32)	15% (35)	11% (29)	17% (96)
Audit-approved and Audit-completed	26% (41) ^b	17% (48)	12% (45)	18% (134)

Significantly different at the 90% confidence level: b = from Upstate-B.

Table 328. Sources of Rebates and Financing
(audit-approved participants who received rebates or financing)

Sources	Downstate (n=2) (count)	Upstate A (n=3) (count)	Upstate B (n=2) (count)	Statewide (n=7) (count)
Tax credit	2	1	--	3
Vendor	--	--	2	2
Third-party financing	--	1	--	1
Contractor	--	1	--	1

Table 329. Sources of Rebates and Financing
(audit-completed participants who received rebates or financing)

Sources	Downstate (n=9) (count)	Upstate A (n=5) (count)	Upstate B (n=3) (count)	Statewide (n=17) (count)
Utility rebate	5	1	1	7
NYSERDA	2	1	1	4
Third-party financing	--	1	1	2
Tax credit	2	--	--	2
Vendor	--	1	--	1
Don't know	--	1	--	1

Table 330. Sources of Rebates and Financing
**(audit-approved and audit-completed participants who received rebates or financing;
multiple response)**

Sources	Downstate (n=11) (count)	Upstate A (n=8) (count)	Upstate B (n=5) (count)	Statewide (n=24)
Utility rebate	5	1	1	25%
Tax credit	4	2	--	19%
NYSERDA	2	1	1	16%
Third-party financing	--	2	1	15%
Vendor	--	1	2	15%
Contractor	--	1	--	5%
Don't know	--	1	--	6%

6.6.1.4 Willingness to Pay Full Cost of Audit

Table 331. Willingness to Participate in Program with a Full-Cost Audit (audit-completed and work-completed participants)

Willingness to participate	Downstate	Upstate A	Upstate B	Statewide
Audit-completed	82	92	83	257
Extremely likely (5)	17% ^a	27%	19%	23%
4	11%	8%	8%	9%
3	11% ^β	9% ^β	14%	11%
2	20%	15%	15%	16%
Not at all likely (1)	28%	37%	39%	35%
Don't know	12% ^{ab} ^β	4%	4% ^β	6% ^β
Refused	2%	-- ^c	1%	1%
HPwES Work-completed	31	66	50	147
Extremely likely (5)	25%	17%	18%	18%
4	13%	11%	9%	11%
3	25% ^ε	21%	18%	13%
2	13%	13%	18%	13%
Not at all likely (1)	25%	36%	36%	35%
Don't know	-- ^c ^ε	3%	-- ^c ^ε	2% ^ε
Extremely likely (5)	25%	17%	18%	18%
Audit-completed and HPwES Work-completed	113	158	133	404
Extremely likely (5)	18%	24%	19%	21%
4	11%	9%	8%	9%
3	12%	13%	15%	13%
2	19%	14%	16%	16%

Willingness to participate	Downstate	Upstate A	Upstate B	Statewide
Not at all likely (1)	27%abc	37%	38%	35%
Don't know	11%abc	4%	3%	5%
Refused	1%	--c	1%	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed; ε = from total.

6.6.2 Importance of Financing and Rebates

Table 332. Importance of Receiving Financing in Decision to Install Particular Measures (participants with HPwES work-completed who decided to finance the installation of the energy-efficiency measures through the Home Performance program or through third-party financing)

Importance of receiving financing for particular measures	Downstate (n=6) (count)	Upstate A (n=5) (count)	Upstate B (n=10) (count)	Statewide (n=21)
Extremely important (5)	3	2	5	57%
4	--	1	1	14%
3	--	--	--	--
2	--	--	1	<1%
Not at all important (1)	1	1	1	14%
Don't know	1	--	--	<1%
Refused	1	1	2	14%

Table 333. Importance of Receiving HPwES Incentives and GJGNY Financing in Decision to Proceed with Installing the Measures that were Installed (HPwES work-completed participants who used HPwES incentives and GJGNY financing)

Importance of receiving financing in decision to install	Downstate (n=13) (count)	Upstate A (n=16) (count)	Upstate B (n=18) (count)	Statewide (n=47)
Extremely important (5)	9	10	10	64%
4	1	2	3	12%
3	--	1	1	4%
2	--	--	--	--
Not at all important (1)	1	1	--	4%
Don't know	--	1	4	8%
Refused	2	1	--	8%

Table 334. Importance of Incentive in Decision to Install Measures (HPwES work-completed participants)

Importance of incentive	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
Extremely important (5)	56%	61%	60%	60%
4	22%	19%	20%	20%
3	11%	10%	10%	10%
2	--ac	4%b	--c	3%
Not at all important (1)	11%	6%	10%	7%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide.

Table 335. Importance of Non-Program Financing
(audit-approved participants who received rebates or financing)

Importance of financing	Downstate (n=2) (count)	Upstate A (n=3) (count)	Upstate B (n=2) (count)	Statewide (n=7) (count)
Extremely important (5)	--	2	1	3
4	1	--	1	2
3	--	1	--	1
2	1	--	--	1
Not at all important (1)	--	--	--	--

Table 336. Importance of Financing
(audit-completed participants who received rebates or financing)

Importance of financing	Downstate (n=9) (count)	Upstate A (n=5) (count)	Upstate B (n=3) (count)	Statewide (n=17) (count)
Extremely important (5)	5	1	1	7
4	1	1	--	2
3	1	2	1	4
2	1	--	--	1
Not at all important (1)	1	1	1	3

Table 337. Importance of Financing
(audit-approved and audit-completed participants who received rebates or financing)

Importance of financing	Downstate (n=11) (count)	Upstate A (n=8) (count)	Upstate B (n=5) (count)	Statewide (n=24)
Extremely important (5)	5	3	2	39%
4	2	1	1	18%
3	1	3	1	21%
2	2	--	--	7%
Not at all important (1)	1	1	1	14%

**Table 338. Importance of Audit on Decision to Install
(audit-completed participants who installed measures)**

Importance of audit	Downstate	Upstate A	Upstate B	Statewide
Audit-completed	32	35	29	96
Extremely important (5)	62%	54%	50%	55%
4	27%	26%	25%	26%
3	4%	11%	14%	10%
2	8% β	6%	11%	7%
Not at all important (1)	-- β	-- βε	-- β	-- βε
Don't know	--	4% β	--	--
HPwES Work-completed	31	66	50	147
Extremely important (5)	50%	55%	58%	55%
4	30%	19%	25%	21%
3	10%	12%	8%	12%
2	--c	3%	--c	2%
Not at all important (1)	10%	11%	8%	11% ε
Audit-completed and HPwES Work-completed	63	101	79	243
Extremely important (5)	58%	54%	53%	55%
4	28%	22%	25%	24%
3	6%	12%	13%	11%
2	6%	4%	8%	5%
Not at all important (1)	3%	6%	3%	5%
Don't know	--	2%	--	1%

Significantly different at the 90% confidence level: c= from statewide; β = from work-completed; ε = from total.

Table 339. Reason for Obtaining Financing Through the Program
 (participants with HPwES work-completed who chose to obtain financing through the program who identified reasons)

Reason	Downstate (n=4) (count)	Upstate A (n=3) (count)	Upstate B (n=6) (count)	Statewide (n=13) (count)
Good offer/low interest	2	1	6	9
Did not have enough money on our own	1	2	--	3
To save on heating	1	--	--	1

6.7 PARTICIPANTS: SATISFACTION WITH PROGRAM

6.7.1 Overall Satisfaction with Program

Table 340. Satisfaction with Program
(audit-completed participants; HPwES work-completed participants)

Satisfaction	Downstate	Upstate A	Upstate B	Statewide
Audit-completed	82	92	83	257
Very satisfied	47% β	49% β	45% β	48% β
Satisfied	27%	31%	30%	30%
Neither satisfied nor dissatisfied	14% β	10%	11% β	11% β
Dissatisfied	8% β	6% β	9% β	7% β
Very dissatisfied	3% β	2%	4% β	3% β
Don't know	2%	1%	1%	1%
HPwES Work-completed	31	66	50	147
Very satisfied	67% ε	69% ε	64% ε	68% ε
Satisfied	33%	25%	36%	27%
Neither satisfied nor dissatisfied	--ac ε	4%bc	--c ε	3% ε
Dissatisfied	-- ε	1%	-- ε	1% ε
Very dissatisfied	-- ε	--	-- ε	-- ε
Don't know	--	1%	--	1%
Audit-completed and HPwES Work-completed	113	158	133	404
Very satisfied	49%	56%	47%	53%
Satisfied	28%	29%	31%	29%
Neither satisfied nor dissatisfied	12%	8%	10%	9%

Dissatisfied	7%	4%	8%	6%
Very dissatisfied	3%	1%	3%	2%
Don't know	1%	1%	1%	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed; ε = from total.

Table 341. Most Important Reason Why Dissatisfied with the Program (audit-completed participants who were dissatisfied or very dissatisfied with the program)

Reason	Downstate (n=9) (count)	Upstate A (n=7) (count)	Upstate B (n=10) (count)	Statewide (n=26)
Have not received results of audit/no recommendations have been made	5	3	3	41%
Unreliable/poor quality of contractor	3	1	3	24%
Lengthy/difficult application process	1	2	2	21%
Applied for/contacted program, but have not heard back	--	1	--	7%
Poor quality of recommendations	--	--	2	7%

Table 342. Most Important Reason Why Satisfied with the Program
(audit-completed participants who were satisfied, very satisfied, or neither satisfied nor
dissatisfied with the program)

Reason	Downstate (n=61)	Upstate A (n=75)	Upstate B (n=63)	Statewide (n=199)
Professionalism/quality of contractor/audit	34%	30%	39%	33%
Results/Recommendations for improving energy efficiency	10%ac	21%	20% β	18% β
Identifying issues/leaks in home	16% β	13% β	7% β	12% β
Financial assistance/rebates/free	14%a	4% βε	8% β	7% β
Learned about efficiency of home/energy use in general	4%	7%	10% β	7% β
Customer service/ease of participation	6% β	9%bc	2% β	7%
Comprehensive program/overall satisfaction	2% β	4%	5%	4%
Save money on energy bill	6%	3%	2% β	3%
Upgraded equipment/repairs made	4%	3%	--c	2%
Improved comfort/efficiency/safety of home	-- βε	2% β	2% βε	1% βε
Other	4%	3%	3%	3%
Don't know	--	2%	3%	2%

Significantly different at the 90% confidence level: a = from Upstate-A; c= from statewide; β = from work-completed; ε = from total.

Table 343. Most Important Reason Why Satisfied with the Program
(HPwES work-completed participants who were satisfied, very satisfied, or neither
satisfied nor dissatisfied with the program)

Reason	Downstate (n=31)	Upstate A (n=61)	Upstate B (n=48)	Statewide (n=140)
Professionalism/quality of contractor/audit	25%	25%	33%	26%
Financial assistance/rebates/free	13%	19%	22% ε	19% ε
Improved comfort/efficiency/safety of home	25%a ε	13%	11% ε	14% ε
Results/Recommendations for improving energy efficiency	13%b	12%b	--c	11%
Customer service/ease of participation	--abc ε	9%	11% ε	8%
Save money on energy bill	13%	4%	11% ε	6%
Comprehensive program/overall satisfaction	13%a ε	3%b	11%	5%
Upgraded equipment/repairs made	--ac ε	4%b	--c	4%
Identifying issues/leaks in home	--c ε	3% ε	--c ε	2% ε
Learned about efficiency of home/energy use in general	--c	3%	--c	2%
Other	-- ε	1%	-- ε	1% ε
Don't know	--	1%	-- ε	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; ε = from total.

Table 344. Most Important Reason Why Satisfied with the Program
(audit-completed participants and HPwES work-completed who were satisfied, very
satisfied, or neither satisfied nor dissatisfied with the program)

Reason	Downstate (n=92)	Upstate A (n=136)	Upstate B (n=111)	Statewide (n=339)
Professionalism/quality of contractor/audit	33%	28% ^b	39%	32%
Results/Recommendations for improving energy efficiency	10% ^{ac}	18%	17% ^ε	16%
Financial assistance/rebates/free	14%	10%	10%	11%
Identifying issues/leaks in home	14% ^b	9%	6%	9%
Customer service/ease of participation	5%	9% ^b	3% ^c	7%
Learned about efficiency of home/energy use in general	3% ^{b ε}	6%	9% ^ε	6% ^ε
Improved comfort/efficiency/safety of home	3%	6%	3%	5%
Save money on energy bill	7%	3%	3%	4%
Comprehensive program/overall satisfaction	3%	4%	6%	4%
Upgraded equipment/repairs made	3% ^b	3% ^b	-- ^c	3%
Other	3%	2%	3%	3%
Don't know	-- ^{abc}	2%	3%	2%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; ε = from total.

Table 345. Other Reasons Why Satisfied with the Program
(audit-completed participants who were satisfied, very satisfied, or neither satisfied nor
dissatisfied with the program; multiple response)

Reasons	Downstate (n=60)	Upstate A (n=69)	Upstate B (n=59)	Statewide (n=188)
Professionalism/quality of contractor/audit	15%	20% β	12%	17% β
Results/Recommendations for improving energy efficiency	20%abc	3%c	3%c	10%
Financial assistance/rebates/free	5%	7%	7%	7%
Save money on energy bill	3%	4%	3%	4%
Customer service/ease of participation	5%	4% β	2%	4%
Identifying issues/leaks in home	2%b	1%b	9% β	4% β
Improved comfort/efficiency/safety of home	5%	3%	2%	3%
Comprehensive program/overall satisfaction	2%	3%	2%	3%
Learned about efficiency of home/energy use in general	3%	--bc	5% β	2%
Upgraded equipment/repairs made	--	1%	--β	1% β
Other	5% β	1%	2%	2%
No other reasons	42%b	52%	61%	52% β
Don't know	2%	--	2%	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; β = from work-completed.

Table 346. Other Reasons Why Satisfied with the Program
(HPwES work-completed participants who were satisfied, very satisfied, or neither
satisfied nor dissatisfied with the program; multiple response)

Reasons	Downstate (n=30)	Upstate A (n=57)	Upstate B (n=46)	Statewide (n=133)
Professionalism/quality of contractor/auditor	20% ^a	7% ^ε	15%	10%
Improved comfort/efficiency/safety of home	10%	7%	2% ^c	7%
Results/Recommendations for improving energy efficiency	10% ^a	-- ^c ^ε	2%	5% ^ε
Upgraded equipment/repairs made	3%	4%	11% ^ε	4%
Save money on energy bill	7%	4%	4%	4%
Financial assistance/rebates/free	7%	4%	2%	4%
Comprehensive program/overall satisfaction	3%	2%	2%	2%
Customer service/ease of participation	7% ^a	-- ^{bc} ^ε	7%	2%
Learned about efficiency of home/energy use in general	-- ^ε	2%	-- ^ε	1%
Identifying issues/leaks in home	3%	--	2% ^ε	1%
Other	-- ^c ^ε	4%	-- ^c	3%
No other reason	40% ^{abc}	65%	57%	61%

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide; ε = from total.

Table 347. Other Reasons Why Satisfied with the Program
(Audit-completed and HPwES work-completed participants who were satisfied, very satisfied, or neither satisfied nor dissatisfied with the program; multiple response)

Reasons	Downstate (n=90)	Upstate A (n=126)	Upstate B (n=105)	Statewide (n=321)
Professionalism/quality of contractor/audit	16%	15%	12%	15%
Results/Recommendations for improving energy efficiency	19%abc	7%	3%c	9%
Financial assistance/rebates/free	5%	6%	6%	6%
Improved comfort/efficiency/safety of home	6%	5%	2%	4%
Save money on energy bill	4%	4%	4%	4%
Customer service/ease of participation	5%	3%	2%	3%
Comprehensive program/overall satisfaction	2%	2%	2%	2%
Identifying issues/leaks in home	2%b	1%b	8%c	3%
Upgraded equipment/repairs made	1%	2%	2%	2%
Learned about efficiency of home/energy use in general	3%	1%	4%	2%
Other	4%	2%	1%	2%
No other reason	41%abc	57%	60%	55%
Don't know	1%	--	1%	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

6.7.2 Satisfaction with Specific Program Elements

6.7.2.1 Application Process and Paperwork

Table 348. Satisfaction with Application Process and Paperwork Required to Participate in the Program (audit-approved participants; audit-completed participants; HPwES work-completed participants)

Satisfaction	Downstate	Upstate A	Upstate B	Statewide
Audit-approved (sample size)	41	49	42	132
Very satisfied	41%	35% α	38%	37% α
Satisfied	45%	49%	38%	44% β
Neither satisfied nor dissatisfied	10% β	5%	9%	8%
Dissatisfied	--abc αβ	8% α	6% β	5%
Very dissatisfied	2%	--	2%	1%
Don't know	2%	5%	8% αβ	5% αβ
Audit-completed (sample size)	82	92	83	257
Very satisfied	42%	53%b	38%	46%
Satisfied	46%	37% β	49%	42% β
Neither satisfied nor dissatisfied	6% β	7%	6%	6%
Dissatisfied	3%	1%	4% β	3%
Very dissatisfied	--bc	--bc	3% β	1% β
Don't know	2%	2%	--c	1% β
Refused	2%	--	--	<1%

Satisfaction	Downstate	Upstate A	Upstate B	Statewide
HPwES Work-Completed (sample size)	31	66	50	147
Very satisfied	44%	30% ϵ	36%	32% ϵ
Satisfied	44%	58% ϵ	46%	55% ϵ
Neither satisfied nor dissatisfied	--ac ϵ	10%	18% ϵ	10%
Dissatisfied	11%b	3%	--c ϵ	3%
All Participants	154	207	175	536
Very satisfied	41%	43%	38%	41%
Satisfied	46%	45%	45%	45%
Neither satisfied nor dissatisfied	7%	7%	8%	7%
Dissatisfied	3%	3%	4%	3%
Very dissatisfied	1%	--	2%	1%
Don't know	2%	2%	3%	2%
Refused	1%	--	--	<1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed; β = from work-completed; ϵ = from total.

Table 349. Most Important Reason Why Dissatisfied with Application Process and Paperwork Required to Participate in the Program
 (audit-approved participants who were dissatisfied or very dissatisfied with application process and paperwork required to participate in the program)

Reason	Downstate (n=1) (count)	Upstate A (n=4) (count)	Upstate B (n=3) (count)	Statewide (n=8) (count)
Amount of paperwork/documents necessary	--	2	--	2
Difficult application process/length of time to be approved	--	1	1	2
Applied but have not gotten a response	1	--	1	2
Issues with applying/customer service	--	1	--	1

Table 350. Most Important Reason Why Dissatisfied with Application Process and Paperwork Required to Participate in the Program
 (audit-completed participants who were dissatisfied or very dissatisfied with application process and paperwork required to participate in the program)

Reason	Downstate (n=3) (count)	Upstate A (n=1) (count)	Upstate B (n=5) (count)	Statewide (n=9) (count)
Difficult application process/length of time to be approved	1	--	4	5
Amount of paperwork/documents necessary	2	--	1	3
Issues with applying/customer service	--	1	--	1

Table 351. Most Important Reason Why Dissatisfied with Application Process and Paperwork Required to Participate in the Program
 (participants with HPwES work-completed who were dissatisfied or very dissatisfied with application process and paperwork required to participate in the program)

Reason	Downstate (n=2) (count)	Upstate A (n=2) (count)	Upstate B (n=2) (count)	Statewide (n=6) (count)
Difficult application process/length of time to be approved	2	1	1	4
Amount of paperwork/documents necessary	--	1	1	2

Table 352. Most Important Reason Why Dissatisfied with Application Process and Paperwork Required to Participate in the Program
 (all participants who were dissatisfied or very dissatisfied with application process and paperwork required to participate in the program)

Reason	Downstate (n=6) (count)	Upstate A (n=7) (count)	Upstate B (n=10) (count)	Statewide (n=23)
Difficult application process/length of time to be approved	3	2	6	41%
Amount of paperwork/documents necessary	2	3	2	32%
Issues with applying/customer service	--	2	--	14%
Applied but have not gotten a response	1	--	1	9%
Other	--	--	1	5%

6.7.2.2 Energy Audit of Home

Table 353. Satisfaction with Energy Audit of Home
(audit-completed participants; HPwES work-completed participants)

Satisfaction	Downstate	Upstate A	Upstate B	Statewide
Audit-completed	82	92	83	257
Very satisfied	58% β	66%b	49%	59% β
Satisfied	29%	24%	35%	28%
Neither satisfied nor dissatisfied	3% β	4% β	5% β	4% β
Dissatisfied	6%ac β	1%bc	8%c β	14% β
Very dissatisfied	2% β	4% β	3% β	3% β
Don't know	3% β	1%	1%	2% β
HPwES Work-Completed	31	66	50	147
Very satisfied	75%b	74%b	60%c	73%
Satisfied	25%b	25%b	40%c	26%
Dissatisfied	--	1%	--	1%
Audit-completed and HPwES Work-completed	113	158	133	404
Very satisfied	60%	69%b	50%c	62%
Satisfied	28%	24%b	36%c	28%
Neither satisfied nor dissatisfied	3%	3%	4%	3%
Dissatisfied	5%a	1%bc	7%c	3%
Very dissatisfied	1%	2%	2%	2%
Don't know	3%	1%	1%	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; β = from work-completed; ε = from total.

Table 354. Most Important Reason Why Dissatisfied with Energy Audit of Home (audit-completed participants who were dissatisfied or very dissatisfied with the energy audit)

Reason	Downstate (n=6) (count)	Upstate A (n=4) (count)	Upstate B (n=8) (count)	Statewide (n=18) (count)
Contractor was unprofessional/unprepared/audit was not good	3	2	6	11
Have not received results/recommendations	3	1	1	5
Results/recommendations were not explained/hard to understand	--	1	1	2

Table 355. Most Important Reason Why Dissatisfied with Energy Audit of Home (HPwES work-completed participants who were dissatisfied or very dissatisfied with the energy audit)

Reason	Downstate (n=0) (count)	Upstate A (n=1) (count)	Upstate B (n=2) (count)	Statewide (n=3) (count)
Contractor was unprofessional/unprepared/audit was not good	--	--	1	1
Have not received results/recommendations	--	1	--	1
Results/recommendations were not explained/hard to understand	--	--	1	1

Table 356. Most Important Reason Why Dissatisfied with Energy Audit of Home (audit-completed participants and HPwES work-completed who were dissatisfied or very dissatisfied with the energy audit)

Reason	Downstate (n=6) (count)	Upstate A (n=5) (count)	Upstate B (n=10) (count)	Statewide (n=21)
Contractor was unprofessional/unprepared/audit was not good	3	2	7	55%
Have not received results/recommendations	3	2	1	30%
Results/recommendations were not explained/hard to understand	--	--	2	15%

6.7.2.3 Contractor who Performed the Audit

Table 357. Satisfaction with the Contractor who Performed the Audit (audit-completed participants; HPwES work-completed participants)

Satisfaction	Downstate	Upstate A	Upstate B	Statewide
Audit-completed	82	92	83	257
Very satisfied	54% β	64%b	51% β	58% β
Satisfied	29% β	26%	24%	26%
Neither satisfied nor dissatisfied	6% β	2%bc	11% β	6% β
Dissatisfied	9% β	4% β	9% β	6% β
Very dissatisfied	2%	4% βε	4% βε	3% ε
Don't know	--	1%	1%	1% β
HPwES Work-Completed	31	66	50	147
Very satisfied	88%b ε	75%b	64%c	75% ε

Satisfaction	Downstate	Upstate A	Upstate B	Statewide
Satisfied	13% ^{b ε}	21% ^b	34% ^c	22%
Neither satisfied nor dissatisfied	-- ^{c ε}	3%	-- ^{c ε}	2% ^ε
Very dissatisfied	--	--	--	1%
Don't know	--	1%	--	--
Audit-completed and HPwES Work-completed	113	158	133	404
Very satisfied	58% ^a	68% ^b	53% ^c	62%
Satisfied	27%	24%	25%	25%
Neither satisfied nor dissatisfied	6% ^a	2% ^{bc}	10% ^c	5%
Dissatisfied	8% ^{a β}	2% ^{bc β}	8% ^β	5% ^β
Very dissatisfied	1%	3%	3%	3%
Don't know	-- ^c	1%	1%	1%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed; ε = from total.

Table 358. Most Important Reason Why Dissatisfied with the Contractor who Performed the Audit
 (audit-completed participants who were dissatisfied or very dissatisfied with the contractor who performed the audit)

Reason	Downstate (n=9) (count)	Upstate A (n=6) (count)	Upstate B (n=10) (count)	Statewide (n=25)
No recommendations/results/follow up	3	2	4	32%
Unprofessional/unfriendly/unprepared	2	1	3	25%
Rushed/incomplete/inadequate audit	3	1	1	18%
Scheduling/rescheduling difficulties	--	1	1	11%
High prices/only looking for a sale	--	1	--	7%
Other	1	--	1	7%

6.7.2.4 Energy-efficiency Measures Installed

Table 359. Satisfaction with the Energy-efficiency Measures Installed
 (HPwES work-completed participants)

Satisfaction	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
Very satisfied	67%	64%	55%	63%
Satisfied	22%	19% ^b	36% ^c	22%
Neither satisfied nor dissatisfied	-- ^{ac}	10% ^b	-- ^c	8%
Dissatisfied	--	1%	--	1%
Don't know	11%	6%	9%	7%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide.

6.7.2.5 Contractor who Installed the Energy-efficiency Measures

Table 360. Satisfaction with the Contractor who Installed the Energy-efficiency Measures (HPwES work-completed participants)

Satisfaction	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
Very satisfied	78%	65%	70%	67%
Satisfied	22%	26%	30%	26%
Neither satisfied nor dissatisfied	--ac	4%b	--c	3%
Dissatisfied	--	1%	--	1%
Very dissatisfied	--c	3%	<1%	2%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

Section 7

DEMOGRAPHICS

7.1 PARTICIPANT AND NON-PARTICIPANT DEMOGRAPHICS

**Table 361. Home Ownership
(participants)**

Home ownership	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	41	49	42	132
Own/buying	100%	100%	100%	100% αε
Audit-completed	81	91	81	254
Own/buying	99%	99%	99%	99%
Don't know	2%	--	1%	1% γ
Refused	--	1%	--	1%
HPwES Work-completed	31	66	50	147
Own/buying	100%	99%	100%	99%
Don't know	--	1%	--	1%
Total	154	207	175	536
Own/buying	99%	99%	99%	99%
Don't know	1%	<1%	1%	1%
Refused	--	1%	--	<1%

Significantly different at the 90% confidence level: α = from audit-completed; γ = from audit-approved; ε = from total.

Table 362. Type of Home (participants)

Type of home	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	41	49	42	132
Single-family detached house	81%ab	94%	93%	90% δ
Single-family attached house (like a townhouse)	17%ab	6%	2%	8% δ
Apartment building with 2-4 units	2%	<1%	6% β	3% δ
Audit-completed	82	92	83	257
Single-family detached house	82%abc δ	93%	92%	90% βδ
Single-family attached house (like a townhouse)	14%abc	1% δ	5%	5% δ
Apartment building with 2-4 units	2%	2%	3% β ε	2% δ
Don't know	2%	4%b γβεδ	--c	<1%
Refused	2%	4%b δ	--c	2% δ
HPwES Work-completed	31	66	50	147
Single-family detached house	89% εδ	96% δ	92%	95% εδ
Single-family attached house (like a townhouse)	11%	4% δ	8%	5% δ
Apartment building with 2-4 units	<1% δ	--	--	<1% δ

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; β = from work-completed; γ = from audit-approved; ε = from total; δ = from non-participants.

**Table 363. Type of Home
(total participants)**

Type of home	Downstate (n =154)	Upstate A (n =207)	Upstate B (n =175)	Statewide (n =536)
Single-family detached house	82%ab δ	94% δ	92%	91% δ
Single-family attached house (like a townhouse)	15%abc	3% δ	4%	6% δ
Apartment building with 2-4 units	2%c	1%bc	4%	2% δ
Don't know	1%	--	--	<1%
Refused	1%	2%bc δ	--	1% δ

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; δ = from non-participants.

**Table 364. Type of Home
(non-participants)**

Type of home	Downstate (n =69)	Upstate A (n =71)	Upstate B (n =72)	Statewide (n =212)
Single-family detached house	70%	86%	94%	80%
Single-family attached house (like a townhouse)	23%ab	11%	5%c	16%
Apartment building with 2-4 units	7%b	3%c	1%	5%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide.

Table 365. Type of Home
(low-moderate income respondents)

Type of home	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Single-family detached house	76%a	100%b	87%
Single-family attached house (like a townhouse)	20%a	--b	11%
Apartment building with 2-4 units	4%	--	3%

Significantly different at the 90% confidence level: a= from upstate; b = from total.

Table 366. When Home Was Built
(participants)

When built	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	41	49	42	132
1930s or earlier	20%b β	25%	38%	28%
1940s	5%a δ	18%b αβε	7%	11% αβε
1950s	15%b β	12%bc	2% βε	9% αβε
1960s	24% δ	14%	14%	17%
1970s	12%	12%	7%	11%
1980s	15% β	8%	14% β	12%
1990s	5%	8%	10%	8%
2000 or later	2%	--bc αεδ	7%	3%
Don't know	2%	2%	--	1% δ
Audit-completed	82	92	83	257
1930s or earlier	26%b	23%bc	39%	28%
1940s	1% δ	2% εδ	4%	3% δ
1950s	20% β	20% δ	7% β	16% δ
1960s	16%b δ	12%b	13%c	13%

When built	Downstate	Upstate A	Upstate B	Statewide
1970s	10%	13%	8%	11%
1980s	16% β	11%	16% β	13%
1990s	5%	9%	10%	8%
2000 or later	4% β	8%	4% δ	6% β
Don't know	2% δ	--c	--c	1% $\beta\delta$
Refused	1%	3% ^b $\gamma\beta\delta$	--c	2% $\gamma\beta$
HPwES Work-completed	31	66	50	147
1930s or earlier	32% ϵ	20% ^b δ	42% ^c	24% δ
1940s	3% δ	6%	2%	4% δ
1950s	32% $\epsilon\delta$	20% δ	24% $\epsilon\delta$	22% $\epsilon\delta$
1960s	16% δ	20% ^b	10% ^c	18% δ
1970s	10%	11%	8%	11%
1980s	3% ^{ac} $\epsilon\delta$	14% ^b	4% ^c ϵ	11%
1990s	3%	8%	8%	8%
2000 or later	--c ϵ	3%	2% δ	2% δ

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; α = from audit-completed; β = from work-completed; γ = from audit-approved; ϵ = from total; δ from non-participants.

**Table 367. When Home Was Built
(total participants)**

When built	Downstate (n=154)	Upstate A (n=207)	Upstate B (n=175)	Statewide (n=536)
1930s or earlier	25% ^b	23% ^b	38% ^c	27%
1940s	3% ^{a δ}	7%	5% ^δ	5% ^δ
1950s	19% ^{b δ}	18% ^{b δ}	7% ^c	15% ^δ
1960s	18% ^δ	15%	13%	15
1970s	11%	12%	8%	11%
1980s	14%	11%	14%	12%
1990s	4% ^{abc}	8%	10%	8%
2000 or later	3%	5%	5% ^δ	4%
Don't know	3% ^{b βδ}	<1%	-- ^c	1% ^{βδ}
Refused	1% ^δ	2% ^{b γβδ}	-- ^c	1% ^{γβ}

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed; β = from work-completed; γ = from audit-approved; δ from non-participants.

**Table 368. When Home Was Built
(non-participants)**

When built	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
1930s or earlier	30%	33%	40%	33%
1940s	16% ^b	12% ^b	1% ^c	11%
1950s	11%	10%	7%	10%
1960s	8% ^a	18%	9%	11%
1970s	9%	10%	12%	10%
1980s	11%	6%	10%	9%
1990s	6%	7%	6%	6%
2000 or later	3% ^b	6%	13%	6%
Don't know	6%	1% ^c	3%	4% ϵ
Refused	2%	--	--	1%

Significantly different at the 90% confidence level: b = from Upstate-B; c = from statewide.

Table 369. When Home Was Built
(low-moderate income respondents)

When built	Downstate (n=46)	Upstate (n=60)	Total (n=106)
1930s or earlier	44%	48%	46% δ
1940s	9%	3%	6%
1950s	15%	8%	12%
1960s	11%	15%	13%
1970s	2%	5%	3% δ
1980s	4%	8%	6%
1990s	7%	5%	6%
2000 or later	7%	2%	4%
Don't know	2%	2%	2%
Refused	--	3%	2%

Significantly different at the 90% confidence level: δ = from non-participants.

Table 370. Size of Home
(audit-approved participants)

Size of home	Downstate (n=41)	Upstate A (n=49)	Upstate B (n=42)	Statewide (n=132)
Less than 1,400 square feet	17%	20%	19% β	19%
1,400 to less than 2,000 square feet	12% $ac \ \epsilon\delta$	42% bc	21% ϵ	27%
2,000 to less than 2,500 square feet	29% δ	20%	31% δ	26% δ
2,500 to less than 3,500 square feet	20% a	8%	17%	14%
5,000 square feet or more	-- bc	-- bc	6% $\alpha\beta\delta$	2% $\alpha\beta$
Don't know	22% $b \ \beta$	10%	7%	13%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed; β = from work-completed; ϵ = from total; δ from non-participants.

**Table 371. Size of Home
(audit-completed participants)**

Size of home	Downstate (n=82)	Upstate A (n=92)	Upstate B (n=83)	Statewide (n=257)
Less than 1,400 square feet	11%	17%	12% β	14%
1,400 to less than 2,000 square feet	27% $\alpha\beta\gamma$	39%	41% δ	37% δ
2,000 to less than 2,500 square feet	24%	17%	21%	20% δ
2,500 to less than 3,500 square feet	17%	13%	13%	14%
3,500 to less than 4,000 square feet	5% $\alpha\gamma\beta$	-- $c\delta$	2%	2% γ
4,000 to less than 5,000 square feet	3% γ	4% $\gamma\delta$	4% $\gamma\beta$	4% $\gamma\delta$
Don't know	14% β	7%	8%	9% δ
Refused	-- $\alpha\gamma\delta$	4% $\beta\gamma$	-- c	2% γ

Significantly different at the 90% confidence level: α = from Upstate-A; β = from Upstate-B; γ = from statewide; δ = from audit-completed; β = from work-completed; γ = from audit-approved; δ from non-participants.

Table 372. Size of Home
(HPwES work-completed participants)

Size of home	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
Less than 1,400 square feet	11%	19% ^b	27% ^ε	20%
1,400 to less than 2,000 square feet	33%	36%	36%	36%
2,000 to less than 2,500 square feet	22%	21% ^δ	18%	21% ^δ
2,500 to less than 3,500 square feet	22% ^{b δ}	10%	9% ^δ	11%
3,500 to less than 4,000 square feet	-- ^{εδ}	1%	-- ^δ	1% ^δ
4,000 to less than 5,000 square feet	11% ^{abc γδ}	-- ^ε	-- ^ε	1%
Don't know	-- ^{abc εδ}	13%	9%	11% ^δ

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; γ = from audit-approved; ε = from total; δ from non-participants.

Table 373. Size of Home
(Total participants)

Size of home	Downstate (n=154)	Upstate A (n=207)	Upstate B (n=175)	Statewide (n=536)
Less than 1,400 square feet	12% ^{ac}	19%	16%	17%
1,400 to less than 2,000 square feet	22% ^{abc}	39%	33%	34%
2,000 to less than 2,500 square feet	26% ^δ	19% ^δ	24% ^δ	22% ^δ
2,500 to less than 3,500 square feet	18% ^a	11% ^δ	14% ^δ	13% ^δ
3,500 to less than 4,000 square feet	3% ^γ	<1% ^δ	1%	1% ^{γ δ}
4,000 to less than 5,000 square feet	3% ^γ	2% ^{γδ}	2% ^γ	2% ^γ
5,000 square feet or more	--	-- ^c	2% ^{αδ}	1% ^α
Don't know	14% ^{bδ}	9%	8%	10% ^δ
Refused	-- ^{ac}	2% ^{b γβ}	-- ^c	1% ^{γβ}

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed; β = from work-completed; γ = from audit-approved; δ from non-participants.

**Table 374. Size of Home
(non-participants)**

Size of home	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Less than 1,400 square feet	11% ^a	26%	21%	17%
1,400 to less than 2,000 square feet	28%	31%	27%	28%
2,000 to less than 2,500 square feet	15%	10%	14%	13%
2,500 to less than 3,500 square feet	14%	17%	20%	16%
3,500 to less than 4,000 square feet	4% ^γ	5% ^γ	2%	4% ^γ
4,000 to less than 5,000 square feet	1%	--	2%	1%
5,000 square feet or more	1%	<1%	--	1% ^{αβ}
Don't know	24% ^a	9% ^c	14%	18%
Refused	2% ^{γβε}	2% ^{γβε}	--	1% ^{γβε}

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; β = from work-completed; ε = from total; γ = from audit-approved.

Table 375. Size of Home
(low-moderate income respondents)

Size of home	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Less than 1,400 square feet	15% ^a	30%	22%
1,400 to less than 2,000 square feet	15%	27%	20%
2,000 to less than 2,500 square feet	22%	10%	17%
2,500 to less than 3,500 square feet	13% ^a	3% ^b	9% ^δ
3,500 to less than 4,000 square feet	4%	2%	3%
4,000 to less than 5,000 square feet	2%	2%	2%
5,000 square feet or more	4%	-- ^b	3%
Don't know	24%	23%	24%
Refused	--	3%	2%

Significantly different at the 90% confidence level: a= from upstate; b = from total; δ from non-participants.

**Table 376. Number of Rooms
(audit-approved participants)**

Rooms	Downstate (n=41)	Upstate A (n=49)	Upstate B (n=41)	Statewide (n=131)
3	2%	-- ε	-- δ	1%
4	7% α	10% α	6%	8% α
5	15%	14%	12%	14%
6	15%	20%	15% εδ	17% βδ
7	20%	27%	20%	22% δ
8+	41%	29% ^b αδ	49% β	39%
Mean	6.9	6.9	8.0	7.2
Median	7.0	7.0	7.0	7.0

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; α = from audit-completed; β = from work-completed; ε = from total; δ from non-participants.

**Table 377. Number of Rooms
(participants with audit-completed)**

Rooms	Downstate (n=79)	Upstate A (n=90)	Upstate B (n=82)	Statewide (n=251)
3	2%	2%	1% δ	2%
4	-- βε	1% εδ	1% β	1% βεδ
5	14%	8% ^b	17%	12% δ
6	15%	21%	15% εδ	18% βδ
7	27% δ	24%	29% δ	26% δ
8+	43% δ	43%	37% δ	41% β
Mean	7.6	7.4	7.3	7.4
Median	7.0	7.0	7.0	7.0

Significantly different at the 90% confidence level: β = from work-completed; ε = from total; δ from non-participants.

**Table 378. Number of Rooms
(HPwES work-completed participants)**

Rooms	Downstate (n=30)	Upstate A (n=65)	Upstate B (n=50)	Statewide (n=145)
3	--c ε	3%	--c δ	2%
4	7% εδ	5%	12% εδ	6%
5	7% δ	11%	10%	10% δ
6	17%	28%	20% δ	26% ε
7	27% δ	25%	30% δ	25% δ
8+	43% δ	29%	28% εδ	30% εδ
Mean	7.5	6.9	6.9	6.9
Median	7.0	7.0	7.0	7.0

Significantly different at the 90% confidence level: c= from statewide; α = from audit-completed; ε = from total; δ from non-participants.

**Table 379. Number of Rooms
(total participants)**

Rooms	Downstate (n=150)	Upstate A (n=204)	Upstate B (n=173)	Statewide (n=527)
3	2% δ	2%	1% δ	2%
4	3% δ	4%	3% δ	4%
5	14%	10%	15%	12% δ
6	15%ab δ	23%	26%c	19% δ
7	24% δ	25%	20%	25% δ
8+	42%	36%	40%	39%
Mean	7.3	7.1	7.5	7.3
Median	7.0	7.0	7.0	7.0

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; δ from non-participants.

Table 380. Number of Rooms
(non-participants)

Rooms	Downstate (n=65)	Upstate A (n=70)	Upstate B (n=72)	Statewide (n=207)
3	--bc	2% ^b	10% ^c	3%
4	2%	6%	4%	4%
5	21%	11%	14%	17%
6	25%	24%	36%	27%
7	11%	18%	13%	13%
8+	41%	40%	23%	36%
Mean	7.5	7.2	6.5	7.1
Median	7.0	7.0	6.0	6.0

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide.

Table 381. Number of Rooms
(low-moderate income respondents)

Rooms	Downstate (n=45)	Upstate (n=58)	Total (n=103)
3	7%	3%	5%
4	4%	5%	5%
5	16%	24%	19%
6	27%	27%	27%
7	18%	19%	18%
8+	28%	22%	25% δ
Mean	7.0	6.6	6.8
Median	6.0	6.0	6.0

Significantly different at the 90% confidence level: δ = from non-participants.

**Table 382. Payment of Electric Bill
(participants with audit-approved)**

Bill payment	Downstate (n=41)	Upstate A (n=49)	Upstate B (n=42)	Statewide (n=132)
Pay directly	100% αεδ	100% αε	98%	99%
Paid for in some other way	-- β	--	2%	1%

Significantly different at the 90% confidence level: α = from audit-completed; ε = from total; β = from work-completed; ε = from total; δ from non-participants.

**Table 383. Payment of Electric Bill
(participants with audit-completed)**

Bill payment	Downstate (n=82)	Upstate A (n=92)	Upstate B (n=83)	Statewide (n=257)
Pay directly	97%	96%	98%	97%
Paid for in some other way	--c β	--c	1%	<1%
Refused	3% γβ	4% γβδ	1%	3% γβ

Significantly different at the 90% confidence level: β = from work-completed; γ = from audit-approved; δ from non-participants.

**Table 384. Payment of Electric Bill
(HPwES work-completed participants)**

Bill payment	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
Pay directly	97%	97%	94%	98%
Paid for in some other way	3% ε	3%	4%	2%

Significantly different at the 90% confidence level: ε = from total.

**Table 385. Payment of Electric Bill
(total participants)**

Bill payment	Downstate (n=154)	Upstate A (n=207)	Upstate B (n=175)	Statewide (n=536)
Pay directly	98%	98%	98%	98%
Paid for in some other way	--c	1%	1%	1%
Refused	2% $\gamma\beta$	2% $\gamma\beta\delta$	1%	2% $\gamma\beta$

Significantly different at the 90% confidence level: c= from statewide; β = from work-completed; γ = from audit-approved; δ from non-participants.

**Table 386. Payment of Electric Bill
(non-participants)**

Bill payment	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Pay directly	95%	99%	98%	97%
Paid for in some other way	1%	1%	<1%	1%
Don't know	--	--	<1%	<1%
Refused	4% ^a $\gamma\beta\epsilon$	--c	2% $\gamma\beta$	2% $\gamma\beta$

Significantly different at the 90% confidence level: a = from Upstate-A; c= from statewide; β = from work-completed; ϵ = from total; γ = from audit-approved.

**Table 387. Payment of Electric Bill
(low-moderate income respondents)**

Bill payment	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Pay directly	98%	98%	98%
Don't know	2%	--	1%
Refused	--	2%	1%

Table 388. Household Size
(participants with audit-approved)

Household size	Downstate (n=41)	Upstate A (n=49)	Upstate B (n=42)	Statewide (n=132)
1	15% ^{b β}	17% ^b	33% ^{αβδ}	22% ^{αδ}
2	27% ^a	48%	35% ^α	38%
3	20% ^b	20% ^b	7% ^{c βδ}	16%
4	27% ^a	8% ^{βδ}	15%	15% ^β
5	7% ^β	5%	7%	6%
6+	5%	3%	2%	4%
Mean	3.0	2.5	2.3	2.6
Median	3.0	2.0	2.0	2.0

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed; β = from work-completed; δ from non-participants.

Table 389. Household Size
(participants with audit-completed)

Household size	Downstate (n=79)	Upstate A (n=90)	Upstate B (n=83)	Statewide (n=252)
1	9% ^β	17%	17%	15%
2	27% ^{abc}	51% ^{βδ}	50% ^δ	45% ^{βδ}
3	22%	18%	13%	17%
4	27% ^{abc βε}	10% ^{βδ}	13%	15% ^β
5	5% ^β	4%	6%	5% ^δ
6+	11% ^{abc β}	-- ^{βε}	1% ^δ	3%
Mean	3.4	2.3	2.5	2.6
Median	3.0	2.0	2.0	2.0

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed; ε = from total; δ from non-participants.

Table 390. Household Size
(HPwES work-completed participants)

Household size	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
1	--abc εδ	21%	18%	19%
2	38% δ	35%	46% δ	36%
3	25%	14%	18%	15%
4	38%bc εδ	24%b ε	9%c	23% ε
5	--bc εδ	3%	9%	3% δ
6+	--ac εδ	4%b	--c δ	3%
Mean	3.0	2.7	2.5	2.7
Median	3.0	2.0	2.0	2.0

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; α = from audit-completed; ε = from total; δ from non-participants.

Table 391. Household Size
(total participants)

Household size	Downstate (n=151)	Upstate A (n=205)	Upstate B (n=175)	Statewide (n=531)
1	11%abc	18%	23%	18%
2	27%abc	46% ε	44% δ	41% δ
3	21%b	17%b	11%c	16%
4	27%abc	13% δ	13%	16%
5	5%	4%	7%	5% δ
6+	8%abc	2%	1%c δ	3% δ
Mean	3.2	2.5	2.4	2.6
Median	3.0	2.0	2.0	2.0

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; ε = from total; δ from non-participants.

**Table 392. Household Size
(non-participants)**

Household size	Downstate (n=68)	Upstate A (n=70)	Upstate B (n=71)	Statewide (n=209)
1	14%	12%	17%	14%
2	28%	38%	32%	32%
3	18%	21%	19%	19%
4	21%	23%	15%	20%
5	12%	5%	12%	10%
6+	8% ^a	1% ^c	6%	6%
Mean	3.3	2.7	2.9	3.0
Median	3.0	2.3	2.7	3.0

Significantly different at the 90% confidence level: a = from Upstate-A; c= from statewide.

**Table 393. Household Size (d1a)
(low-moderate income respondents)**

Household size	Downstate (n=46)	Upstate (n=59)	Total (n=105)
1	20%	34%	26% δ
2	37%	44%	40%
3	20% ^a	5% ^b	13%
4	13%	10%	12%
5	4%	3%	4%
6+	6%	3%	3%
Mean	2.7	2.2	2.5
Median	2	2	2

Significantly different at the 90% confidence level: a= from upstate; b = from total; δ from non-participants.

Table 394. Residents By Age Group
(audit-approved participants; average number of resident)

Residents	Downstate (n=40)	Upstate A (n=49)	Upstate B (n=40)	Statewide (n=129)
0-17	1.6	2.1	2.0	1.9
18-24	1.3	1.3	1.0	1.2
25-34	1.2	1.0	1.0	1.1
35-44	1.0	1.0	1.0	1.0
45-54	1.1	1.0	1.0	1.0
55-64	1.2	1.0	1.0	1.1
65 or over	1.0	1.0	1.1	1.0

Table 395. Residents By Age Group
(audit-completed participants; average number of resident)

Residents	Downstate (n=75)	Upstate A (n=90)	Upstate B (n=81)	Statewide (n=246)
0-17	2.0	1.7	1.8	1.8
18-24	1.2	1.4	1.8	1.5
25-34	1.6	1.3	1.0	1.3
35-44	1.1	1.0	1.0	1.0
45-54	1.1	1.0	1.0	1.0
55-64	1.0	1.0	1.0	1.0
65 or over	1.2	1.1	1.0	1.1

Table 396. Residents By Age Group
 (HPwES work-completed participants; average number of resident)

Residents	Downstate (n=30)	Upstate A (n=65)	Upstate B (n=48)	Statewide (n=143)
0-17	2.0	1.7	2.0	1.7
18-24	2.0	1.1	1.0	1.1
25-34	1.0	1.4	1.0	1.3
35-44	1.0	1.1	1.0	1.1
45-54	1.0	1.0	--	1.0
55-64	1.0	1.0	1.0	1.0
65 or over	1.0	1.0	1.0	1.0

Table 397. Residents By Age Group
 (total participants; average number of resident)

Residents	Downstate (n=154)	Upstate A (n=207)	Upstate B (n=175)	Statewide (n=536)
0-17	1.8	1.8	1.9	1.8
18-24	1.3	1.2	1.5	1.3
25-34	1.4	1.3	1.0	1.3
35-44	1.0	1.0	1.0	1.0
45-54	1.1	1.0	1.0	1.0
55-64	1.1	1.0	1.0	1.0
65 or over	1.1	1.0	1.1	1.1

Table 398. Residents By Age Group
(non-participants; average number of resident)

Residents	Downstate (n=67)	Upstate A (n=69)	Upstate B (n=71)	Statewide (n=207)
0-17	2.0	1.9	2.0	2.0
18-24	1.2	1.3	1.2	1.2
25-34	1.5	1.0	1.0	1.3
35-44	1.3	1.0	1.0	1.1
45-54	1.2	1.1	1.0	1.1
55-64	1.1	1.0	1.0	1.1
65 or over	1.0	1.0	1.0	1.0

Table 399. Residents By Age Group
(low-moderate income respondents)

Residents	Downstate (n=46)	Upstate (n=59)	Total (n=105)
0-17	1.9	2.2	2.0
18-24	1.0	1.3	1.1
25-34	1.2	1.1	1.2
35-44	1.7	1.0	1.1
45-54	1.3	1.0	1.2
55-64	1.0	1.0	1.0
65 or over	1.0	1.0	1.0

**Table 400. Respondent Ages
(participants)**

Age	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	41	49	42	132
25-34	5%	2% αεδ	9% β	5%
35-44	20%	26%b βδ	11%	20% δ
45-54	24%	20%	19%	21%
55-64	27%	23%	28%	26%
65 or over	24% β	29%	26%	27%
Refused	--bc αδ	--bc α	6% β	2% β
Audit-completed	82	92	83	257
18-24	--	--	1%	<1%
25-34	6% β	8%	9% β	8%
35-44	20%	15%	15%	16%
45-54	30%ab	14%	17%	19%
55-64	24%b	27%	38%	30%
65 or over	15%ac β	32%b	18%	24%
Refused	5% β	4% β	3% β	4% β
HPwES Work-completed	31	66	50	147
25-34	--ac εδ	8%b	--c εδ	7%
35-44	13% ε	12%	18%	13%
45-54	25%	23%	27%	24%
55-64	25%	26%	27%	26%
65 or over	38% εδ	31%	27%	26%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; α = from audit-completed; β = from work-completed; ε = from total; δ from non-participants.

Table 401. Respondent Age
(Total participants)

Residents	Downstate (n=154)	Upstate A (n=207)	Upstate B (n=175)	Statewide (n=536)
18-24	--	--	1%	<1%
25-34	5%	7%	8%	7%
35-44	19% δ	17%	14%	17%
45-54	28%abc	18%	18%	20%
55-64	25%b	26%b	34%	28%
65 or over	20%ac	31%b	22%	26% δ
Refused	3% β	2% β	4% β	2% β

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; δ from non-participants.

Table 402. Respondent Age
(non-participants)

Age	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
25-34	4%ab	12%	13%	9%
35-44	11%	12%	20%	13%
45-54	31%	20%	20%	25%
55-64	29%	32%	28%	29%
65 or over	21%	23%	16%	20%
Refused	5% β	1%c	3%	4% β

Significantly different at the 90% confidence level: c= from statewide.

Table 403. Respondent Ages
(low-moderate income respondents)

Age	Downstate (n=46)	Upstate (n=60)	Total (n=106)
18-24	2%	--	1%
25-34	2%	5%	3% δ
35-44	11%	8%	10%
45-54	15%	18%	17% δ
55-64	22%	20%	21%
65 or over	48%	47%	47% δ
Refused	--	2%	1% δ

Significantly different at the 90% confidence level: β = from work-completed; ϵ = from total; δ from non-participants.

Table 404. English as Primary Language Spoken in Home
(participants and non-participants; (percent yes (*sample size*)))

English as primary language	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	93% (41) $b \beta$	99% (49)	100% (42) c	98% (132) β
Audit-completed	94% (82) $ab \beta$	99% (92)	100% (83) c	98% (257) β
HPwES Work-completed	100% (31) $\epsilon\delta$	100% (66)	100% (50)	100% (147) $\epsilon\delta$
Total Participants	94% (154) abc	99% (207)	100% (175) c	98% (536)
Non-participants	94% (69) a	100% (71) c	99% (72)	97% (212)

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed; ϵ = from total; δ from non-participants.

**Table 405. English as Primary Language Spoken in Home
(low-moderate income respondents)**

English as primary language	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Yes	98%	98%	98%
No	2%	--	1%
Refused	--	2%	1%

**Table 406. Primary Language Spoken in Home
(non-participants)**

Primary Language	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
English	97%	100% ^c	99%	98%
Spanish	1%	--	--	1%
Russian	1%	--	--	1%
Indian	1%	--	--	<1%
French	--	--	1%	<1%

**Table 407. Consider Self to be Spanish, Hispanic, or Latino
(participants, non-participants (percent yes (sample size)))**

Spanish, Hispanic, or Latino	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	12% (41) ^{ab αβ}	2% (49)	2% (42) ^δ	4% (132) ^β
Audit-completed	3% (82) ^β	7% (92) ^{b βδ}	1% (83) ^{c δ}	4%(257) ^β
HPwES Work-completed	-- (31) ^{εδ}	-- (66) ^ε	-- (50) ^δ	-- (147) ^{εδ}
Total Participants	6% (154) ^b	4% (207) ^{b δ}	1% (175) ^{c δ}	4% (536)
Non-participants	8% (69) ^{ac}	-- (71) ^b	9% (72)	6% (212)

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; α = from audit-completed; β = from work-completed; ε = from total; δ from non-participants.

**Table 408. Consider Self to be Spanish, Hispanic, or Latino
(low-moderate income respondents)**

Spanish, Hispanic, or Latino	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Yes	9%	--	5%
No	91%	98%	94%
Refused	--	2%	1%

Table 409. Respondent Race
(audit-approved participants; audit-completed participants)

Race	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	41	49	42	132
White	74% ^{b β}	85% ^δ	92% ^β	84% ^β
Black or African-American	10% ^β	5%	2%	5% ^β
American Indian, Native Hawaiian, Pacific Islander, or Alaska Native	2%	--	2%	1%
Asian	12% ^{b βδ}	5%	-- ^c	5% ^{βδ}
European	2%	--	--	1%
Refused	-- ^{a αε}	6% ^δ	4%	4%
Audit-completed	82	92	83	257
White	70% ^{abc β}	88% ^δ	90% ^β	84% ^β
Black or African-American	15% ^{abc β}	6% ^{b δ}	1% ^c	7% ^β
American Indian, Native Hawaiian, Pacific Islander, or Alaska Native	--	--	1%	<1%
Asian	5% ^{b β}	1%	-- ^c	2% ^β
Hispanic	2%	2%	-- ^b	1% ^{γβδ}
Middle Eastern	2%	--	--	<1%
Don't know	-- ^{bc}	-- ^{bc}	3% ^{γβδ}	1% ^γ
Refused	8% ^β	4% ^δ	5% ^β	5% ^β

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; α = from audit-completed; β = from work-completed; δ from non-participants.

**Table 410. Respondent Race
(HPwES work-completed participants)**

Race	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
White	100% ^{c εδ}	93%	100% ^{εδ}	95% ^{εδ}
Black or African-American	-- ^{c εδ}	3%	-- ^c	2% ^{εδ}
Don't know	-- ^c	3%	-- ^c	2% ^γ
Refused	-- ^{εδ}	1% ^ε	-- ^ε	1% ^ε

Significantly different at the 90% confidence level: c= from statewide; ε = from total; δ from non-participants.

**Table 411. Respondent Race
(total participants)**

Race	Downstate (n=154)	Upstate A (n=207)	Upstate B (n=175)	Statewide (n=536)
White	73% ^{abc}	89% ^δ	92% ^c	86%
Black or African-American	12% ^{abc}	5% ^{b δ}	1% ^c	5% ^δ
American Indian, Native Hawaiian, Pacific Islander, or Alaska Native	1%	-- ^c	1%	1% ^β
Asian	7% ^{abc β}	2% ^{b βδ}	-- ^c	2% ^β
Hispanic	1%	1%	-- ^c	1% ^β
European	1%	--	--	<1%
Middle Eastern	1%	--	--	<1%
Don't know	-- ^c	1%	1%	1% ^γ
Refused	4%	4% ^δ	4%	4%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; β = from work-completed; δ from non-participants.

**Table 412. Respondent Race
(non-participants)**

Race	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
White	70%abc	98%bc	92%c	83%
Black or African-American	18%abc	--c	--c	9%
American Indian, Native Hawaiian, Pacific Islander, or Alaska Native	3%	2%	1%	2% β
Asian	3%	--c	--c	1%
Something else	1%	<1%	4% γαβε	2% γαβε
Don't know	2%	--	--	1%
Refused	4%a	--c	2%	3%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide ε = from total.

**Table 413. Respondent Race
(low-moderate income respondents)**

Race	Downstate (n=46)	Upstate (n=60)	Total (n=106)
White	67%a	95%b	79%
Black or African-American	24%a	--b	14%
American Indian, Native Hawaiian, Pacific Islander, or Alaska Native	4%	2%	3%
Asian	2%	--	1%
Hispanic	2%	--	1%
Refused	--	3%	2%

Significantly different at the 90% confidence level: a= from upstate; b = from total.

Table 414. Level of Education Completed
(audit-approved participants; audit-completed participants)

Education level	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	82	92	83	257
Ninth to twelfth grade; no diploma	5% ^a	-- ^c	2%	2% ^β
High school graduate (includes GED)	7% ^a	19% ^b	9% ^{βδ}	13%
Some college, no degree	10%	12% ^δ	9% ^δ	11% ^δ
Associates degree	7% ^β	14%	9%	11%
Bachelors degree	21% ^β	23%	17%	21%
Graduate or professional degree	48% ^{abc αδ}	26% ^δ	17% ^{αβε}	21% ^{βε}
Don't know	2%	6% ^{αβε}	6% ^β	5% ^{αβε}
Audit-completed	41	49	42	132
Less than ninth grade	--	--	1%	<1%
Ninth to twelfth grade; no diploma	2%	--	-- ^δ	<1%
High school graduate (includes GED)	9% ^a	23%	12% ^δ	17%
Some college, no degree	9% ^δ	8% ^δ	11%	9% ^δ
Associates degree	13% ^β	15%	11%	14%
Bachelors degree	31%	26%	21%	26%
Graduate or professional degree	27% ^β	24% ^δ	36% ^δ	28% ^δ
Don't know	2%	--	1%	1% ^{βδ}
Refused	8% ^{γβ}	4% ^{γβδ}	6% ^{γβ}	6% ^{γβ}

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; α = from audit-completed; β = from work-completed; γ = from audit-approved; ε = from total; δ from non-participants.

Table 415. Level of Education Completed
(HPwES work-completed participants; total participants)

Education level	Downstate	Upstate A	Upstate B	Statewide
HPwES Work-completed	31	66	50	147
High school graduate (includes GED)	11%	19%	20%	19%
Some college, no degree	11%	14% δ	10% δ	13% δ
Associates degree	--abc $\epsilon\delta$	19%	10%	17%
Bachelors degree	33%	21%	20%	22%
Graduate or professional degree	44% α $\epsilon\delta$	26% β δ	40% δ	30% δ
Total Participants	154	207	175	536
Less than ninth grade	--c	--c	1%	1% $\beta\gamma\delta$
Ninth to twelfth grade; no diploma	3% α $\beta\delta$	--c	1%	1% β
High school graduate (includes GED)	9% α	21% β	12% δ	16%
Some college, no degree	9% δ	11% δ	10% δ	10% δ
Associates degree	10% α	16% β	10%	13%
Bachelors degree	28% β	24%	19%	24%
Graduate or professional degree	36% α δ	25% $\beta\gamma$ δ	40% γ δ	31% δ
Don't know	1%	--	1%	<1%
Refused	5% $\gamma\beta$	4% $\gamma\beta\delta$	6% $\gamma\beta\delta$	5% $\gamma\beta$

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; α = from audit-completed; β = from work-completed; γ = from audit-approved; ϵ = from total; δ from non-participants.

**Table 416. Level of Education Completed
(non-participants)**

Education level	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Ninth to twelfth grade; no diploma	--bc	3%	4% β	2% β
High school graduate (includes GED)	13%b	19%	30%c	19%
Some college, no degree	19%	27%	20%	21%
Associates degree	15%	16%	10%	14%
Bachelors degree	26%b	29%b	12%c	24%
Graduate or professional degree	18%a	6%bc	22%	16%
Refused	8%a γβ	--c	2%	5% γβ

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed.

**Table 417. Level of Education Completed
(low-moderate income respondents)**

Education level	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Less than ninth grade	--	2%	1%
Ninth to twelfth grade; no diploma	2%	7%	4%
High school graduate (includes GED)	37%	40%	38% δ
Some college, no degree	13%	20%	16%
Associates degree	4%	10%	7% δ
Bachelors degree	24%	13%	19%
Graduate or professional degree	17% ^a	5% ^b	12%
Refused	2%	3%	3%

Significantly different at the 90% confidence level: a= from upstate; b = from total; δ from non-participants.

**Table 418. Household Income
(audit-approved participants)**

Income	Downstate (n=41)	Upstate A (n=49)	Upstate B (n=42)	Statewide (n=132)
Less than \$15,000	2%	5%	8% β	5%
\$15,000 to just under \$25,000	2%bc β	5%b	21%c α	9% δ
\$25,000 to just under \$30,000	--ac αε	8%	2% ε	4%
\$30,000 to just under \$35,000	--bc	5%	6% β	4%
\$35,000 to just under \$50,000	15%	17%	9% β	14% β
\$50,000 to just under \$75,000	10%	17% δ	11% β	13%
\$75,000 to just under \$100,000	10%	12%	15%	13% β
\$100,000 to just under \$150,000	39%abc αβδ	8% α	8% β	16%
\$150,000 or more	5% αδ	2%	9% β	5%
Don't know	2% β	2%	2%	2%
Refused	15%	23%b αβ	9%	16%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed; β = from work-completed; ε = from total; δ from non-participants.

Table 419. Household Income
(audit-completed participants)

Income	Downstate (n=82)	Upstate A (n=92)	Upstate B (n=83)	Statewide (n=257)
Less than \$15,000	--abc	4%	4% β	3%
\$15,000 to just under \$25,000	3% βδ	6%	6% ε	6%
\$25,000 to just under \$30,000	3% β	6%	6% βε	6%
\$30,000 to just under \$35,000	2%	8% δ	4% βδ	5%
\$35,000 to just under \$50,000	9%	10% β	11%	10% β
\$50,000 to just under \$75,000	11%	15% δ	19% ε	15%
\$75,000 to just under \$100,000	12%	14% β	17%	15% β
\$100,000 to just under \$150,000	18% δ	17%	12%	16%
\$150,000 or more	15%α	6% δ	10% β	9% β
Don't know	3% β	4%	3% β	3%
Refused	24%abc β	11%	12%	14% δ

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; α = from audit-completed; β = from work-completed; ε = from total; δ from non-participants.

**Table 420. Household Income
(HPwES work-completed participants)**

Income	Downstate (n=31)	Upstate A (n=66)	Upstate B (n=50)	Statewide (n=147)
Less than \$15,000	--ac	4%b δ	--c ε	3%
\$15,000 to just under \$25,000	11% εδ	8%	10%	9% δ
\$25,000 to just under \$30,000	--ac ε	4%b	--c εδ	3%
\$30,000 to just under \$35,000	--ac	8%b	-- c εδ	7%
\$35,000 to just under \$50,000	11%ac	25% εδ	20% ε	23% εδ
\$50,000 to just under \$75,000	11%b	15%b δ	30%c εδ	16%
\$75,000 to just under \$100,000	11%	6%	10%	7% εδ
\$100,000 to just under \$150,000	22% δ	15%	20% ε	16%
\$150,000 or more	11%b ε	3% ε	--c εδ	3% εδ
Don't know	11%b εδ	3%	--c ε	3%
Refused	11% εδ	10%	10%	10% δ

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; ε = from total; δ from non-participants.

Table 421. Household Income
(total participants)

Income	Downstate (n=154)	Upstate A (n=207)	Upstate B (n=175)	Statewide (n=536)
Less than \$15,000	1%abc	4%	5%	4%
\$15,000 to just under \$25,000	3%bc δ	6%b	12%c	7% δ
\$25,000 to just under \$30,000	2%ab	6%	2%	4%
\$30,000 to just under \$35,000	1%abc	7% δ	4% δ	5%
\$35,000 to just under \$50,000	11%	15%	11%	13%
\$50,000 to just under \$75,000	10%	15% δ	11%	13%
\$75,000 to just under \$100,000	11%	11%	16%	15%
\$100,000 to just under \$150,000	26%abc δ	14%	11%c	16% δ
\$150,000 or more	11%a	4%bc δ	9%	7%
Don't know	3%	3%	2%	3%
Refused	20%abc	13%	11%	14% δ

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c= from statewide; α = from audit-completed; δ from non-participants.

**Table 422. Household Income
(non-participants)**

Income	Downstate (n=69)	Upstate A (n=71)	Upstate B (n=72)	Statewide (n=212)
Less than \$15,000	3%	1%	2%	2%
\$15,000 to just under \$25,000	--bc	3%b	10%c	3%
\$25,000 to just under \$30,000	3%	6%	6%	5%
\$30,000 to just under \$35,000	2%b	2%b	15%c	5%
\$35,000 to just under \$50,000	11%	10%	11%	10%
\$50,000 to just under \$60,000	4%	11%	7%	7%
\$60,000 to just under \$75,000	6%a	20%bc	5%	9%
\$75,000 to just under \$100,000	16%	10%	13%	14%
\$100,000 to just under \$150,000	8%	13%	13%	11%
\$150,000 or more	15%ab	1%c	6%	9%
Don't know	4%	5%	2%	4%
Refused	27%b	18%	11%	21%

Significantly different at the 90% confidence level: a = from Upstate-A; b = from Upstate-B; c = from statewide; α = from audit-completed.

Table 423. Household Income
(low-moderate income respondents)

Income	Downstate (n=46)	Upstate (n=60)	Total (n=106)
\$25,000 to just under \$30,000	22%a	20%	33%a δ
\$30,000 to just under \$35,000		27%	
\$35,000 to just under \$50,000	30%a	48%	38% δ
\$50,000 to just under \$60,000	17%a	--b	25%c δ
\$60,000 to just under \$75,000	26%a		
Don't know	4%	2%	3%
Refused	--	3%	2% δ

Significantly different at the 90% confidence level: a= from upstate; b = from total; c =from downstate; δ = from non-participants.

**Table 424. Gender of Participants and Non-participants
(participants and non-participants)**

Gender	Downstate	Upstate A	Upstate B	Statewide
Audit-approved	41	49	42	132
Female	51% β	52% β	63% α	55% αβ
Male	49% β	49% β	38% α	45% αβ
Audit-completed	82	92	83	257
Female	46% β	40%	44%	43% δ
Male	55% β	60%	56%	57% β
HPwES Work-completed	31	66	50	147
Female	33%b εδ	33%b δ	50%c	36% εδ
Male	67%b εδ	67%b δ	50%c	65% εδ
Total Participants	154	207	175	536
Female	47%	41%b	51%	45% δ
Male	53%	59%b	49%	55% δ
Non-participants	69	71	72	212
Female	58%	50%	45%	55%
Male	42%	50%	55%	45%

Significantly different at the 90% confidence level: b = from Upstate-B; c= from statewide; α = from audit-completed; β = from work-completed; ε = from total; δ from non-participants.

**Table 425. Gender
(low-moderate income respondents)**

Gender	Downstate (n=46)	Upstate (n=60)	Total (n=106)
Female	48%	47%	47%
Male	52%	53%	53%

7.2 CONTRACTOR FIRMOGRAPHICS

**Table 426. Length of Time in Business
(contractors)**

Length (Years)	Contractors (n=59)
Average	23
Median	17
Maximum	85
Minimum	1

**Table 427. Average Percent of Business from HPwES Program
(contractors who knew what percentage of their business was from HPwES)**

Year	Sample Size	Average Percent of Business ¹
2010 Percent of Business from HPwES Program	52	36%
2011 Percent of Business from HPwES Program	54	32%

¹Three contractors who were not in business for the full year in 2010 and four contractors who did not know what percentage of their business in 2010 was from the program were excluded from the 2010 analysis. Five contractors who did not know what percentage of their business in 2011 was from the program were removed from the 2011 analysis

**Table 428. Average Number of Employees
(contractors; contractors who indicated an increase in employees)**

Year	Average Number of Employees (n=56)	Average Percentage Increase in Number of Employees due to HPwES (n=15)
October 2010	16	44%
September 2011	16	

Section 8

COUNTY OF Respondents

Table 429. County of Non-participant and Low-moderate Income Survey Respondents

Number	County	(D)=Downstate; (UA)=Upstate A; (UB)=Upstate B	Percent of Low-moderate Income Respondents	Percent of Non-participants
1	Albany	UB	1%	3%
2	Allegany	UA	--	--
3	Bronx	D	1%	4%
4	Broome	UA	1%	1%
5	Cattaraugus	UA	3%	1%
6	Cayuga	UA	1%	1%
7	Chautauqua	UB	2%	1%
8	Chemung	UB	--	1%
9	Chenango	UB	--	--
10	Clinton	UB	--	2%
11	Columbia	UA	--	1%
12	Cortland	UB	--	2%
13	Delaware	UB	--	1%
14	Dutchess	UA	2%	1%
15	Erie	UB	9%	9%
16	Essex	UB	1%	<1%
17	Franklin	UB	2%	1%
18	Fulton	UA	--	2%
19	Genesee	UA	--	--
20	Greene	UB	1%	--
21	Hamilton	UB	--	--

Number	County	(D)=Downstate; (UA)=Upstate A; (UB)=Upstate B	Percent of Low-moderate Income Respondents	Percent of Non-participants
22	Herkimer	UB	1%	<1%
23	Jefferson	UB	2%	1%
24	Kings	D	9%	8%
25	Lewis	UB	3%	<1%
26	Livingston	UA	--	<1%
27	Madison	UA	--	--
28	Monroe	UA	8%	4%
29	Montgomery	UB	--	<1%
30	Nassau	D	5%	5%
31	New York	D	2%	1%
32	Niagara	UA	--	2%
33	Oneida	UA	3%	1%
34	Onondaga	UA	5%	2%
35	Ontario	UA	--	2%
36	Orange	D	3%	2%
37	Orleans	UA	--	<1%
38	Oswego	UA	3%	<1%
39	Otsego	UB	--	<1%
40	Putnam	UB	--	1%
41	Queens	D	--	9%
42	Rensselaer	UB	--	1%
43	Richmond	D	7%	5%
44	Rockland	D	2%	1%
45	Saratoga	UB	1%	3%
46	Schenectady	UB	2%	<1%

Number	County	(D)=Downstate; (UA)=Upstate A; (UB)=Upstate B	Percent of Low- moderate Income Respondents	Percent of Non- participants
47	Schoharie	UB	--	--
48	Schuyler	UB	--	1%
49	Seneca	UA	--	<1%
50	St. Lawrence	UB	1%	1%
51	Steuben	UB	1%	1%
52	Suffolk	D	1%	4%
53	Sullivan	UB	--	--
54	Tioga	UB	2%	1%
55	Tompkins	UB	1%	1%
56	Ulster	UB	2%	1%
57	Warren	UB	--	<1%
58	Washington	UB	--	--
59	Wayne	UA	--	<1%
60	Westchester	D	12%	5%
61	Wyoming	UA	1%	<1%
62	Yates	UA	--	<1%
96	REFUSED		1%	--
97	DON'T KNOW		2%	<1%

Appendix B

NEAR TERM FEEDBACK MEMO

Section 1

KEY FINDINGS

The findings reported here are based on ten in-depth interviews conducted with Home Performance with ENERGY STAR (HPwES) contractors to understand the reasons for the high volume of project completions between January and March 2011, following the mid-November introduction of Green Jobs Green New York (GJGNY)-funded free/reduced-cost audits and financing.

In general, most contractors cited the appeal of the free/reduced-cost audits as the reason for the high HPwES project volumes from January to March 2011. A few contractors also indicated that project volumes increased because of their urging customers to complete projects in advance of the April 1st Savings to Investment Ratio (SIR) rule change. Contractors generally reported that there had been an increase in the number of customers contacting them for an audit since the introduction of the free/reduced-cost audits. When asked about changes to their customer outreach efforts, all of the contractors said that they had increased their customer outreach after the introduction of the free/reduced-cost audits. Further discussing the influence of marketing on the increased project volumes in January through March 2011, contractors generally emphasized the effectiveness of their own marketing, though they did note that NYSERDA marketing helped to build awareness of the HPwES program.

Contractors indicated that customers are motivated participate in the HPwES program by wanting to learn more about their energy usage, addressing high energy costs, and improving comfort levels in their homes. The customer barriers to participation cited by contractors included lack of awareness and knowledge as well as lack of funding or financing. Overall, the contractors mentioned cash and GJGNY financing as the most popular financing options chosen by customers.

The contractors reported that customers are generally satisfied with the program including the audits and energy-efficiency guidance they receive. However, customer satisfaction with the financing is mixed—while customers are satisfied with the low-interest rates, loan approvals have been a source of dissatisfaction.

Section 2

STUDY Background, OBJECTIVES, AND METHODOLOGY

2.1 BACKGROUND

As part of the NYSERDA Green Jobs Green New York (GJGNY) process evaluation, program staff expressed a need for obtaining early feedback on the reasons for the high number of Home Performance with ENERGY STAR (HPwES) project completions between January and March of 2011. To understand this, NMR conducted a series of in-depth interviews with HPwES contractors. This memo presents the preliminary findings from these in-depth interviews.

2.2 OBJECTIVES

The HPwES program saw significant increases in project completions in January, February, and March 2011 and this research investigated the reasons underlying the high number of project completions. The interviews also sought to understand the contractor experience with GJGNY financing, changes in contractor marketing activities after the introduction of the GJGNY, the influence of NYSERDA's marketing activities, and the impact and influence of the changes in program rules on program effectiveness. The memo presents findings from a short-term study on contractor perspectives; accordingly the memo should be understood as a qualitative assessment rather than a quantitative analysis.

2.3 METHODOLOGY

NMR staff conducted in-depth interviews by phone with ten HPwES contractors. NMR selected contractors with a high number of projects completed through the program. Each interview took between 40 and 75 minutes to complete.

Section 3

PROGRAM ROLE AND KNOWLEDGE

Summary. NMR staff asked contractors what they did in their role as HPwES contractors. Contractors perceived their primary role to be to perform audits and make energy-efficiency improvements to participants' homes. They indicated having a good understanding of the program goals and rules, although they observed that the rules have changed frequently over time and the program is becoming more complex. NYSERDA was cited as the primary source for information about the free/reduced costs audits and financing.

Detailed Findings. Six contractors indicated that they conduct audits and make energy-efficiency improvements to participants' homes. Two contractors responded that they manage the process (conducting training, managing project reporting, and "chasing up the money"). Two contractors stated that they use a comprehensive, whole house approach in their work.

All ten of the contractors were aware of the free/reduced-cost audits and the financing available for HPwES measures. Eight contractors were very familiar with the financing and two were somewhat familiar with the financing.

When asked about the sources of information for the free/reduced-cost audits and the GJGNY financing, contractors most frequently mentioned NYSERDA, particularly e-mails from NYSERDA. Other sources mentioned by the contractors included Conservation Services Group (CSG), Energy Financing Solutions (EFS) and the Building Performance Contractors Association (BPCA/NYS). One contractor who had mentioned NYSERDA as a source of information also noted that he learns on his own by trial and error (Table 1).

Table 1: Sources of Information

	Count of Responses
NYSERDA e-mail	3
NYSERDA website	1
NYSERDA webinar	1
NYSERDA representative	1
GJGNY notice	1
E-mail (unspecified)	1
Webinar (unspecified)	1
Trial and error	1
Building Performance Contractors Association	1
CSG e-mail	1
Energy Financing Solutions	1

Contractors generally said that the information they received about the program was sufficient for them to be comfortable discussing the program with customers, but four noted reservations:

“Not great detail, but enough.”

“Shaky at first.”

“Information gets complicated with the new rules.”

“Yes, but have to call CSG for clarification.”

When asked what the program could do to improve information, one respondent said that the NYSERDA representatives are doing a great job. Two respondents suggested simplifying things, with one asking for a simpler energy analysis tool and another suggesting less moving parts in the program. A third contractor suggested that the program should move forward with the planned free, on-bill financing.

Section 4

REASONS FOR HIGH PROJECT VOLUMES

4.1 REASONS CITED BY CONTRACTORS

Summary. When asked to explain the reasons for high project volumes from January to March, 2011, most contractors typically pointed to the appeal of the free/reduced-cost audits. A few contractors also indicated urging customers to complete projects in advance of the April 1st SIR rule change, which would mean that some measures could become ineligible. Other reasons mentioned by the contractors mentioned included the GJGNY financing, the NYSERDA television commercials, the cold winter, high energy costs, the reduced 2011 federal tax credit, and expiring utility rebates.

Detailed Findings. Seven contractors mentioned the free/reduced-cost audits as a reason for the high project volumes (Table 2). As two of these contractors remarked, the free/reduced-cost audits helped them get into customers' homes to identify energy-efficiency opportunities which, in turn, resulted in installations of the upgrades:

We got a lot more volume because of the free/reduced cost energy audits. We were able to reach out to [our] client base to get in their homes and do the energy audits and figure out what people need – people that probably wouldn't have done projects in their homes unless they had audits done and found issues.

I think a lot of it has to do with the fact that there was a free and low cost audit. When we originally started this company, we had a very difficult time getting people to get an energy audit done unless we did it for free. Once people knew they were getting paid for it and there was actually a monetary value... it seemed like it was more realistic, that it was a product they wanted to look into and they tried it. Once people tried it and realized it was something that really worked, and that there was a method, then they decided to get the work done.

Two contractors said that it took some time for the free/reduced-cost audits to have an effect on project volumes. One contractor observed, “*the free audits starting in mid-November led to higher volumes of project completions in January, February and March.*”

The next most common reason cited for the high project volumes was anticipation of the April 1st Savings to Investment Ratio (SIR) change; three contractors indicated that they were trying to get projects in before the April 1st rule change.

Once we found out about the SIR changing in April, we put a big push on all of our customers. Either you're going to do this now, or you're going to end up doing it after April. But, if you do it after April, you're going to lose money or you're not going to be able to get it through.

We closed a handful of jobs because of the timeline.... Some of those jobs were a little bit easier to close just before [the SIR rule] changed.

Two of the contractors cited the GJGNY low-interest financing as a reason for the high project volumes. Other reasons cited by the contractors included: NYSERDA advertising, incentives, rising fuel costs, slower time of year (leading to the completion of paperwork), and the bad winter with people calling about problems such as ice dams.

The completion of paperwork for the 2010 federal tax credit, the \$500 tax credit that remained in 2011 (as opposed to the \$1,500 tax credit in 2010), and expiring utility rebates were also mentioned once each.

One contractor noted that while project volumes were higher, the dollar amount per project was lower because of the November 15, 2010 reduction of the loan amount from \$20,000 to \$13,000. One contractor said that project volumes did not change during that period. Another contractor said that he had lower project volumes during that period but that he had more audits booked because they now were free.

Table 2: Reasons for High Volumes

	Count of Responses
Free/reduced-cost audits	7
SIR (April change)	3
Financing	2
Time to ramp up on the program	2
NYSERDA advertising	1
Incentives	1
Rising fuel costs	1
Slower time of year (leading to completion of paperwork)	1
Bad winter	1
December tax credit paperwork completed	1
Tax credit (\$500)	1
Utility rebates expiring	1

Table 3 reports responses related to the factors that contractors cited as having the greatest, second greatest and least impact on the high project volumes that in January, February and March. The contractors most

frequently mentioned the free/reduced-cost audit followed by the GJGNY financing. Four contractors said that the free/reduced-cost audits had the greatest impact. Two contractors each said the anticipation of the April change to SIR and the financing had the greatest impact. Four contractors reported the financing as having the second greatest impact.

Table 3: Greatest, Second Greatest, and Least Impact on Project Volumes

	Greatest Impact	Second Greatest Impact	Least Impact
Free/reduced-cost audits	4	2	--
SIR (April change)	2	--	3
Financing	2	4	2
Called customers sitting on the edge	1	--	--
Cold winter	--	1	--
Busy season/time of year	1	2	--

4.2 INFLUENCE OF MARKETING

Summary. When asked if increased project volumes from January through March 2011 were due to their own marketing or program marketing, contractors generally emphasized the effectiveness of their own marketing though they noted that NYSERDA marketing had helped build awareness of the HPwES program.

Detailed Findings. The NMR interviewer asked contractors about their own marketing efforts and eight contractors indicated that their marketing had influenced the increase in project volumes between January and March. These contractors cited specific marketing activities that they have been undertaken.

I've done billboards, we have radio commercials; we do like five commercials a week, and then we also have been in a couple of trade shows and we have signage and flyers we give out in the tradeshow. We advertised in the newspaper; advertised on the radio.... We promoted the ENERGY STAR program.

We have 30 service techs here. As they go out to our customers homes they're putting the word out so a lot of our audits come from that.

Six contractors said they promoted the loan following the November GJGNY-related changes, with three saying that they specifically marketed the low-interest rate. Three contractors said that they promoted the free/reduced-cost audits. Two contractors noted that they were already offering free audits, for

competitiveness reasons, but one contractor said that the free audits through the program helped to highlight their value to customers.

When asked about NYSERDA program marketing six contractors said that it influenced the project volumes during that period. Four contractors said that most of the increase was due to their own marketing. Two contractors indicated that the split in terms of marketing effectiveness was 50/50 between themselves and NYSERDA.

Six contractors indicated that the NYSERDA television advertisements in February 2011 had an impact on project volumes, with one person saying that they helped to build awareness and another remarking that “they bring people to us.” One respondent said the NYSERDA information was very general, but he liked it that way because he could then explain the details of the program. Three contractors said that the NYSERDA advertisements did not have an impact, with two of them noting that they were vague.

4.3 SPECIAL MOTIVATIONS FOR JANUARY-MARCH PARTICIPATION

Summary. NMR asked contractors if they had any special motivation to bring participants into the Home Performance program in the period between January and March 2011. A few contractors reiterated that the impending April 1st SIR rule change influenced their promotion of the program and also motivated customers to participate. The free/reduced-cost audits and winter-related problems also were notable reasons cited for bringing participants into the program.

Detailed Findings. Three contractors indicated that anticipation of the SIR change in April 2011 was a special motivation for them to market the program between January and March. Three contractors mentioned the free audits as a special motivation. Three contractors said they had no special motivation to market the program especially during that period. One contractor mentioned contractor incentives.

When asked if customers had any special motivation to participate between January and March, three contractors cited the April 1st SIR change. Two contractors mentioned free audits and two mentioned winter problems (Table 4). Two contractors said that customers had no special motivation for participating during that period.

Table 4: Customer Motivations for January-March Participation

	Count of Responses
SIR (April 1 st Change)	3
Free Audits	2
Severe winter/winter problems	2
Energy costs	1
Low-interest loan	1
Growing program awareness	1
None	1

When asked specifically about the expiring 2010 tax incentive, only two contractors indicated that it had influenced the increased volume of projects from January to March 2011.

4.4 OTHER FACTORS INFLUENCING JANUARY-MARCH PROJECT VOLUMES

Summary. NMR asked contractors if there had been an increase in the number of customers that contacted them for an audit since the introduction of the free/reduced-cost audits through GJGNY. Most contractors reported an increase in the number of customers doing so. When asked about changes in their customer outreach efforts, all of the contractors said that they had increased their customer outreach after the introduction of the free/reduced-cost audits. The majority of contractors said that compared to the period prior to mid-November 2010, their monthly project volumes had increased in the period from November 2010 through March 2011.

Detailed Findings. Seven contractors stated that there had been an increase in the number of customers who contacted them for an audit after the November 15th introduction of the free/reduced-cost audit; three of the seven said that the increase was slight. Three contractors said that there had been no increase in the number customers that contacted them.

When asked if they had increased their customer outreach efforts after the mid-November introduction of the free/reduced-cost audits, eight contractors stated that they had done so. Three contractors mentioned doing more commercials, with one specifically identifying radio commercials. Two contractors said they had promoted the program at home shows and one said he also used yard signs. One contractor said that the free audits had made it easier to obtain leads. One contractor indicated that they had used their service technicians to spread the word and that they opened a call center from which they made “happy checks” to their customer base.

Six contractors said that their average monthly project volumes increased during the period from mid-November 2010 through March 2011. In contrast, two contractors said that project volumes had decreased. Two contractors said that there had been no change in project volumes, one noted that there had been several changes going on at the time and they tended to balance each other out.

Four contractors said that they were bringing customers into the program that they previously would not have. One said that he was able to bring in higher income customers as a result of the free audits. Four contractors said that they were not bringing in customers that they previously would not have with one noting that he always markets to everybody.

4.5 APRIL 1ST, 2011 PROGRAM RULE CHANGE

Summary. When asked about the April 1st rule change, most contractors said that they were aware of the change and a few said that the SIR change had made marketing the program more difficult. The contractors indicated that while the rule change generally did not affect the measures that they included in their project proposals, it did have an impact on project contracts because some measures were no longer covered and therefore customers did w to proceed with them.

Detailed Findings. Seven out of ten contractors said that they were familiar with the April 1st, 2011 program rule change and three said that it had an impact on their marketing, saying that it made marketing more challenging. Six contractors said that the measures they recommended did not change, with one stating that they follow BPI standards and make recommendations for measures even though they may not be covered by the program. Two contractors noted that while they did not change the proposed measures, the contracts did change because some measures were no longer covered and customers did not want to pay for them. One contractor said that modeling in TREAT is difficult and the SIR change compounded that. He also said that the program had become more “nitpicky” in terms of approving measures. Three contractors said that customer satisfaction was affected by the April change. Five contractors said that they still do non-qualified measures, with two contractors specially noting the importance of implementing health and safety measures, even though they were no longer qualified measures. One contractor stated that more measures qualify for loans in market projects, but that the loans take more time; other than that comment, no differences were noted in terms of market versus assisted projects as a result of the April 1st change.⁸⁸

⁸⁸ Income eligible households may participate in the Assisted Home Performance with ENERGY STAR program which provides a larger cash-back incentive for the installation of eligible energy efficient measures.

4.6 JULY 1ST, 2011 PROGRAM RULE CHANGE

Summary. Contractors were asked about their familiarity with July 1st rule change, which replaced the SIR with the Total Resource Cost (TRC) test to screen measures. While they were generally aware of the change, they had difficulty recalling the specifics of the change. Overall, the contractors thought the July 1st rule change would have a negative impact in terms of measures that would qualify for the program; although two contractors mentioned positive elements, including the increase in the allowable loan amount to \$20,000. Most of the contractors had little or no knowledge of the TRC test.

Detailed Findings. Seven contractors said that they were aware of the July 1st, 2011 program change. One said that he was generally aware; one said that “it changes all the time” and another said that he was still trying to figure it out. Seven contractors said that the change was negative; two said the rules were effectively the same, and one said that it was “supposed to be all good—they upped the dollar amount.” Five contractors said that fewer measures would be available through the program, noting in particular: ground source heat pumps, geo-thermal, and solar thermal. One contractor said that the change requires them to:

...separate out ineligible items from projects and view them separately more than before because certain things just aren't eligible anymore, except under the loans.

One contractor said that they would have to submit to CSG for approval for air conditioning and that any delay would decrease customer satisfaction. Four other contractors said that customer satisfaction would decrease, while one said that it would increase. One contractor said that the loan amount had returned to \$20,000 from \$13,000, which was a beneficial change. Two contractors did not anticipate changes in terms of market versus assisted projects; one said that that “now everything is the same across the board.” One contractor said that the July change would hurt assisted customers because everything has to meet SIR and assisted customers will not be able to qualify for financing. Another contractor said that it is getting tougher for market customers.

Five contractors were not aware of the Total Resource Cost (TRC) test. The two contractors that said they were familiar with it and the three contractors that said that they knew a little about it had difficulty recalling the specifics. One contractor said that he did not know the term but knew how to figure it out in terms of getting funds based on savings. One contractor said that he attended a webinar prior to July 1st but that it would be nice if another one was offered.

Section 5

GJGNY FINANCING

Summary. NMR asked contractors what percentage of their customers have paid for the installation of the HPwES measures using cash, credit cards, other financing that they sourced themselves, (e.g., home equity loans, unsecured loans, etc.), GJGNY financing, other financing available via NYSERDA (separate incentives from financing Homeowner Financing Incentive-HFI, ENERGY STAR loan, Energy Smart Loan), or some other financing that they offered or directed them to. Overall, contractors said that cash and GJGNY financing are the most popular options but other sources of financing are used as well.

Detailed Findings. Contractors said that roughly one-third of customers financed with cash, roughly one-third financed through the GJGNY loan, and the remainder financed by credit card, other self-sourced financing, or NYSERDA financing, or other financing (two contractors mentioned GE financing, and one offers a zero percent 12 month loan). Contractors most commonly promoted a range of financing options, but specifically highlighted the GJGNY financing. One contractor said that he promoted GJGNY financing until recently but had stopped doing so due to customer rejections based on credit scores.

Five contractors said that homeowners did not use utility rebates, with a couple noting that they could not be used for Home Performance measures, and one indicating that the ten percent HPwES incentive is “richer than the utility company rebate.” However, one contractor said that 75% of their customers use utility rebates; another said that 25% use utility rebates.

All of the contractors were aware that customers can combine the 10% HFI (Homeowner Financing Incentive) with the GJGNY financing. One contractor said that he “promotes the heck out of that.” Another said that customers can have problems getting the 10% back when they use the Energy Smart program, but that GJGNY financing can be used with HFI, and that is better for them because it comes directly to the contractor.

Section 6

PROGRAM PARTICIPATION MOTIVATIONS AND BARRIERS

6.1 CUSTOMER AWARENESS AND KNOWLEDGE

Summary. When asked about program awareness, contractors said that customers were generally not very aware of the HPwES program and that very few were aware of the free/reduced-cost audits and financing—though they did note that customer awareness is increasing. However, customer knowledge of program specifics is limited, and contractors said that they generally provided the necessary details to customers.

Detailed Findings. Contractors said that a relatively small percentage (roughly between five and fifteen percent) of customers were aware of NYSERDA programs. A similar percentage of customers were reported to be aware of the HPwES program, and an even smaller percentage of customers were reported to be aware of the free/reduced-cost audit and financing; however, that awareness is growing. Contractors stated that customers have very little specific knowledge of the program. Two contractors said that the knowledge comes from what they tell customers. As one of these contractors said,

I promote it on the radio, so people will call me because of it. A lot of my customers call, but a lot of people I talk to had no idea about it until they heard us on the radio talking about it.

6.2 PROGRAM PARTICIPATION MOTIVATIONS

Summary. Contractors were asked what motivates customers to participate in the program. They indicated that customers are motivated by wanting to learn more about their energy usage, addressing high energy costs, and improving comfort levels in their homes.

Detailed Findings. Three contractors said that customer seek to learn or figure out their energy usage. Three contractors said that high energy costs motivate customers. Three contractors said that comfort is a motivation for customers. Contractors also mentioned the homeowner incentive, ice dams, and the free audit (Table 5).

Table 5: Customer Motivations for Program Participation

	Count of Responses
Learn/figure out usage	3
High energy costs	3
Comfort	3
Homeowner incentive	2
Ice dams	1
Free audit	1

6.3 PROGRAM PARTICIPATION BARRIERS

Summary. When asked about barriers to customer participation in the HPwES program, contractors primarily pointed to lack of awareness and knowledge but also cited lack of funding, financing and other factors.

Detailed Findings. Six contractors cited lack of awareness and knowledge as a barrier to participation in the HPwES program. One contractor summarized the lack awareness aptly,

Sometimes they don't really know the value of what they're getting until it's done because they don't know it makes the house quieter and more comfortable, and the bills go down. They don't realize what a good investment it is.

Two contractors cited limited funding and two cited lack of financing/loan eligibility (Table 6).

Table 6: Customer Barriers to Program Participation

	Count of Responses
Awareness/knowledge	6
Limited funding	2
Lack of financing/loan eligibility	2
Time/busy	1
Think they are getting a grant	1
Think they do not qualify	1
Sounds too good to be true	1
Website confusing	1
Availability of contractor—in certain areas- out in the hills	1
Changing SIR rules	1

6.4 CUSTOMER SATISFACTION

Summary. The contractors reported that customers are generally satisfied with the program including the audits and energy-efficiency guidance they receive. However, customer satisfaction with the financing is somewhat mixed—while customers are satisfied with the low-interest rates, loan approvals have been a source of dissatisfaction.

Detailed Findings. When asked about customer satisfaction, all of the contractors said that their customers are satisfied with the program. Customers like the free audits and the low-interest financing, but loan approvals can be challenging. As one contractor said, “customers are happy that the state is doing something—implementing a positive program.”

All of the contractors said that customers are satisfied with the audits. Two contractors said that customers are “amazed,” because they see the infrared camera, and the blower door, and they receive a full report on energy savings. One contractor noted that the audit process itself helps to achieve high levels of satisfaction:

I think they’re pretty universally satisfied once they get the audit done properly.... You go in all the nooks and crannies and you point out stuff to them they may have never known, so it’s a good process.

Three contractors pointed to the customer education, indicating that customers are satisfied from learning about energy efficiency. As one contractor said, customers are “*extremely satisfied because they learn a lot of things that they can do to lower their fuel bills without even having us involved.*”

In contrast one contractor said that customers are “*pretty satisfied [with the audit], until they get the bombshell of the price.*”

Nine contractors said that customers are also satisfied with the financing, citing the low 3.99% or 3.49% interest rate. One of these contractors, however, also observed that those who are not approved for the loan are dissatisfied and another thought the loan amount could be increased. One contractor said that customers are dissatisfied with the loans because of the information needed in the application and the need to wait for approval.

Section 7

PROGRAM STRENGTHS AND IMPROVEMENT OPPORTUNITIES

7.1 GREATEST PROGRAM STRENGTHS

Summary. Contractors were asked to summarize the greatest strengths associated with the free/reduced-cost audits and financing. The key strengths that they cited included the low rate and good terms for the financing, and that the free/reduced costs audits helped them get into peoples' homes. Contractors also pointed to the benefits of the HPwES program more generally, noting the credibility of the audit report and the focus on health and safety.

Detailed Findings. As Table 7 shows, five contractors mentioned GJGNY financing, citing the low-interest rate . Four contractors said that the free audits were the greatest strength, with two saying that the audits helped them to get into houses. Four contractors spoke about the program more generally: three contractors said that the program was informative and credible; one contractor said that health and safety was the greatest strength.

Table 7: Greatest Strengths of the Free/Reduced-cost Audits and Financing

	Count of Responses
Financing	5
Low rate	3
Good terms	1
Free audits	4
Helps to get in houses	2
HPwES Program	4
Informative/Credible	3
Health and safety	1

7.2 MOST IMPORTANT IMPROVEMENTS

Summary. Contractors were asked about the most important improvements that still need to be made to the free/reduced-cost audits and the financing that are available through the HPwES program. The contractors most frequently mentioned improving program processes, increasing financing amounts, and offering on-bill financing. Contractors also suggested improvements to TREAT, having the utilities show usage on the

bill (to aid in the customer application process), offering more contractor support/training, and increasing promotional activities.

Detailed Findings. Three contractors suggested general program improvements, reducing documentation, improving the process, and being less nit-picky. As one contractor said,

They have to eliminate some of the steps, just make it a quicker, easier, streamlined process. If I can go and get a second mortgage on my house in a week, but yet it takes me three weeks to get a loan for \$13,000 to have work done, there's something that doesn't seem great there.

Two contractors suggested larger loan amounts; two suggested on bill financing.⁸⁹

On-bill [financing] was passed by the legislature. I believe it was signed by the governor, I hope by this point it's signed by the governor. It will be implemented over the next nine months, I suspect. Actually, under on-bill [financing] they legislated \$25,000 loans up to 15 years, so in that respect, that may be interesting.

Two contractors mentioned TREAT, one saying that it is too cumbersome; the other suggested training on it. Two contractors suggested that the utilities show the energy usage on the bill in order to make it easier to submit applications. Two contractors suggested more contractor support or training. Two contractors recommended improved education and promotion. One contractor suggested that GJGNY accept the energy usage bar graph on utility bills for the application. One contractor suggested a more user friendly website. Another contractor wanted the cooperative advertising program revised so that it would accept less traditional forms of marketing (other than TV advertising), which he believed were more effective (Table 8).

⁸⁹ Two contractors reported being aware that zero percent, on-bill financing was planned for the program.

Table 8: Recommended Program Improvements

	Count of Responses
Improve the process/reduce documentation/be less nit-picky	3
Larger loan amounts	2
On-bill financing	2
TREAT too cumbersome/offer training	2
Get the utilities to show usage on the bill	2
Contractor support/training	2
Increase education/promote it	2
Accept the energy usage bar graph	1
More user friendly website	1
Revise coop. advertising	1

Section 8

CONTRACTOR PROFILE

The contractors averaged five and one-quarter years working with the HPwES program, with a minimum of one year and a maximum of ten years. Contractors reported an average of 121 projects completed in 2010 and 67 projects completed so far in 2011. The maximum number of jobs completed in 2010 was 364; in 2011 the maximum number of jobs was 160. For 2010 and 2011, contractors reported that roughly 60% of their projects were through the program (Table 9).

Table 9: HPwES Projects

	Count of Responses
Years in program	
Minimum	1
Maximum	10
Average	5.25
Median	4.50
2010 Projects	
Minimum	13
Maximum	364
Average	121
Median	106
2011 Projects	
Minimum	13
Maximum	160
Average	67
Median	50
2010 % HPwES Projects	
Minimum	20%
Maximum	100%
Average	60%

	Count of Responses
Median	50%
2011 % HPwES Projects	
Minimum	10%
Maximum	100%
Average	60%
Median	50%

On average, the ten contractors interviewed said that there were 43 employees in the company, with a minimum of five and a maximum of 200 employees. The contractors reported that their companies have been in business an average of 14 years, with a minimum of two and a maximum of 32 years.

Section 9

SUMMARY OF FINDINGS

Contractors perceived their primary role to be to perform audits and make energy-efficiency improvements to participants' homes. They indicated having a good understanding of the program goals and rules, although they observed that the rules are frequently changing and the program is becoming more complex. NYSERDA was cited as the primary source for information about the free/reduced costs audits and financing.

When asked to explain the reasons for high project volumes from January to March, 2011, most contractors typically pointed to the appeal of the free/reduced-cost audits. A few contractors also indicated urging customers to complete projects in advance of the April 1st rule change. Other reasons mentioned by the contractors mentioned included the GJGNY financing, the NYSERDA television commercials, the cold winter, high energy costs, the reduced 2011 federal tax credit, and expiring utility rebates.

Asked if increased project volumes from January through March 2011 were due to their own marketing or program marketing, contractors generally emphasized the effectiveness of their own marketing, though they did note that NYSERDA marketing helped to build awareness of the HPwES program.

Contractors were also asked if they had had any special motivations to bring participants into the Home Performance program in the period between January and March 2011. A few contractors indicated that the impending April 1st SIR rule changes influenced their promotion of the program and also influenced customers to participate from January through March. The free/reduced-cost audits and winter-related problems also were notable reasons cited for bringing participants into the program.

Contractors generally said that there had been an increase in the number of customers contacting them for an audit since the introduction of the free/reduced-cost audits through GJGNY. When asked about changes in their customer outreach efforts, all of the contractors said that they had increased their customer outreach after the introduction of the free/reduced-cost audits. The majority of contractors said that, compared to the period prior to mid-November 2010, monthly project volumes increased in the period from mid-November 2010 through March 2011.

When asked about the April 1st rule change, most contractors said that they were aware of the change and a few said that the SIR change made marketing the program more difficult. While the rule change generally did not affect the measures included in their project proposals they did have an impact on project contracts due to the lack of covered measures.

Contractors were asked about their familiarity with July 1st rule change. While they were generally aware of the change, they had difficulty recalling the specifics of the change. Overall, the contractors thought the July 1st rule change would have a negative impact in terms of measures that would qualify for the program;

although two contractors mentioned positive elements, including the increase in the allowable loan amount to \$20,000. Most of the contractors indicated little or no knowledge of the Total Resource Cost (TRC) test.

NMR asked contractors what percentage of their customers have paid for the installation of the HPwES measures using cash, credit cards, other financing that they sourced themselves, GJGNY financing, other financing available via NYSERDA, or some other financing that they offered or directed them to. Overall, contractors said that cash and GJGNY financing are the most popular options but other sources of financing are used as well.

When asked about program awareness, contractors said that customers were generally not very aware of the HPwES program and that very few were aware of the free/reduced-cost audits and financing—though they did note that customer awareness was increasing. However, customer knowledge of program specifics is limited, and contractors said that they generally provided the necessary details to customers.

Contractors indicated that customers are motivated participate in the HPwES program by wanting to learn more about their energy usage, addressing high energy costs, and improving comfort levels in their homes. When asked about the barriers to customer participation, contractors primarily pointed to lack of awareness and knowledge but also cited lack of funding or financing.

The contractors reported that customers are generally satisfied with the program including the audits and energy efficiency guidance they receive. However, customer satisfaction with the financing is somewhat mixed—while customers are satisfied with the low-interest rates, loan approvals have been a source of dissatisfaction.

Contractors were asked to summarize the greatest strengths associated with the free/reduced-cost audits and financing. The key strengths that they cited included the low rate and good terms for the financing, and that the free/reduced costs audits helped them get into peoples' homes. Contractors also pointed to the benefits of the HPwES program more generally, noting the credibility of the audit report and the focus on health and safety.

Contractors said that the most important improvements that still need to be made to the reduced-cost audits and the financing are improving program processes, increasing financing amounts, and offering on-bill financing. Contractors also suggested improving usage of TREAT, having the utilities show usage on the bill (to aid in the customer application process), offering more contractor support/training, and increasing promotional activities.

Appendix C

SECONDARY INFORMATION

Section 1

NYSERDA GJGNY PROGRAM INFORMATION

1.1 GJGNY ENERGY AUDIT FEES

GJGNY audit costs for single unit with less than 3,500 square feet of above grade conditioned space are detailed in Table 10.⁹⁰

Table 10. Audit Costs

(Single Unit with less than 3,500 square feet of above grade conditioned space)

Household Income	Cost to Customer	NYSERDA Payment to Contractor
≤200% AMI	-0-	\$250
201 - 250% AMI	\$50	\$200
251 - 300% AMI	\$100	\$150
301 - 350% AMI	\$150	\$100
351 - 400% AMI	\$200	\$50
≥400% AMI	Market Rate	-0-

Audit costs for 2-4 units or single unit with greater than 3,500 square feet of above grade conditioned space are detailed in Table 11.

⁹⁰ Source “Green Jobs Green New York: Annual Report” October 2011. NYSERDA

Table 11. Audit Costs

(Units or Single Unit (greater than 3,500 square feet of above grade conditioned space))

Household Income	Cost to Customer	NYSERDA Payment to Contractor
≤200% AMI	-0-	\$400
201 - 250% AMI	\$80	\$320
251 - 300% AMI	\$160	\$240
301 - 350% AMI	\$240	\$160
351 - 400% AMI	\$320	\$80
≥400% AMI	Market Rate	-0-

1.2 FINANCING

GJGNY provides for unsecured loans for five, ten, and 15 years at a maximum of \$13,000. The Power NY Act will allow loans of up to 15 years, up to \$25,000.

Table 12. Green Jobs Green New York Loan Underwriting Standards (Effective 7/21/2011)

Standard	Unsecured "Tier I" Loan ⁹¹	Unsecured "Tier II" Loan ⁹²
Minimum FICO or alternate	640 (680 if self-employed for 2yrs +) (720 if self-employed <2 yrs)	None -Utility bill current for 2 consecutive months during each of the last 2 yrs; - No utility/mortgage payments more than 60 days late in the last 2 yrs; -Current on mortgage payments for the last year
Max Dept-to-Income ratio	Up to 50%	Up to 55% Up to 70% if FICO score of 680+
Bankruptcy	No bankruptcy within last 7 years	No bankruptcy within last 5 years
Judgements	No outstanding collections, judgements or tax liens > \$2,500	

⁹¹ Funded from revolving loan fund, aggregated, and then financed through capital markets.

⁹² Funded from revolving loan fund, monitored for acceptable repayment performance (2-3 years), and then financed through capital markets.

Table 13. GJGNY Unsecured Direct Residential Loans (Through October 31, 2011)⁹³

1-4 Family Homes	Applications Received	Applications Approved	Loans Closed			
			Value	Total	HPwES	Assisted HPwES
Tier I	Through 10/31 2011	1,323	\$5,298,104	642	487	155
Tier II	Through 10/31 2011	66	\$199,599	23	14	9
Total- Program to Date	2,648	1,389	\$5,497,703	665	501	164

⁹³ Source: “Green Jobs-Green New York, Monthly Update” October 2011.

http://www.nyserda.ny.gov/en/Page-Sections/Green-Jobs-Green-New-York-Planning/Advisory-Council/~/_/media/Files/EDPPP/Planning/GJGNY/Advisory%20Council%20Updates/gjgny-october2011.ashx

Table 14. Financing Summary (Through October 31, 2011)⁹⁴

Summary	Tier I	Tier II
Loans Closed	642	23
Value	\$5,298,104	\$199,599
Average Loan a	\$8,252	\$8,678
Average Term a	11.3 Years	13.7 Years
3.49% ¹	81%	70%
3.99% ¹	19%	30%
Approval Rate 2	60%	
Denial Rate 2	40%	

¹ Refers to closed loans only

² Does not include applications pending review or withdrawn; of those loans denied, 19% did not submit the necessary documentation required to be evaluated under Tier 2.

Table 15. Reasons for Tier I and Tier II Loan Denials⁹⁵

Reasons for Loan Denials	
Debt Ratio	44%
Credit Score	21%
Bankruptcy/Foreclosure/Repossession	18%
Collections/Judgements/Charge-offs	15%
Other	2%
Total	100%

⁹⁴ Source: “Green Jobs-Green New York, Monthly Update” October 2011.

⁹⁵ Source “Green Jobs Green New York: Annual Report” October 2011. NYSERDA

1.3 INCENTIVES MATRIX

CHART: A		
LIPA Customers With Electric Heat		
BUSINESS RULE *** See details: Customers must have LIPA HPD "audit" ***		
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure		
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000		
Measure	Primary Incentive	Secondary Incentive
Shell Measures		
Insulation (attic, wall, floor, band/rim joist, basement, crawlspace, overhang or duct - for CAC or HP ducts in attic, crawl or other unconditioned space, and eligible accessories)	*** LIPA: 50% of Installed Cost up to \$4,000	Balance NYSERDA Financing
Qualified Accessories (moisture barriers, passive attic vents, baffles, etc)	NYSERDA Financing	
Air Sealing	*** LIPA: 50% of Installed Cost up to \$4,000	Balance NYSERDA Financing
Replacement Windows	LIPA: \$35 per - U value ? .35/ SHGC ? .44	Balance NYSERDA Financing U value ? .32/ SHGC ? .40
Storm Doors/Storm Windows	LIPA: \$10 per	Balance NYSERDA Financing
Movable window insulation	NYSERDA Financing	
Insulated Exterior Doors	NYSERDA Financing U value ? .32/ SHGC ? .30	
Heating Measures		
Air Source Heat Pump (electric)	LIPA Cool Homes: \$250 - \$700 ? 14.5 SEER / 12 EER / 8.2 HSPF	Balance NYSERDA Financing ? 14.5 SEER / 12 EER / 8.5 HSPF
Ground Source Heat Pump (geothermal)	NYSERDA Financing ENERGY STAR qualified units	
Distribution (Replacement or improvement)	NYSERDA Financing	
Qualified Accessories (chimney liners, air cleaners, humidifiers, fuel switching items, etc.)	NYSERDA Financing	
Duct Sealing (only for CAC or HP ducts in attic, crawl or other unconditioned space)	*** LIPA: 50% of Installed Cost up to \$4,000	Balance NYSERDA Financing
Cooling Measures		
Central Air Conditioner (split systems)	LIPA Cool Homes \$250 - \$700 ? 14.5 SEER / 12 EER	Balance NYSERDA Financing ? 14.5 SEER / 12 EER
Room AC	LIPA: \$25 CEE tier-2 thru the wall only Installation must be tightly sealed	Balance NYSERDA Financing ENERGY STAR Qualified Units
Water Heater		
Electric DHW	LIPA \$150, EF ? .93, must replace an existir electric tank	Balance NYSERDA Financing
Solar DHW	NYSERDA Financing - SRCC OG-300 certified / SF 0.5	
Hot Water Tank & Pipe Insulation	NYSERDA Financing	
Faucet Aerator / Low Flow Showerhead	NYSERDA Financing	

CHART: A		
LIPA Customers With Electric Heat		
BUSINESS RULE *** See details: Customers must have LIPA HPD "audit" ***		
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure		
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000		
Measure	Primary Incentive	Secondary Incentive
** Appliances and Lighting		
** Refrigerator, Freezer, Clothes Washer, Dishwasher, Dehumidifier ENERGY STAR Qualified Units	NYSERDA Financing	
**Heat/Energy Recovery Ventilator	NYSERDA Financing	
** Thermostats	NYSERDA Financing	
** LEDs	NYSERDA Financing	
** Light Fixtures ENERGY STAR Qualified or electronic ballast	NYSERDA Financing	
Health and Safety Measures		
Ventilation fans or repair/upgrade of existing ventilation (not whole house or attic)	*** LIPA: 75% of Installed Cost up to \$400 *	Balance NYSERDA Financing when required per BPI Standards
Knob and tube wiring upgrade	LIPA: \$50	Balance NYSERDA Financing
Asbestos, Radon, or Lead abatement	NYSERDA Financing	
Repairs due to water damage, mold, mildew, or ice dams	NYSERDA Financing	

BUSINESS RULE: \$4000 job max not measure max

CHART: B			
LIPA Customers With CAC or Wall AC and Natural Gas Heat			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Shell Measures			
Exterior Insulation (Attic, Wall, Floor, Band Joist, Basement, Crawl Space)	NYSERDA AHP: 50% of Installed Cost up to \$5,000 (see Insulation Program Rules)	LIPA: 50% of Installed Cost up to \$4,000	(Balance) NYSERDA Financing
		NYSERDA: 10% of Installed Cost up to \$3,000 (see Insulation Program Rules)	
Qualified Accessories (moisture barriers, passive attic vents, baffles, etc)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	(Balance) NYSERDA Financing
Air Sealing	NYSERDA AHP: 50% of Installed Cost up to \$5,000	LIPA: 50% of Installed Cost up to \$4,000	(Balance) NYSERDA Financing
		NYSERDA: 10% of Installed Cost up to \$3,000	
Replacement Windows	LIPA: \$35 per - U value ? .35/ SHGC ? .44	(Balance) NYSERDA Financing U value ? .32/ SHGC ? .40	
Storm Doors/Storm Windows	LIPA: \$10 per	(Balance) NYSERDA Financing	
Movable window insulation	NYSERDA Financing		
Insulated Exterior Doors	Balance NYSERDA Financing U value ? .32/ SHGC ? .30		

CHART: B			
LIPA Customers With CAC or Wall AC and Natural Gas Heat			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Heating Measures			
Furnace (Nat Gas) AFUE ? 92%	NYSERDA AHP: 50% of Installed Cost up to \$5,000 -- primary heat source only	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Hot Water Boiler (Natural Gas) AFUE ? 85%	NYSERDA AHP: 50% of Installed Cost up to \$5,000 -- primary heat source only	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Steam Boiler (Natural Gas) AFUE ? 82%	NYSERDA AHP: 50% of Installed Cost up to \$5,000 -- primary heat source only	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Heating Duct Sealing and Insulation (Natural Gas)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Boiler Pipe Insulation (min R-3)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Qualified Accessories (chimney liners, air cleaners, humidifiers, fuel switching items, etc.)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Air Source Heat Pump (electric)	NYSERDA Financing ? 14.5 SEER / 12 EER / 8.5 HSPF		
Ground Source Heat Pump (geothermal)	NYSERDA Financing ENERGY STAR qualified units		
Distribution (Replacement or improvement)	NYSERDA Financing		
Cooling Measures			
Central Air Conditioner (split systems) - CAC and DUCTLESS SPLIT	LIPA Cool Homes \$250 - \$700 ? 14.5 SEER / 12 EER / 8.2 HSPF	Balance NYSERDA Financing ? 14.5 SEER / 12 EER	
Room AC	LIPA: \$25 CEE tier-2 thru the wall only Installation must be tightly sealed	Balance NYSERDA Financing ENERGY STAR Qualified Units	

CHART: B			
LIPA Customers With CAC or Wall AC and Natural Gas Heat			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Water Heater			
Indirect Fired Tank (Natural Gas)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	OR NYSERDA: 10% of Installed Cost up to \$5,000	AND Balance NYSERDA Financing
Faucet Aerator / Low Flow Showerhead	NYSERDA AHP: 50% of Installed Cost up to \$5,000 (Natural gas)	OR NYSERDA: 10% of Installed Cost up to \$5,000	AND Balance NYSERDA Financing
Electric DHW EF ? .93	LIPA \$150, must replace an existing electric DHW	AND Balance NYSERDA Financing	
Natural Gas Fired Water Heater <51 gallon EF.63 / >51 gallon EF.53 / Instantaneous EF.78	NYSERDA Financing		
Solar DHW	NYSERDA Financing - SRCC OG-300 certified / SF 0.5		
Hot Water Tank & Pipe Insulation	NYSERDA Financing		
** Appliances and Lighting			
** Refrigerator, Freezer, Clothes Washer, Dishwasher, Dehumidifier ENERGY STAR Qualified Units	NYSERDA Financing		
**Heat/Energy Recovery Ventilator	NYSERDA Financing		
** Thermostats	NYSERDA Financing		
** CFLs	NYSERDA Financing		
** LEDs	NYSERDA Financing		
** Light Fixtures ENERGY STAR Qualified or electronic ballast	NYSERDA Financing		
Health and Safety Measures			
Ventilation fans or repair/upgrade of existing ventilation systems - not whole house or attic fans	LIPA: 75% of Installed Cost up to \$400	AND Balance NYSERDA Financing	
Knob and tube wiring upgrade	LIPA: \$50	AND Balance NYSERDA Financing	
Measures to Provide Combustion Air, prevent depressurization, spillage or inadequate draft	LIPA: \$50 to meet BPI standards	AND Balance NYSERDA Financing	
*** Asbestos, Radon, or Lead abatement	NYSERDA Financing		
*** Repairs due to water damage, mold, mildew, or ice dams	NYSERDA Financing		
*** Smoke Detectors, Radon Detectors and Carbon Monoxide Detectors	NYSERDA Financing		
*** Gas leak repair	NYSERDA Financing		
*** Gas Oven Replacements	NYSERDA Financing		
BUSINESS RULE: \$4000 job max not measure max			

CHART: C			
LIPA Customer With Natural Gas Heat Without CAC or Wall AC (Or any Muni electric)			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Shell Measures			
Exterior Insulation (Attic, Wall, Floor, Band Joist, Basement, Crawl Space)	NYSERDA AHP: 50% of Installed Cost up to \$5,000 (see Insulation Program Rules)	NYSERDA: 10% of Installed Cost up to \$3,000	(Balance) NYSERDA Financing
Qualified Accessories (moisture barriers, passive attic vents, baffles, etc)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	(Balance) NYSERDA Financing
Air Sealing	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	(Balance) NYSERDA Financing
Replacement Windows	NYSERDA Financing U value ? .32/ SHGC ? .40		
Storm Doors/Storm Windows	NYSERDA Financing		
Movable window insulation	NYSERDA Financing		
Insulated Exterior Doors	NYSERDA Financing U value ? .32/ SHGC ? .30		

CHART: C			
LIPA Customer With Natural Gas Heat Without CAC or Wall AC (Or any Muni electric)			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Heating Measures			
Furnace (Nat Gas) AFUE ? 92%	NYSERDA AHP: 50% of Installed Cost up to \$5,000 -- primary heat source only	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Hot Water Boiler (Natural Gas) AFUE ? 85%	NYSERDA AHP: 50% of Installed Cost up to \$5,000 -- primary heat source only	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Steam Boiler (Natural Gas) AFUE ? 82%	NYSERDA AHP: 50% of Installed Cost up to \$5,000 -- primary heat source only	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Heating Duct Sealing and Insulation (Natural Gas)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Boiler Pipe Insulation (min R-3)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Qualified Accessories (chimney liners, air cleaners, humidifiers, fuel switching items, etc.)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Air Source Heat Pump (electric)	NYSERDA Financing ? 14.5 SEER / 12 EER / 8.5 HSPF		
Ground Source Heat Pump (geothermal)	NYSERDA Financing ENERGY STAR qualified units		
Distribution (Replacement or improvement)	NYSERDA Financing		

CHART: C			
LIPA Customer With Natural Gas Heat Without CAC or Wall AC (Or any Muni electric)			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Cooling Measures			
Central Air Conditioner (split systems) - CAC and DUCTLESS SPLIT	Balance NYSERDA Financing ? 14.5 SEER / 12 EER		
Room AC	Balance NYSERDA Financing ENERGY STAR Qualified Units		
Water Heater			
Indirect Fired Tank (Natural Gas)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Faucet Aerator / Low Flow Showerhead	NYSERDA AHP: 50% of Installed Cost up to \$5,000 (Natural gas)	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Electric DHW EF ? .93	NYSERDA Financing		
Natural Gas Fired Water Heater <51 gallon EF.63 / >51 gallon EF.53 / Instantaneous EF.78	NYSERDA Financing		
Solar DHW	NYSERDA Financing - SRCC OG-300 certified / SF 0.5		
Hot Water Tank & Pipe Insulation	NYSERDA Financing		
** Appliances and Lighting			
** Refrigerator, Freezer, Clothes Washer, Dishwasher, Dehumidifier ENERGY STAR Qualified Units	NYSERDA Financing		
**Heat/Energy Recovery Ventilator	NYSERDA Financing		
** Thermostats	NYSERDA Financing		
** CFLs	NYSERDA Financing		
** LEDs	NYSERDA Financing		
** Light Fixtures ENERGY STAR Qualified or electronic ballast	NYSERDA Financing		
*** Health and Safety Measures			
*** Ventilation fans or repair/upgrade of existing ventilation systems - not whole house or attic fans	NYSERDA Financing		
*** Knob and tube wiring upgrade	NYSERDA Financing		
*** Measures to Provide Combustion Air, prevent depressurization, spillage or inadequate draft	NYSERDA Financing		
*** Asbestos, Radon, or Lead abatement	NYSERDA Financing		
*** Repairs due to water damage, mold, mildew, or ice dams	NYSERDA Financing		
*** Smoke Detectors, Radon Detectors and Carbon Monoxide Detectors	NYSERDA Financing		
*** Gas leak repair	NYSERDA Financing		
*** Gas Oven Replacements	NYSERDA Financing		

CHART: D			
LIPA Customers With CAC or Wall AC and Oil or Propane Heat			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Shell Measures			
Insulation	NYSERDA AHP: 60% of Installed Cost up to \$6,000	LIPA: 50% of Installed Cost up to \$4,000	Balance NYSEDA Financing
		NYSERDA: 20% of installed Cost up to \$4,000	
Qualified Accessories (moisture barriers, passive attic vents, baffles, etc)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	LIPA: 20% of Installed Cost up to \$4,000	(Balance) NYSEDA Financing
		NYSERDA: 20% of Installed Cost up to \$4,000	
Air Sealing	NYSERDA AHP: 60% of Installed Cost up to \$6,000	LIPA: 50% of Installed Cost up to \$4,000	Balance NYSEDA Financing
		NYSERDA: 20% of installed Cost up to \$4,000	
Replacement Windows	LIPA: \$35 per - U value ? .35/ SHGC ? .44	Balance NYSEDA Financing U value ? .32/ SHGC ? .40	
Replacement Skylights	NYSEDA Financing		
Storm Doors/Storm Windows	LIPA: \$10 per	Balance NYSEDA Financing	
Movable window insulation	LIPA: \$10 per	Balance NYSEDA Financing	
Insulated Exterior Doors	NYSEDA Financing U value ? .32/ SHGC ? .30		

CHART: D			
LIPA Customers With CAC or Wall AC and Oil or Propane Heat			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Heating Measures			
Furnace (Oil or Propane) Oil AFUE ? 85% Propane AFUE ? 92%	NYSERDA AHP: 60% up to \$6,000 primary heat source only	NYSERDA: \$1,000	Balance NYSERDA Financing
Hot Water Boiler (Oil or Propane) AFUE ? 85%	NYSERDA AHP: 60% up to \$6,000 primary heat source only	NYSERDA: \$1,500	Balance NYSERDA Financing
Steam Boiler (Oil or Propane) AFUE ? 82%	NYSERDA AHP: 60% up to \$6,000 primary heat source only	NYSERDA: \$1,500	Balance NYSERDA Financing
Duct Sealing (Oil or Propane)	NYSERDA AHP: 60% up to \$6,000 (Heating Ducts only)	NYPA: 50% of Installed Cost up to \$4,000 (customers w/ NYPA CAC only)	Balance NYSERDA Financing
Boiler Pipe Insulation (min R-3)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
Qualified Accessories (chimney liners, air cleaners, humidifiers, fuel switching items, etc.)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
Distribution (Replacement or improvement)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
Air Source Heat Pump (electric)	NYSERDA Financing ? 14.5 SEER / 12 EER / 8.5 HSPF		
Ground Source Heat Pump (geothermal)	NYSERDA Financing ENERGY STAR qualified units		

CHART: D			
LIPA Customers With CAC or Wall AC and Oil or Propane Heat			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Cooling Measures			
Central Air Conditioner (split systems ADDITIONS)	LIPA Cool Homes \$250 - \$700 (customers w/ LIPA CAC only) ? 14.5 SEER / 12 EER / 8.2 HSPF	Balance NYSERDA Financing ? 14.5 SEER / 12 EER / 8.5 HSPF	
Room AC	LIPA: \$25 CEE tier-2 thru the only	Balance NYSERDA Financing ENERGY STAR Qualified Units	
Water Heater			
Propane or Oil Fired DHW <51 gallon EF .63 / >51 gallon EF .53 Instantaneous: EF .78	NYSERDA AHP: 60% up to \$6,000	NYSERDA: 20% of installed Cost up to \$4,000	Balance NYSERDA Financing
Indirect Fired Tank DHW (Oil or Propane) UL Approved	NYSERDA AHP: 60% up to \$6,000	NYSERDA: 20% of installed Cost up to \$4,000	Balance NYSERDA Financing
Faucet Aerator / Low Flow Showerhead	NYSERDA AHP: 60% up to \$6,000	NYSERDA: 20% of installed Cost up to \$4,000	Balance NYSERDA Financing
Electric DHW EF ? .93	LIPA \$150, must replace an existing electric tank	Balance NYSERDA Financing	
Solar DHW	NYSERDA Financing - SRCC OG-300 certified / SF 0.5		
Hot Water Tank & Pipe Insulation	NYSERDA Financing		
** Appliances and Lighting			
** Refrigerator, Freezer, Clothes Washer, Dishwasher, Dehumidifier ENERGY STAR Qualified Units	NYSERDA Financing		
** Heat/Energy Recovery Ventilator	** NYSERDA AHP: 50% of Installed Cost up to \$5,000 (oil or propane heat)	NYSERDA: 10% of Installed Cost up to \$5,000	** Balance NYSERDA Financing
** Thermostats	NYSERDA Financing		
** CFLs	NYSERDA Financing		
** LEDs	NYSERDA Financing		
** Light Fixtures ENERGY STAR Qualified or electronic ballast	NYSERDA Financing		

CHART: D			
LIPA Customers With CAC or Wall AC and Oil or Propane Heat			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Health and Safety Measures			
Ventilation fans or repair/upgrade of existing ventilation systems - not whole house or attic fans	LIPA: 75% of Installed Cost up to \$400	AND	Balance NYSERDA Financing
Knob and tube wiring upgrade	LIPA: \$50	AND	Balance NYSERDA Financing
Measures to Provide Combustion Air, prevent depressurization, spillage or inadequate draft	LIPA: \$50 to meet BPI standards	AND	Balance NYSERDA Financing
*** Asbestos, Radon, or Lead abatement	NYSERDA Financing		
*** Repairs due to water damage, mold, mildew, or ice dams	NYSERDA Financing		
*** Smoke Detectors, Radon Detectors and Carbon Monoxide Detectors	NYSERDA Financing		
*** Gas Oven Replacements	NYSERDA Financing		
*** Gas leak repair	NYSERDA Financing		
*** Cost of removing an oil tank or replacing a faulty oil tank when done in conjunction with a heating system replacement	NYSERDA Financing		
BUSINESS RULE: \$4000 job max not measure max			

Chart: E			
LIPA Customers With Oil or Propane Heat Without CAC or Wall AC or Muni Customers (with or without CAC or Wall AC)			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Shell Measures			
Insulation	NYSERDA AHP: 60% of Installed Cost up to \$6,000	OR	AND
		NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
AND			
Qualified Accessories (moisture barriers, passive attic vents, baffles, etc)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	OR	AND
		NYSERDA: 20% of Installed Cost up to \$4,000	(Balance) NYSERDA Financing
AND			
Air Sealing	NYSERDA AHP: 60% of Installed Cost up to \$6,000	OR	AND
		NYSERDA: 20% of installed Cost up to \$4,000	Balance NYSERDA Financing
AND			
Replacement Windows	NYSERDA Financing U value ? 32/ SHGC ? 40		
Movable window insulation	NYSERDA Financing		
Storm Doors/Storm Windows	NYSERDA Financing		
Insulated Exterior Doors	NYSERDA Financing U value ? 32/ SHGC ? 30		
Heating Measures			
Furnace (Oil or Propane) Oil AFUE ? 85%. Propane AFUE ? 92%	NYSERDA AHP: 60% up to \$6,000 primary heat source only	OR	AND
		NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
AND			
Hot Water Boiler (Oil or Propane) AFUE ? 85%.	NYSERDA AHP: 60% up to \$6,000 primary heat source only	OR	AND
		NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
AND			
Steam Boiler (Oil or Propane) AFUE ? 82%.	NYSERDA AHP: 60% up to \$6,000 primary heat source only	OR	AND
		NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
AND			
Heating Duct Sealing and Insulation (Oil or Propane)	NYSERDA AHP: 60% up to \$6,000 (Heating Ducts only)	OR	AND
		NYSERDA: 20% of installed Cost up to \$4,000	Balance NYSERDA Financing
AND			
Boiler Pipe Insulation (min R-3)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	OR	AND
		NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
AND			
Qualified Accessories (chimney liners, air cleaners, humidifiers, fuel switching items, etc.)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	OR	AND
		NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
AND			
Distribution (Replacement or improvement)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	OR	AND
		NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
AND			
Air Source Heat Pump (electric)	NYSERDA Financing ? 14.5 SEER / 12 EER / 8.5 HSPF		
Ground Source Heat Pump (geothermal)	NYSERDA Financing ENERGY STAR qualified units		

Chart: E			
LIPA Customers With Oil or Propane Heat Without CAC or Wall AC or Muni Customers (with or without CAC or Wall AC)			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Cooling Measures			
Central Air Conditioner (split systems) - CAC and DUCTLESS SPLIT	Balance NYSEDA Financing ? 14.5 SEER / 12 EER		
Room AC	Balance NYSEDA Financing ENERGY STAR Qualified Units		
Water Heater			
Propane or Oil Fired DHW <51 gallon EF.63 / >51 gallon EF.53 Instantaneous: EF .78	NYSEDA AHP: 60% up to \$6,000	NYSEDA: 20% of installed Cost up to \$4,000	Balance NYSEDA Financing
	OR	AND	
	AND		
Indirect Fired Tank DHW (Oil or Propane) UL Approved	NYSEDA AHP: 60% up to \$6,000	NYSEDA: 20% of installed Cost up to \$4,000	Balance NYSEDA Financing
	OR	AND	
	AND		
Faucet Aerator / Low Flow Showerhead	NYSEDA AHP: 60% up to \$6,000	NYSEDA: 20% of installed Cost up to \$4,000	Balance NYSEDA Financing
	OR	AND	
	AND		
Electric DHW EF ? .93	NYSEDA Financing		
Solar DHW	NYSEDA Financing - SRCC OG-300 certified / SF 0.5		
Hot Water Tank & Pipe Insulation	NYSEDA Financing		

Chart: E			
LIPA Customers With Oil or Propane Heat Without CAC or Wall AC or Muni Customers (with or without CAC or Wall AC)			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Cooling Measures			
** Appliances and Lighting			
** Refrigerator, Freezer, Clothes Washer, Dishwasher, Dehumidifier ENERGY STAR Qualified Units	NYSERDA Financing		
**Heat/Energy Recovery Ventilator	** NYSERDA AHP: 50% of Installed Cost up to \$5,000 (oil or propane heat)	OR NYSERDA: 10% of Installed Cost up to \$5,000 (oil or propane heat)	AND NYSERDA Financing
** Thermostats	NYSERDA Financing		
** CFLs	NYSERDA Financing		
** LEDs	NYSERDA Financing		
** Light Fixtures ENERGY STAR Qualified or electronic ballast	NYSERDA Financing		
Health and Safety Measures			
*** Ventilation fans or repair/upgrade of existing ventilation systems - not whole house or attic fans	NYSERDA Financing		
*** Knob and tube wiring upgrade	NYSERDA Financing		
*** Measures to Provide Combustion Air, prevent depressurization, spillage or inadequate draft	NYSERDA Financing		
*** Asbestos, Radon, or Lead abatement	NYSERDA Financing		
*** Repairs due to water damage, mold, mildew, or ice dams	NYSERDA Financing		
*** Smoke Detectors, Radon Detectors and Carbon Monoxide Detectors	NYSERDA Financing		
*** Gas leak repair	NYSERDA Financing		
*** Gas Oven Replacements	NYSERDA Financing		
*** Cost of removing an oil tank or replacing a faulty oil tank when done in conjunction with a heating system replacement	NYSERDA Financing		

NYC_UNY Customer With Electric Heat (NOT MUNI)			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Shell Measures			
Insulation (attic, wall, floor, band/rim joist, basement, crawlspace, overhang or duct - for CAC or HP ducts in attic, crawl or other unconditioned space)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Qualified Accessories (moisture barriers, passive attic vents, baffles, etc)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	(Balance) NYSERDA Financing
Air Sealing	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Replacement Windows	NYSERDA Financing U value ? 30/ SHGC ? 35		
Storm Doors/Storm Windows	NYSERDA Financing		
Movable window insulation	NYSERDA Financing		
Insulated Exterior Doors	NYSERDA Financing U value ? 32/ SHGC ? 30		
Heating Measures			
Furnace (non-gas customers only) Oil AFUE ? 85% Propane AFUE ? 92%	NYSERDA AHP: 50% of Installed Cost up to \$5,000 -- primary heat source only	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Hot Water Boiler (non-gas customers only) AFUE ? 85%	NYSERDA AHP: 50% of Installed Cost up to \$5,000, primary heat source only	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Steam Boiler (non-gas customers only) AFUE ? 82%	NYSERDA AHP: 50% of Installed Cost up to \$5,000, primary heat source only	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Heating Duct Sealing and Insulation	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Qualified Accessories (chimney liners, air cleaners, humidifiers, fuel switching items, etc.)	NYSERDA AHP: 50% of Installed Cost up to \$5,000	NYSERDA: 10% of Installed Cost up to \$3,000	Balance NYSERDA Financing
Air Source Heat Pump (electric split systems)	NYSERDA Financing ? 14.5 SEER / 12 EER / 8.5 HSPF		
Ground Source Heat Pump	NYSERDA Financing ENERGY STAR Qualified		
Distribution (Replacement or improvement)	NYSERDA Financing		

NYC_UNY Customer With Electric Heat (NOT MUNI)			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Cooling Measures			
Central Air Conditioner (split systems)	NYSERDA: 10% of Installed Cost up to \$3,000 ? 14.5 SEER / 12EER (see footnote)*	AND	Balance NYSERDA Financing
** Room A/C ENERGY STAR Qualified	NYSERDA AHP: 50% of Installed Cost up to \$50 for room AC	OR NYSERDA: 10% of Installed Cost up to \$3,000	AND Balance NYSERDA Financing
Water Heater			
Propane or Oil Fired DHW (non-gas customers only) <51 gallon EF.63 / >51 gallon EF.53 Instantaneous: EF .78	NYSERDA AHP: 50% up to \$5,000	OR NYSERDA: 10% of Installed Cost up to \$3,000	AND Balance NYSERDA Financing
Indirect Fired Tank (non-gas customers only)	NYSERDA AHP: 50% up to \$5,000 UL Approved	OR NYSERDA: 10% of Installed Cost up to \$3,000	AND Balance NYSERDA Financing
Faucet Aerator / Low Flow Showerhead	NYSERDA AHP: 60% up to \$6,000	OR NYSERDA: 30% of Installed Cost up to \$2,000	AND Balance NYSERDA Financing
Electric DHW EF ? .93	NYSERDA Financing		
Solar DHW (non-gas customers only)	NYSERDA Financing - SRCC OG-300 certified / SF 0.5		
Hot Water Tank & Pipe Insulation	NYSERDA Financing		
** Appliances and Lighting			
** Refrigerator, Freezer, Dishwasher, Dehumidifier ENERGY STAR Qualified	** NYSERDA AHP: 50% of Installed Cost \$300 for Refrigerators and Freezers, \$250 for Dishwashers, \$75 for Dehumidifiers	OR NYSERDA: 10% of Installed Cost up to \$3,000	AND ** Balance NYSERDA Financing
** Clothes Washer ENERGY STAR Qualified	** NYSERDA Financing		
**Heat/Energy Recovery Ventilator	** NYSERDA AHP: 50% of Installed Cost \$5,000 (oil or propane heat)	OR NYSERDA: 10% of Installed Cost up to \$3,000	AND ** Balance NYSERDA Financing
** CFLs	** NYSERDA AHP: 50% of Installed Cost \$5,000	OR NYSERDA: 10% of Installed Cost up to \$3,000	AND ** Balance NYSERDA Financing
** LEDs	NYSERDA Financing		
** Light Fixtures ENERGY STAR Qualified or electronic ballast	NYSERDA Financing		
** Thermostats ENERGY STAR Qualified	** NYSERDA AHP: 50% of Installed Cost \$5,000 (limit one per unit)	OR NYSERDA: 10% of Installed Cost up to \$3,000	AND ** Balance NYSERDA Financing
*	AHRI Certificate Required. 14.5 SEER / 12 subject to site-specific analysis and preapproval by CSG in order to determine eligibility (TRC)(Except in Con Edison and Central Hudson Electric Service Territory)		

NYC UNY Customer With Electric Heat (NOT MUNI)			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
<small>***Health and Safety Measures</small>			
*** Ventilation fans or repair/upgrade of existing ventilation systems - not whole house or attic fans	NYSERDA Financing		
*** Knob and tube wiring upgrade	NYSERDA Financing		
*** Measures to Provide Combustion Air, prevent depressurization, spillage or inadequate draft	NYSERDA Financing		
*** Smoke Detectors, Radon Detectors and Carbon Monoxide Detectors	NYSERDA Financing		
*** Gas Oven Replacements	NYSERDA Financing		
*** Asbestos, Radon, or Lead abatement	NYSERDA Financing		
*** Repairs due to water damage, mold, mildew, or ice dams	NYSERDA Financing		

NYC_UNY Customer With Oil or Propane Heat			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Shell Measures			
Insulation (attic, wall, floor, band/rim joist, basement, crawlspace, overhang or duct - for CAC or HP ducts in attic, crawl or other unconditioned space)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	NYSERDA: 20% of Installed Cost up to \$2,000	Balance NYSERDA Financing
Qualified Accessories (moisture barriers, passive attic vents, baffles, etc)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	NYSERDA: 20% of Installed Cost up to \$2,000	Balance NYSERDA Financing
Air Sealing	NYSERDA AHP: 60% of Installed Cost up to \$6,000	NYSERDA: 20% of Installed Cost up to \$2,000	Balance NYSERDA Financing
Replacement Windows U value ? .30/ SHGC ? .35	NYSERDA Financing		
Storm Doors/Storm Windows	Balance NYSERDA Financing		
Movable window insulation	Balance NYSERDA Financing		
Insulated Exterior Doors U value ? .32/ SHGC ? .30	NYSERDA Financing		

NYC_UNY Customer With Oil or Propane Heat			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Heating Measures			
Furnace (Oil or Propane) Oil AFUE ≥ 85% Propane AFUE 92%	NYSERDA AHP: 60% up to \$6,000 primary heat source only	NYSERDA: \$4,000	Balance NYSERDA Financing
		OR	AND
		AND	
Hot Water Boiler (Oil or Propane) AFUE ≥ 85%.	NYSERDA AHP: 60% up to \$6,000 primary heat source only	NYSERDA: \$1,500	Balance NYSERDA Financing
		OR	AND
		AND	
Steam Boiler (Oil or Propane) AFUE ≥ 82%.	NYSERDA AHP: 60% up to \$6,000 primary heat source only	NYSERDA: \$1,500	Balance NYSERDA Financing
		OR	AND
		AND	
Duct Sealing (Oil or Propane Heating Ducts only)	NYSERDA AHP: 60% up to \$2,000	NYSERDA: 50% of Installed Cost up to \$2,000	Balance NYSERDA Financing
		OR	AND
		AND	
Boiler Pipe Insulation (min R-3)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
		OR	AND
		AND	
Qualified Accessories (chimney liners, air cleaners, humidifiers, fuel switching items, etc.)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
		OR	AND
		AND	
Distribution (Replacement or improvement)	NYSERDA AHP: 60% of Installed Cost up to \$6,000	NYSERDA: 20% of Installed Cost up to \$4,000	Balance NYSERDA Financing
		OR	AND
		AND	
Air Source Heat Pump (electric)	NYSERDA Financing ≥ 14.5 SEER / 12 EER / 8.5 HSPF		
Ground Source Heat Pump (geothermal)	NYSERDA Financing ENERGY STAR qualified units		

NYC_UNY Customer With Oil or Propane Heat			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
Cooling Measures			
Central Air Conditioner (split systems)	NYSERDA: 10% of Installed Cost up to \$3,000 — ? 14.5 SEER 12EER (see footnote)*	AND Balance NYSERDA Financing	
** Room A/C ENERGY STAR Qualified	NYSERDA AHP: 50% of Installed Cost up to \$50 for room AC	OR NYSERDA: 10% of Installed Cost up to \$2,000	AND Balance NYSERDA Financing
Water Heaters			
Propane or Oil Fired DHW <51 gallon EF.63 / >51 gallon EF.53 Instantaneous: EF .78	NYSERDA AHP: 60% up to \$6,000	OR NYSERDA: 20% of installed Cost up to \$4,000	AND Balance NYSERDA Financing
Indirect Fired Tank DHW (Oil or Propane) UL Approved	NYSERDA AHP: 60% up to \$6,000	OR NYSERDA: 20% of installed Cost up to \$4,000	AND Balance NYSERDA Financing
Faucet Aerator / Low Flow Showerhead	NYSERDA AHP: 60% up to \$6,000	OR EPA: 20% of Installed Cost up to \$4,000	AND Balance NYSERDA Financing
Electric DHW EF ? .93	NYSERDA Financing		
Hot Water Tank & Pipe Insulation	NYSERDA Financing		
Solar LOG-300 certification from SRCC. SF 0.5	NYSERDA AHP: 50% up to \$3,000 (Only If Replacing Oil or Propane)	OR NYSERDA: 10% of Installed Cost up to \$3,000 (Only If eplacing Oil or Propane)	AND Balance NYSERDA Financing

NYC_UNY Customer With Oil or Propane Heat			
** Appliances and Lighting are Eligible Only When Completed With a "Major" Measure			
*** Health and Safety Measures are Eligible Only When Completed With a "Major" Measure and Capped at \$2,000			
Measure	Primary Incentive	Secondary Incentive	Tertiary Incentive
** Appliances and Lighting			
** Refrigerator, Freezer, Dishwasher, Dehumidifier ENERGY STAR Qualified	** NYSERDA AHP: 50% of Installed Cost up to \$300 for Refrigerators and Freezers, \$250 for Dishwashers, \$750 for Dehumidifiers	OR NYSERDA: 10% of Installed Cost up to \$3,000	AND Balance NYSERDA Financing
** Clothes Washer ENERGY STAR Qualified	** NYSERDA Financing		
**Heat/Energy Recovery Ventilator	** NYSERDA AHP: 50% of Installed Cost up to \$5,000 (oil or propane heat)	OR NYSERDA: 10% of Installed Cost up to \$3,000	AND Balance NYSERDA Financing
** CFLs	** NYSERDA AHP: 50% of Installed Cost up to \$5,000	OR NYSERDA: 10% of Installed Cost up to \$3,000	AND Balance NYSERDA Financing
** LEDs	NYSERDA Financing		
** Light Fixtures ENERGY STAR Qualified or electronic ballast	NYSERDA Financing		
** Thermostats ENERGY STAR Qualified	** NYSERDA AHP: 50% of Installed Cost up to \$5,000 (limit one per unit)	OR NYSERDA: 10% of Installed Cost up to \$3,000	AND Balance NYSERDA Financing
***Health and Safety Measures			
*** Ventilation fans or repair/upgrade of existing ventilation systems - not whole house or attic fans	NYSERDA Financing		
*** Knob and tube wiring upgrade	NYSERDA Financing		
*** Measures to Provide Combustion Air, prevent depressurization, spillage or inadequate draft	NYSERDA Financing		
*** Smoke Detectors, Radon Detectors and Carbon Monoxide Detectors	NYSERDA Financing		
*** Gas leak repair	NYSERDA Financing		
*** Gas Oven Replacements	NYSERDA Financing		
*** Asbestos, Radon, or Lead abatement	NYSERDA Financing		
*** Repairs due to water damage, mold, mildew, or ice dams	NYSERDA Financing		
*** Cost of removing an oil tank or replacing a faulty oil tank when done in conjunction with a heating system replacement	NYSERDA Financing		

Section 2

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Appendix D

GUIDES AND INSTRUMENTS

Section 1

INTERVIEW GUIDES

1.1 INTERVIEW GUIDE – PROGRAM STAFF

Date: Interviewer:
 Name: Organization:
 Title:
 Phone: E-mail:

My name is _____, I am from NMR and, as you may know, I'm a member of the process evaluation team for the NYSERDA Green Jobs and Green New York program. As part of the combined market and process evaluation, we are conducting in-depth interviews with program staff. The process evaluation will help understand program efficiency and effectiveness, the degree to which program activities are in alignment with program goals, the barriers to achievement of program goals, and the influence of program activities on participant and non-participant perceptions of the program. The MCA evaluation will establish baseline market conditions.

This interview will take approximately one hour to complete. We want to assure you that this interview is confidential to the extent permitted by law. We will report all responses in aggregate and will not attribute any comments to you. May I have your permission to record this interview for transcription purposes?

By the way, if I ask you about areas you don't know about, please feel free to tell me and we will move on. Do you have any questions before we start?

ROLES AND RESPONSIBILITIES

1. First, I want to verify that you work on the HPwES program. Is that correct? Do you also work on the implementation of GJGNY?

How long have you been working on the HPwES program implementation? GJGNY implementation? How long have you worked on NYSERDA residential programs? How long have you worked for NYSERDA?

2. What is your specific role with respect to the HPwES program and GJGNY?
3. What percentage of your time do you spend on the HPwES program? GJGNY associated efforts?
4. How is the NYSERDA staff organized to deliver GJGNY? That is, what is structure of the organization in terms of functions and responsibilities for the program?

Who are the implementation contractors for GJGNY? [PROBE: roles of CSG, Honeywell, financing contractors]. What are the responsibilities of implementation contractors for GJGNY?

Communications and Coordination

5. When implementing the HPwES program and GJGNY related projects, you must need to communicate and coordinate with a variety of different people. Who are you in contact with most frequently?
[PROBE: NYSERDA staff, other contractors, program delivery contractors, utilities, NYS Department of Labor]
 - a. For each group: what is the nature and type of your interactions (e-mail, telephone calls, in-person meetings; regular review and coordination, occasional to address issues, etc.)?
6. Have you encountered any difficulties or issues in your communications with any of these groups? IF YES: With which groups? What was the nature of the problem? Were you able to resolve it? How did you resolve it?

Program Administration and Delivery

I would now like you to briefly describe how the GJGNY elements work with the HPwES program. Don't worry about all the details, please try to provide a high level overview.

7. Let's start with the free / reduced-cost audits...
 - a. How do end use customers find out about the free / reduced-cost audits?
 - b. How do they apply for or enroll in the free / reduced-cost audits?
 - c. What is the approval process? Who approves the application? How long does approval process typically take?
 - d. Is there any difference between the process for approval of electronic and paper applications? What is the reason for these differences? What are the relative benefits and drawbacks of electronic and paper application and approval processes?
 - e. How does the audit contractor learn that an end use customer has been approved for a free / reduced-cost audit?
 - f. How long after approval do end use customers typically have the audit done?
 - g. How long after the audit does the customer receive the audit results? Are these results provided in-person? Or are they mailed / e-mailed to the end users?
 - h. What is the extent of involvement of program staff in the audit process? What is the extent of involvement of the implementation contractor in the audit process?
 - i. How long do end use customers have to decide whether or not to implement any of the recommended measures through the HPwES program?

- j. If the decision to install measures is not made immediately after the audit results are presented to the end use customer, is there any follow-up to help the customer with the measure implementation decision? Who does that follow up? Is it done for every customer? When does the follow up occur?
 - k. Are there any bottlenecks or obstacles in this process for free / reduced-cost audits? What are they? How can they be addressed?
8. Now, let's turn to GJGNY financing for installation of measures eligible through the HPwES program...
- a. How do end use customers find out about the GJGNY financing? How do they apply for GJGNY financing? How frequently do customers who have been informed about GJGNY financing actually apply for the financing?
 - b. What is the approval process? Who approves the application? How long does approval process typically take?
 - c. How does the implementation contractor find out that a customer has been approved for GJGNY financing? How does the project contractor find out that the customer has been approved for GJGNY financing?
 - d. How long after approval do customers typically have the measures installed?
 - e. What is the extent of involvement of program staff in the financing process?
 - f. What is the extent of involvement of the implementation contractor in the financing process? What is the extent of involvement of the project contractor in the financing process?
 - g. Are there any bottlenecks or obstacles in this process for GJGNY financing for eligible measures? What are they? How can they be addressed?
9. What systems are used to track program activity associated with GJGNY project completions? Who is responsible for updating the information? How frequently is it updated? Have there been any issues or problems in the use of the system? Are there any program activities that are not being tracked that would be useful to monitor?
- a. Are there any elements of program activity that would be useful to track in preparation for the roll-out of the CBO's? What are those? Are they currently being tracked? IF NO: Why not? How can they be tracked?
10. In general, have there been any difficulties in implementing GJGNY as it relates to the HPwES program? What are they? How can they be addressed?
11. What have been the key successes achieved in the implementation of GJGNY as it relates to the HPwES program? [Probe specifically for implementation success: barriers that were overcome, etc.]

12. Since the introduction of GJGNY, have there been any changes made to the design or structure of the program? What are they? Why were these changes made?

Marketing and Outreach

13. Has there been any overall NYSERDA-wide promotional activity or advertising that generated residential end-use customer interest in or leads for HPwES program and GJGNY-related projects? What has been the nature and frequency of these communications? [If available, request copies of any media ads]
 - a. How effective has the overall NYSERDA-wide promotional activity or advertising been in generating residential end-use customer interest in or leads for HPwES program? GJGNY-related projects? Why is that?
14. What channels have been used to specifically promote and advertise the HPwES program and GJGNY-related projects to residential end use customers? What has been the nature and frequency of these communications? [If available, request copies of any media ads]
 - a. Has there been any variation in the effectiveness of the different channels in generating residential end-use customer interest in or leads for GJGNY? Are there channels that have been more effective and channels that have been less effective? Why is that?
15. Have HPwES contractors done any marketing to promote GJGNY to residential end use customers?
 - a. IF NO: Why do you think contractors have not done any marketing to promote GJGNY to residential customers?
 - b. IF YES: How effective have the contractor's efforts been in promoting GJGNY to residential customers?
16. What marketing messages do you believe are working best for the HPwES program and GJGNY related projects? How have you seen messages vary by geographic region? By consumer demographics [PROBE for language barriers, ethnic groups, other]?
17. Are there any aspects of the marketing, outreach, and consumer education efforts that you think have been notably successful in promoting HPwES program and GJGNY related projects?
18. Are there any aspects of the marketing, outreach and education efforts that you think have been less successful in promoting the HPwES program or GJGNY?
19. Do you have any suggestions for ways that the marketing, outreach, and consumer education efforts for the HPwES program and GJGNY-related projects could be included, emphasized more, changed or improved?

Program Participation Motivations and Barriers

20. In general, what would you say is the awareness among residential contractors of NYSERDA programs overall? Of the HPwES program? Of GJGNY?
 - a. Aside from simply being aware of the HPwES program, how knowledgeable do you think non-participating residential contractors are about the program? How knowledgeable do you think participating and non-participating residential contractors are about GJGNY program?
21. In general, what would you say is the awareness among residential end use customers of NYSERDA programs overall? Of the HPwES program? Of GJGNY?
 - a. Aside from simply being aware of the HPwES program, how knowledgeable do you think residential end use customers are about the program? How knowledgeable do you think residential end use customers are about the financing options available for HPwES projects? How knowledgeable do you think residential end use customers are about GJGNY—the financing and free / reduced-cost audits?
22. What do you think are the barriers to end users' participation in the HPwES program? Are there any differences in the barriers to participation between regions, e.g., upstate vs. downstate? What do you think are the reasons for these differences?
23. What do you think are the barriers to residential end use customers' participation in the GJGNY free / reduced-cost audits? Are there any differences in the barriers to participation between regions, e.g., upstate vs. downstate? What do you think are the reasons for these differences?
24. What do you think are the barriers to residential end use customers' participation in the GJGNY financing for the installation of eligible measures through HPwES? Are there any differences in the barriers to participation between regions, e.g., upstate vs. downstate? What do you think are the reasons for these differences?
 - a. What are the other types of financing that residential end use customers are using most frequently? Why do you think they prefer to use the other financing over GJGNY financing? How could the GJGNY financing be made more appealing or attractive to residential end use customers? What could the program do to get residential contractors to more actively promote GJGNY financing?
25. What do you think are the residential end-use customers' motivations for participation in the GJGNY free / reduced-cost audits? Are there any differences in the motivations to participation between regions, e.g., upstate vs. downstate? What is the reason for these differences?
 - a. Do you think the free / reduced-cost audits lead to an increased amount of installations / HPwES project completions? Why / Why not?

26. What do you think are the residential end-use customers' motivations for participation in the GJGNY financing for installation of eligible measures? Are there any differences in the motivations to participation between regions, e.g., upstate vs. downstate? What is the reason for these differences?
 - a. What features of GJGNY financing are most appealing to residential end-use customers? What features are least appealing?
27. Why do you think customers do not move ahead and install eligible measures after having received the GJGNY audit? Is there anything else that the HPwES program could do to motivate them to install the energy efficient and eligible measures?
28. Overall how satisfied do you think end users are with the HPwES program? Why? How satisfied do you think end users are with the GJGNY free / reduced-cost audits for the HPwES program? Why? How satisfied do you think end users are with the GJGNY financing for HPwES program measures? Why?

Wrap Up

Finally, we've talked about a variety of program issues related to the HPwES program and GJGNY-related projects.

29. What would you say are the greatest strengths of GJGNY?
30. What are the most important improvements that still need to be made to the GJGNY program?
31. Are there any other issues related to the HPwES program and GJGNY-related projects that we have not discussed that you would like to mention?

Thank you for your time

1.2 INTERVIEW GUIDE – IMPLEMENTATION CONTRACTORS

(CSG, EFS, Honeywell, BPI)

Date Interviewer

Name Organization

Title

Phone E-mail

My name is ____, I am from NMR and I'm a member of the process evaluation team for the NYSERDA Green Jobs and Green New York audits and financing services as they relate to the Home Performance with ENERGY STAR program. As part of the combined market and process evaluation, we are conducting in-depth interviews with program implementation contractors. The process evaluation will help understand program efficiency and effectiveness, the degree to which program activities are in alignment with program goals, the barriers to achievement of program goals, and the influence of program activities on participant and non-participant perceptions of the program. The MCA evaluation will establish baseline market conditions.

This interview will take approximately [BPI: 20 minutes; Others: one hour] to complete. We want to assure you that this interview is confidential to the extent permitted by law. We will report all responses in aggregate and will not attribute any comments to you. By the way, if I ask you about areas you don't know about, please feel free to tell me and we will move on. Do you have any questions before we start?

BPI: GO TO BPI SECTION

Roles and Responsibilities

First, I want to verify that you work on the implementation of the HPwES program. Is that correct? Do you also work on the GJGNY free / reduced-cost audits and financing of projects completed through HPwES?

Were you involved in designing the HPwES program to include the GJGNY elements of free / reduced-cost audits and financing? IF YES: What impact on did the addition of the GJGNY elements of free / reduced-cost audits and financing have on HPwES program implementation?

How long have you worked with NYSERDA? How long have you been working on the HPwES program implementation? Implementation of GJGNY elements in the HPwES program? How long have you worked on NYSERDA residential programs?

What is your specific role with respect to the HPwES program and the GJGNY program elements?

What percentage of your time do you spend on the HPwES program? GJGNY elements associated with HPwES?

Communications and Coordination

When implementing the HPwES program, and specifically the GJGNY elements, you must need to communicate and coordinate with a variety of different people and contractors. Who are you in contact with most frequently? [PROBE: NYSERDA staff, other contractors, program delivery contractors, utilities,]

For each group: what is the nature and type of your interactions (e-mail, telephone calls, in-person meetings; regular review and coordination, occasional to address issues, etc.)?

Have you encountered any difficulties or issues in your communications with any of these groups? IF YES: With which groups? What was the nature of the problem? Were you able to resolve it? How did you resolve it?

Program Administration and Delivery

ASK ONLY CSG AND EFS: I would now like you to briefly describe how the GJGNY elements work with the HPwES program. Don't worry about all the details, please try to provide a high level overview.

ASK ONLY CSG: Let's start with the free / reduced-cost audits...

How do end use customers find out about the free / reduced-cost audits?

How do they apply for or enroll in the free / reduced-cost audits?

What is the approval process? Who approves the application? How long does approval process typically take?

Is there any difference between the process for approval of electronic (e-mail) and paper (fax) applications? What is the reason for these differences? What are the relative benefits and drawbacks of electronic and paper application and approval processes?

How does the audit contractor learn that an end use customer has been approved for a free / reduced-cost audit?

How long after approval do customers typically have the audit done?

How long after the audit does the customer receive the audit results? Are these results provided in-person? Or are they mailed / e-mailed to the end users?

What is the extent of your involvement in the audit process? What is the extent of involvement of program staff in the audit process?

How long do customers have to decide whether or not to implement any of the recommended measures through the HPwES program?

If the decision to install measures is not made immediately after the audit results are presented to the customer, is there any follow-up to help the customer with the measure implementation decision? Who does that follow up? Is it done for every customer? When does the follow up occur?

Are there any bottlenecks or obstacles in this process for free / reduced-cost audits? What are they? How can they be addressed?

ASK ONLY CSG AND EFS: Now, let's turn to GJGNY financing for installation of measures eligible through the HPwES program...

How do customers find out about the GJGNY financing options available?

How do they apply for GJGNY financing? How frequently do customers who have been informed about GJGNY financing actually apply for the financing?

What is the approval process? Who approves the application? How long does approval process typically take?

How do you find out that a customer has been approved for GJGNY financing? How does the project contractor find out that the customer has been approved for GJGNY financing?

How long after approval do customers typically have the measures installed?

What is the extent of involvement of program staff in the financing application or approval process?

What is the extent of your involvement in the financing process? What is the extent of involvement of the project contractor in the financing process?

Are there any bottlenecks or obstacles in this process for GJGNY financing for eligible measures? What are they? How can they be addressed?

ASK ONLY CSG AND EFS: What systems are used to track program activity associated with GJGNY audit completions and project completions? Who is responsible for updating the information? How frequently is it updated? Have there been any issues or problems in the use of the system? Are there any program activities that are not being tracked that would be useful to monitor?

Are there any elements of program activity that would be useful to track in preparation for the roll-out of the CBO's (constituency-based organizations)? What are those? Are they currently being tracked? IF NO: Why not? How can they be tracked?

ASK ONLY CSG AND EFS: In general, have there been any difficulties in implementing GJGNY as it relates to the HPwES program? What are they? How can they be addressed?

ASK ONLY CSG AND EFS: What have been the key successes achieved in the implementation of GJGNY as it relates to the HPwES program? [Probe specifically for implementation success: barriers that were overcome, etc.]

ASK ONLY CSG AND EFS: Since the introduction of GJGNY, have there been any changes made to the design or structure of the program? What are they? Why were these changes made?

Marketing and Outreach

Are you aware of any overall NYSERDA-wide promotional activity or advertising that generated residential end-use customer interest in or leads for the HPwES programs and GJGNY-related projects?

IF YES: How effective has the overall NYSERDA-wide promotional activity or advertising been in generating residential end-use customer interest in or leads for the HPwES program? GJGNY-related projects? Why is that?

Are you aware of the channels that have been used to specifically promote and advertise the HPwES program and GJGNY-related projects to residential end use customers? What has been the nature and frequency of these communications? [If available, request copies of any media ads]

Has there been any variation in the effectiveness of the different channels in generating residential end-use customer interest in or leads for GJGNY? Are there channels that have been more effective and channels that have been less effective? Why is that?

Have HPwES contractors done any marketing to promote GJGNY to residential end use customers?

IF NO: Why do you think contractors have not done any marketing to promote GJGNY to residential customers?

IF YES: How effective have the contractor's efforts been in promoting GJGNY to residential customers?

Are there any aspects of the marketing, outreach, and consumer education efforts that you think have been notably successful in promoting HPwES program and GJGNY-related projects?

Are there any aspects of the marketing, outreach and education efforts that you think have been less successful in promoting HPwES program and GJGNY-related projects?

Do you have any suggestions for ways that the marketing, outreach, and consumer education efforts for the HPwES program and GJGNY-related projects could be included, emphasized more, changed or improved?

Program Participation Motivations and Barriers

ASK CSG, EFS & HONEYWELL: In general, what would you say is the awareness among residential contractors of NYSERDA programs overall? Of the HPwES program? Of the GJGNY law? Of GJGNY related services such as the free/reduced-cost audits and financing?

Aside from simply being aware of the HPwES program, how knowledgeable do you think non-participating residential contractors are about the program? How knowledgeable do you think participating and non-participating residential contractors are about the GJGNY related services such as the free/reduced-cost audits and financing?

ASK CSG, EFS & HONEYWELL: In general, what would you say is the awareness among residential end use customers of NYSERDA programs overall? Of the HPwES program? Of the free/reduced-cost audits and financing for HPwES?

Aside from simply being aware of the HPwES program, how knowledgeable do you think residential end use customers are about the program? How knowledgeable do you think residential end use customers are about the financing options available for HPwES projects? How knowledgeable do you think residential end use customers are about the HPwES financing and free / reduced-cost audits?

ASK CSG & EFS: What do you think are the barriers to residential end use customer participation in the HPwES program? Are there any differences in the barriers to participation between regions, e.g., upstate vs. downstate? Upstate Central, Western, and Finger Lakes region vs. the rest of upstate? What do you think are the reasons for these differences?

ASK CSG & EFS: What do you think are the barriers to customer participation in the HPwES free / reduced-cost audits? Are there any differences in the barriers to participation between regions, e.g., upstate vs. downstate? Upstate Central, Western, and Finger Lakes region vs. the rest of upstate? What do you think are the reasons for these differences?

ASK CSG & EFS: What do you think are the customer motivations for participation in the HPwES free / reduced-cost audits? Are there any differences in the barriers to participation between regions, e.g., upstate vs. downstate? What is the reason for these differences?

Do you think the free / reduced-cost audits lead to an increased amount of installations / HPwES project completions? Why / Why not?

ASK CSG & EFS: Why do you think customers do not move ahead and install eligible measures after having received the HPwES audit? Is there anything else that the HPwES program could do to motivate them to install the energy efficient and eligible measures?

ASK CSG, EFS & HONEYWELL: Overall how satisfied do you think customers are with the HPwES program? Why? How satisfied do you think customers are with the free / reduced-cost audits for the HPwES program? Why? How satisfied do you think customers are with the financing for HPwES program measures? Why?

HONEYWELL ONLY (QA INSPECTIONS):

Please describe your role with respect to NYSERDA's HPwES program?

What percentage of your work is associated with the Home Performance with ENERGY STAR program?

About how many projects have you inspected for the program since mid-November of 2010??

Could you please describe for me what is involved in conducting a quality assurance (QA) inspection?

What specific project information is provided to you to assist in the inspection? Who decides which projects to inspect? What is the basis for this decision? After that, what are the steps that you go through?

In your reviews of work that has been done, what are some of the common issues that need to be addressed?

What are the most typical measures that have problems? [PROBE, if needed, hot water, electric, thermal package, etc.]

In your opinion, are there measures that you sometimes think should have been installed but were not?

Why do you think these measures were not installed?

Is it the installation contractor who chooses not to install these measures? Or the customer who chooses not to install? What are the main reasons for not installing? [Probe, if needed: Too expensive? Too difficult? Cost effectiveness?]

From your perspective, how effectively do you think the audit and installation contractors are doing their jobs? Are they doing a good job conducting the audits as well as installing the measures?

What percent of the measure installations require corrective action?

How well-trained do you think the contractors are? What additional training do you think that they might need? In particular, would screening help to identify contractors who might not be performing as well as others?

Why do you think some contractors are not performing as well as others?

Have you observed any differences between contractors' work on audits that are paid for by the customer and the free / reduced-cost audits? What is the reason for these differences? What could or should be done to minimize such differences?

Have you had to get involved with contractor performance issues identified by BPI? IF YES: how often have you needed to get involved in this manner? Typically, what has been the nature of the issue and how has it been resolved?

What has been your experience in working with BPI?

Wrap Up

Finally, we've talked about a variety of program issues related to the HPwES program and GJGNY-related projects.

What would you say are the greatest strengths of GJGNY related services for HPwES, the free/reduced-cost audits and financing?

What are the most important improvements that still need to be made to GJGNY related services for HPwES, the free/reduced-cost audits and financing?

Are there any other issues related to the HPwES program and GJGNY-related services that we have not discussed that you would like to mention?

Thank you for your time.

BPI Only:

Please describe what you or your company does with respect to NYSERDA's HPwES program?

Are there other similar other programs or projects for which BPI acts in similar capacity?

IF YES: Thinking of all these programs and projects including NYSERDA's HPwES program, what percentage of the projects are from the HPwES program and what percentage are from the other programs?

On what percentage of HPwES programs do you perform QA checks or reviews? How do you choose which projects you are going to check? What percentage of the reviewed projects result in the identification of major issues that require corrective actions for the contractor?

On what percentage of other similar programs do you perform QA checks or reviews? How do you choose which projects you are going to check? What percentage of these reviewed projects result in the identification of major issues that require corrective actions for the contractor?

On about what percentage of HPwES projects do you have to get involved because of disputes between the contractor and the homeowner? Do you always involve Honeywell, the HPwES QA contractor, in this process? Why / Why not?

What are your procedures for handling contractors who have inadequate or sub-standard performance?

How often do you see HPwES contractors who have of inadequate or sub-standard performance? How often do you have to de-certify a HPwES contractor because of inadequate or sub-standard performance?

Are there any differences in the types of contractors who work in the HPwES program and those who work for the other similar programs? IF YES: What are these differences and what is the reason for the differences?

Are there any differences in the types of work done by contractors for the HPwES program and the work they do for the other similar programs? IF YES: What are these differences and what is the reason for the differences?

Do you have any other comments or observations regarding the HPwES program?

Thank you for your time

Section 2

SURVEY INSTRUMENTS

2.1 HPWES CONTRACTOR SURVEY

SECTION I: INTRODUCTION AND SCREENING

Hello, my name is _____ and I am calling from _____ on behalf of New York State Energy Research and Development Authority. May I please speak with **[Contact Name]**?

[IF NECESSARY: I would like to speak with the person who is most knowledgeable about the Home Performance with ENERGY STAR Program.]

[READ IF SEPTSURVEY=1: We understand your firm recently completed another one of our surveys about NYSERDA's Home Performance with ENERGY STAR program. We are grateful for your input to that study and are hoping you will be able to provide some additional feedback about your experience with the program.]

[READ IF SEPTSURVEY =2: We are interviewing contractors who work with the Home Performance with ENERGY STAR program in New York to learn about their experience with the program.]

We want to assure you that this interview is confidential to the extent permitted by law. We will report all responses in aggregate and will not attribute any comments to you.

- S1. First, my records indicate that you currently serve as a participating contractor in NYSERDA's Home Performance with ENERGY STAR program. Is this correct?
- 01 YES **[GO TO S3]**
- 02 NO **[THANK AND TERMINATE]**
- 96 REFUSED
- 97 DON'T KNOW

S2. Is there someone else who would know about your company’s participation in NYSERDA’s Home Performance with ENERGY STAR program?

- 01 YES [ASK FOR NAME: _____ AND TELEPHONE #: _____]
[THANK AND TERMINATE. SCHEDULE INTERVIEW WITH BEST CONTACT.]
- 02 NO [THANK AND TERMINATE]
- 96 REFUSED [THANK AND TERMINATE]

S3. Are you the person at your company who is most knowledgeable about your experience with the Home Performance with ENERGY STAR program?

- 01 YES
- 02 NO [READ: We would like to talk to the person who is the most knowledgeable about your experience with the Home Performance Program. Could you give me the name and telephone number of this person?] [ASK FOR NAME: _____ AND TELEPHONE #: _____] [THANK AND TERMINATE. SCHEDULE INTERVIEW WITH BEST CONTACT.]
- 96 REFUSED [THANK AND TERMINATE]

S4. This survey will take approximately **15** minutes to complete. Is now a good time for us to speak?

- 01 YES – AVAILABLE NOW
- 02 NO – NOT AVAILABLE [ARRANGE CALLBACK]
- 96 REFUSED [THANK AND TERMINATE]

SECTION II: BACKGROUND, CONTRACTOR MOTIVATIONS AND BARRIERS

B1. How long has your company been in operation?

- 01 [RECORD NUMBER OF YEARS AND NUMBER OF MONTHS]
- 96 REFUSED
- 97 DON’T KNOW

B2. About what percentage of your revenue in 2010 came from the NSYERDA Home Performance with ENERGY STAR program? [IF NECESSARY: We’re looking for the percent of revenue from the program out of ALL revenue. ALL revenue includes jobs done inside and outside the program.]

- 01 [RECORD PERCENT [ACCEPT 1-100]]

- 94 NONE
- 96 REFUSED
- 97 DON'T KNOW

B3. About what percentage of your revenue has come from the NYSERDA Home Performance with ENERGY STAR program so far in 2011?

01 **[RECORD PERCENT [ACCEPT 1-100]]**

- 94 NONE
- 96 REFUSED
- 97 DON'T KNOW

B4. How familiar are you with the recent changes to how measures qualify to be implemented through the Home Performance with ENERGY STAR program? Specifically, we are referring to the change from using the savings-to-investment ratio to using the total resource cost test. Please give your response using a scale from 1 to 5, where 1 is not at all familiar and 5 is extremely familiar.

[DO NOT READ]

01 NOT AT ALL FAMILIAR **[GO TO B6]**

02

03

04

05 EXTREMELY FAMILIAR

96 REFUSED **[GO TO B6]**

97 DON'T KNOW **[GO TO B6]**

B5. Would you say this change will . . . **[READ LIST]**

01 increase the number of projects,

02 decrease the number of projects, or

03 have no impact on the number of projects you complete through the program?

96 REFUSED

97 DON'T KNOW

- B6. How did you first learn about the free or reduced-cost audits that are offered to qualifying customers by the Home Performance with ENERGY STAR program? **[DO NOT READ, RECORD ONE RESPONSE]**
- 01 NYSERDA OR CSG STAFF OR PROGRAM MANAGER
 - 02 WEBINAR
 - 03 NYSERDA WEBSITE
 - 04 INTERNET (NYSERDA BANNER AD)
 - 05 INTERNET (GENERAL – SOMETHING ELSE)
 - 06 RADIO AD
 - 07 TV AD
 - 08 NEWSPAPER AD OR STORY
 - 09 ANOTHER HPWES CONTRACTOR
 - 10 A CUSTOMER
 - 11 WORD OF MOUTH
 - 12 E-MAIL (SENDER NOT SPECIFIED)
 - 13 PRESENTATIONS/TRADE SHOWS
 - 95 OTHER (SPECIFY): _____ **[RECORD VERBATIM]**
 - 96 REFUSED
 - 97 DON'T KNOW
- B7. How familiar would you say you are with the financing that is available through the Home Performance with ENERGY STAR Program for installation of measures recommended in the audit? Please give your response using a scale from 1 to 5, where 1 is not at all familiar and 5 is extremely familiar. **[DO NOT READ]**
- 01 NOT AT ALL FAMILIAR **[GO TO B9]**
 - 02
 - 03
 - 04
 - 05 EXTREMELY FAMILIAR
 - 96 REFUSED **[GO TO B9]**
 - 97 DON'T KNOW **[GO TO B9]**

- B8. How did you first learn about the financing options? **[DO NOT READ, RECORD ONE RESPONSE]**
- 01 NYSERDA OR CSG STAFF OR PROGRAM MANAGER
 - 02 WEBINAR
 - 03 NYSERDA WEBSITE
 - 04 INTERNET (NYSERDA BANNER AD)
 - 05 INTERNET (GENERAL – SOMETHING ELSE)
 - 06 RADIO AD
 - 07 TV AD
 - 08 NEWSPAPER AD OR STORY
 - 09 ANOTHER HPWES CONTRACTOR
 - 10 A CUSTOMER
 - 11 WORD OF MOUTH
 - 12 E-MAIL (SENDER NOT SPECIFIED)
 - 95 OTHER (SPECIFY): _____ **[RECORD VERBATIM]**
 - 96 REFUSED
 - 97 DON'T KNOW
- B9. Was the information you received about the **financing** options sufficient for you to be comfortable discussing the program with customers?
- 01 YES **[GO TO NEXT SECTION]**
 - 02 NO
 - 96 REFUSED **[GO TO NEXT SECTION]**
 - 97 DON'T KNOW **[GO TO NEXT SECTION]**
- B10. How helpful would each of the following be to help you become more comfortable discussing financing options with customers? Please use a scale from 1 to 5, where 1 is 'not at all helpful' and 5 is 'extremely helpful.'**[READ AND RECORD A RESPONSE FOR EACH ITEM]**
If NYSERDA were to [INSERT ITEM], how helpful would this be?
- a. Host a seminar/webinar
 - b. Walk through the changes over the phone or in person
 - c. Provide additional information in some other way
- 01 NOT AT ALL HELPFUL
 - 02
 - 03
 - 04
 - 05 EXTREMELY HELPFUL
 - 96 REFUSED

97 DON'T KNOW

SECTION III: MARKET AWARENESS AND MARKETING

M1. Do you engage in any marketing activities to attract potential customers to the Home Performance with ENERGY STAR program?

01 YES

02 NO [GO TO M5]

96 REFUSED [GO TO INSTRUCTIONS BEFORE M6]

97 DON'T KNOW [GO TO INSTRUCTIONS BEFORE M6]

M2. What marketing activities do you engage in? [**DO NOT READ, ACCEPT MULTIPLE RESPONSES**]

01 NYSERDA WEBSITE

02 INTERNET ADVERTISING/COMPANY WEBSITE

03 RADIO ADVERTISING

04 TV ADVERTISING

05 NEWSPAPER ADVERTISING

06 WORD OF MOUTH

07 PARTNERSHIPS WITH CBO – CONSTITUENCY BASED ORGANIZATION

08 HOME SHOWS

09 DIRECT MAIL

10 E-MAIL LISTS (BLASTS)/DIRECT E-MAIL

11 YELLOW PAGES

12 ADS ON COMPANY VEHICLES

13 BILLBOARDS

14 PRESENTATIONS/TRADE SHOWS/BAG STUFFERS

15 PHONE ON HOLD MESSAGE / BUSINESS CARDS

95 OTHER (SPECIFY): _____ [**RECORD VERBATIM**]

96 REFUSED

97 DON'T KNOW

M3. Has the addition of the free or reduced-cost audits and Green Jobs Green New York financing to the Home Performance with ENERGY STAR program changed the way you market the program or how you attract customers?

01 YES

- 02 NO **[GO TO INSTRUCTIONS BEFORE M6]**
- 96 REFUSED **[GO TO INSTRUCTIONS BEFORE M6]**
- 97 DON'T KNOW **[GO TO INSTRUCTIONS BEFORE M6]**

M4. How have your efforts changed?

- 01 **[RECORD VERBATIM]**
- 02 WE PROMOTE THE FREE AUDITS
- 03 WE PROMOTE THE FINANCING OPTIONS
- 04 WE INCREASED MARKETING
- 05 WE RECEIVE MORE LEADS THROUGH THE PROGRAM
- 06 FREE AUDITS REQUIRE ATTRACTING MORE SPECIFIC CLIENTS
- 07 CHANGES HAVE CREATED A DISINCENTIVE FOR CUSTOMERS
- 08 DECREASED OUR OWN MARKETING
- 09 CREATED MORE COMPLICATIONS/PAPER WORK
- 95 OTHER (SPECIFY): _____ **[RECORD VERBATIM]**
- 96 REFUSED
- 97 DON'T KNOW

M5. **[ASK M5 IF M1 = 02]** How do you generate leads or attract customers?

- 01 **[RECORD VERBATIM]**
- 02 NYSERDA WEBSITE
- 03 CUSTOMER REFERRALS/WORD OF MOUTH
- 04 THE UTILITY COMPANY
- 96 REFUSED
- 97 DON'T KNOW

Now I would like to ask you about NYSERDA's marketing activities for the Home Performance with Energy Star Program.

- M6. Using a scale of 1 to 5, where 1 is "not at all satisfied" and 5 is "extremely satisfied," how satisfied are you with NYSERDA's marketing activities for the Home Performance with ENERGY STAR program? **[DO NOT READ]**
- 01 NOT AT ALL SATISFIED
 - 02
 - 03
 - 04
 - 05 EXTREMELY SATISFIED
- 96 REFUSED
- 97 DON'T KNOW
- M7. Based on your experience, how aware are customers in your service area about **non-NYSERDA** energy efficiency programs? That is, those that are **offered by their local electric and gas utilities**? Please use a scale from 1 to 5, where 1 is 'not at all aware' and 5 is 'extremely aware'. **[DO NOT READ]**
- 01 NOT AT ALL AWARE
 - 02
 - 03
 - 04
 - 05 EXTREMELY AWARE
- 96 REFUSED
- 97 DON'T KNOW

SECTION IV: PERCEPTIONS OF CUSTOMERS

Now I'd like to talk about your customers' views about the Home Performance with Energy Star program.

- P1. Based on your experience, what do you think is the **ONE** primary motivation for customers to have an **audit** completed through the Home Performance with ENERGY STAR program? **[DO NOT READ, ACCEPT ONE RESPONSE]**
- 01 TO SAVE ON ENERGY COSTS/BILLS
 - 02 THEY WERE CONSIDERING INSTALLING ENERGY EFFICIENT MEASURES ANYWAY

- 03 TO FIND OUT HOW ENERGY EFFICIENT THEIR HOME IS/TO GET THEIR HOME EVALUATED
 - 04 TO GET AN EXPERT’S ADVICE ABOUT WHAT ENERGY EFFICIENCY MEASURES TO INSTALL/HOW TO MAKE THEIR HOME MORE ENERGY EFFICIENT
 - 05 TO SAVE ENERGY—NOT FURTHER SPECIFIED WHETHER FOR COST, ENVIRONMENT
 - 06 TO HELP THE ENVIRONMENT
 - 07 TO REPLACE BROKEN OR MALFUNCTIONING EQUIPMENT
 - 08 BECAUSE IT IS FREE/REDUCED COST
 - 09 QUALIFY FOR INCENTIVES / REBATES
 - 10 INCREASED COMFORT OF HOME
 - 95 OTHER (SPECIFY): _____ **[RECORD VERBATIM]**
 - 96 REFUSED
 - 97 DON’T KNOW
- P2. In your opinion, what is the **ONE** most important barrier that prevents customers from participating in the free or reduced-cost audits offered by the program? **[DO NOT READ, ACCEPT ONE RESPONSE]**
- 01 NOT ENOUGH MONEY AVAILABLE/LACK OF BUDGET
 - 02 LACK OF TIME
 - 03 THE HASSLE OF SCHEDULING, PAPERWORK, PROGRAM COMPLEXITY, ETC.
 - 04 WAITING FOR OLD EQUIPMENT TO BREAK/WEAR OUT
 - 05 GATHERING ENERGY USE DATA
 - 06 LACK OF KNOWLEDGE/AWARENESS
 - 07 NOT WANTING TO FEEL OBLIGATED TO INSTALL MEASURES
 - 08 NOT EXPECTING TO QUALIFY/CHANGES IN PROGRAM REQUIREMENTS
 - 09 SKEPTICAL OF FREE SERVICE
 - 10 INCOME QUESTIONS ARE TOO INTRUSIVE
 - 11 LACK OF BENEFITS AFTER THE AUDIT

- 94 NONE
- 95 OTHER (SPECIFY): _____ [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW
- P3. Based on your experience, what do you think is the **ONE** primary motivation for customers to **implement or install measures** through the Home Performance with ENERGY STAR program after receiving audit reports? [DO NOT READ, ACCEPT ONE RESPONSE]
- 01 TO SAVE ON ENERGY COSTS/BILLS
- 02 THEY WERE CONSIDERING INSTALLING ENERGY EFFICIENT MEASURES ANYWAY
- 03 TO FIND OUT HOW ENERGY EFFICIENT THEIR HOME IS/TO GET THEIR HOME EVALUATED
- 04 TO GET AN EXPERT'S ADVICE ABOUT WHAT ENERGY EFFICIENCY MEASURES TO INSTALL/HOW TO MAKE HOME MORE ENERGY EFFICIENT
- 05 TO SAVE ENERGY—NOT FURTHER SPECIFIED WHETHER FOR COST, ENVIRONMENT
- 06 TO HELP THE ENVIRONMENT
- 07 TO REPLACE BROKEN OR MALFUNCTIONING EQUIPMENT
- 08 APPEAL OF INCENTIVES, REBATES OR LOW INTEREST FINANCING
- 09 PAYBACK (YEARS)
- 10 NONE. CUSTOMERS WANT THE FREE AUDIT AND THEN THEY ARE GONE
- 11 QUALITY OF THE SALESMAN AND AUDIT
- 95 OTHER (SPECIFY): _____ [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW
- P4. After customers receive their audit reports, what is the **ONE** most important **barrier** that prevents customers from implementing or installing measures through the Home Performance with ENERGY STAR program? [DO NOT READ, ACCEPT ONE RESPONSE]
- 01 NOT ENOUGH MONEY AVAILABLE/LACK OF BUDGET
- 02 LACK OF TIME

- 03 THE HASSLE OF SCHEDULING, ETC.
- 04 WAITING FOR OLD EQUIPMENT TO BREAK/WEAR OUT
- 05 GATHERING ENERGY USE DATA
- 06 NOT RECEIVING MEANINGFUL INFORMATION FROM AUDIT/NOT UNDERSTANDING AUDIT REPORT
- 07 NOT QUALIFYING/CHANGES IN PROGRAM REQUIREMENTS/SAVINGS TO INVESTMENT RATIO
- 08 HEALTH AND SAFETY THING HAS TO BE FIXED BEFORE IMPLEMENTING MEASURES.
- 09 THEY FEEL THEY CAN DO BETTER GOING ON THEIR OWN AND SHOPPING FOR INDIVIDUAL SAVINGS.
- 95 OTHER (SPECIFY): _____ **[RECORD VERBATIM]**
- 96 REFUSED
- 97 DON'T KNOW

- P5. Do you think the introduction of **free or reduced-cost audits** has led to an increase in the **installation of energy efficiency measures** through the Home Performance with ENERGY STAR program?
- 01 YES **[GO TO NEXT SECTION]**
- 02 NO
- 96 REFUSED **[GO TO NEXT SECTION]**
- 97 DON'T KNOW **[GO TO NEXT SECTION]**

- P6. Why not?
- 01 **[RECORD VERBATIM]**
- 02 COMPANY ALREADY OFFERED FREE AUDITS
- 03 CUSTOMERS GETTING AUDITS DO NOT HAVE ENOUGH MONEY TO PAY FOR INSTALLATIONS/ECONOMIC CONDITION
- 04 CUSTOMERS GET AUDIT JUST BECAUSE IT IS FREE OR OUT OF CURIOSITY BUT AREN'T INTERESTED IN INSTALLING MEASURES
- 05 PROGRAM IS COMPLICATED/REQUIREMENTS ARE TOO BURDENSOME

- 06 THERE ARE TOO MANY CONTRACTORS OUT THERE SIMPLY JUST TO DO
THE FREE AUDITS AND GET THE \$200 AND ARE NOT INTERESTED IN DOING
THE OTHER MEASURES.
- 07 I DON'T THINK IT'S ATTRACTING NEW CUSTOMERS. I THINK THE NEW
CUSTOMERS ARE COMING FROM US, THE CONTRACTORS, BECAUSE WE'RE
ALREADY DOING THE MARKETING.
- 08 MEASURES NOT COST EFFECTIVE / PEOPLE EXPECT HIGHER INCENTIVES
- 96 REFUSED
- 97 DON'T KNOW

SECTION V: FINANCING

- F1. Some customers who complete an audit through the Home Performance with ENERGY STAR program may choose to implement some or all of the recommended measures using rebates from their local electric or gas utility. I'm going to read you a list of measures. For each measure, please indicate whether or not customers are likely to seek a utility rebate for this type of equipment. **[READ AND RECORD A RESPONSE FOR EACH ITEM]**
Are customers likely to seek a utility rebate for...**[INSERT ITEM]**?

- a. Air sealing
- b. Insulation
- c. Energy efficient windows
- d. Energy efficient doors
- e. Energy efficient heating equipment
- f. Energy efficient cooling equipment

- 01 YES, LIKELY TO SEEK UTILITY REBATE
- 02 NO, UNLIKELY TO SEEK UTILITY REBATE
- 96 REFUSED
- 97 DON'T KNOW

F2. **[ASK F2 IF F1 = 01 FOR AT LEAST ONE OF a-f]** Why are customers likely to seek rebates from their local utilities for the measures you indicated? Please tell me which of the following reasons apply. **[READ AND RECORD A RESPONSE FOR EACH ITEM]**
 Is it ...**[INSERT ITEM]**

- a. Because the rebates are higher/MORE SAVINGS
- b. Because the rebates can be combined with Home Performance with ENERGY STAR rebates (double dipping)
- c. Because of utility marketing
- d. Because you, the contractor, recommend the rebates
- e. Because of some other reason I did not mention (Specify):
 _____**[RECORD VERBATIM]**
- f. BECAUSE THE REBATES ARE BETTER/EASIER TO OBTAIN/MORE CONVENIENT

01 YES, THIS IS A REASON

02 NO, NOT A REASON

96 REFUSED

97 DON'T KNOW

F3. During which of the following times do you typically provide customers with information on available financing options for the installation of measures through the program? **[READ LIST, ACCEPT MULTIPLE RESPONSES]**

01 At the time of first call

02 At the time of home visit **[IF NECESSARY: before the audit]**

03 At the time of the audit

04 With the audit report

95 Some other time I have not mentioned? (Specify): _____**[RECORD VERBATIM]**

94 NEVER PROVIDE CUSTOMERS WITH INFORMATION ON AVAILABLE FINANCING **[GO TO INSTRUCTIONS BEFORE F7]**

96 REFUSED

97 DON'T KNOW

F4. Do you screen or pre-qualify customers for financing?

01 YES

02 NO

96 REFUSED

97 DON'T KNOW

F5. Do you provide recommendations to your customers on how to finance the installation of measures?

01 YES

02 NO [GO TO INSTRUCTIONS BEFORE F7]

96 REFUSED [GO TO F8]

97 DON'T KNOW [GO TO F8]

F6. Which of the following financing options do you recommend to customers? **[READ AND RECORD A RESPONSE TO EACH ITEM]** Do you recommend...**[INSERT ITEM]**?

a. Energy Smart Loans

b. Green Jobs-Green New York financing

c. Third-party financing that the customers find on their own

d. Some other financing that you offered or directed them to

e. Some other option I did not mention (Specify):_____ **[RECORD VERBATIM]**

f. ASSISTED HOME PERFORMANCE

01 YES, RECOMMEND THIS OPTION

02 NO, DON'T RECOMMEND THIS OPTION

96 REFUSED

97 DON'T KNOW

F7. **[ASK F7 IF F3 = 94 OR F5 = 02]** Why do you not provide any advice or direction to customers on financing the installation of the measures?

01 **[RECORD VERBATIM]**

96 REFUSED

- 97 DON'T KNOW

- F8. Thinking now of your program customers who have taken the Green Jobs-Green New York financing, I'd like you to consider the action that these customers might have taken had this low-interest financing not been available. Which of the following do you think the customers would have been most likely to do? Please select one. **[READ LIST]**
- 01 Customers would not have installed any of the measures
- 02 Customers would have installed fewer measures (downsized projects)
- 03 Customers would have installed the same number of measures
- 04 MAY HAVE INSTALLED MORE MEASURES WITH ALT FINANCING. GJGNY IS RESTRICTIVE
- 95 Or some other option I did not mention (Specify):_____ **[RECORD VERBATIM]**
- 94 VOLUNTEERED: NO CUSTOMERS HAVE TAKEN GJGNY FINANCING
- 96 REFUSED
- 97 DON'T KNOW

SECTION VI: Training and Employment

I'd like to ask you a few questions about training that helped prepare you for work with the Home Performance with ENERGY STAR program.

- T1. In addition to BPI certification, what other certifications are absolutely essential for your employees to have? **[DO NOT READ, ACCEPT MULTIPLE]**
- 01 ENERGY STAR CERTIFIED
- 02 HOUSING AND URBAN DEVELOPMENT (HUD)
- 03 EPA RENOVATION, REPAIR, AND PAINTING (RRP) RENOVATOR
- 04 LEED ACCREDITED
- 05 OSHA
- 06 HERS (HOME ENERGY RATING SYSTEM RATER)
- 07 EQUIPMENT VENDOR OR MANUFACTURER CERTIFICATIONS
- 08 NATE CERTIFICATION
- 09 LEAD SAFETY
- 10 MOLD CERTIFICATION
- 11 RESENET CERTIFICATION
- 12 ASBESTOS
- 13 REFRIGERANT / EPA 608

- 14 HVAC CERTIFICATION
- 15 ASHRAE
- 16 NAHB
- 17 AIR SEALING TRAINING
- 18 THERMAL IMAGING
- 94 NONE
- 95 OTHER (SPECIFY): _____ **[RECORD VERBATIM]**
- 96 REFUSED
- 97 DON'T KNOW

T2. I'm going to read a list of energy efficiency-related training programs and services. For each one, please tell me how valuable it would be for you to send your employees to that type of training. Please give a response on a scale of 1 to 5, where 5 is "extremely valuable" and 1 is "of no value at all." **[READ AND RECORD A RESPONSE FOR EACH ITEM]**

How valuable would **[INSERT ITEM]** be?

- a. Work readiness skills training – **[IF NECESSARY READ]**: including workplace preparation, teamwork, problem solving, time management, conflict resolution and basic education]
- b. Vocational and Technical Skills Training – **[IF NECESSARY READ]**: with a specific vocational objective]
- c. Field Training – including support for HVAC, plumbing, electricians, etc.
- d. Sector-Based Training – such as building science and "whole-house approach" training
- e. Advanced Technical Training including training in system design, and diagnostics – **[IF NECESSARY READ]**: including lighting design and retrofits, heat pumps, steam and hot water system diagnostics, temperature control systems, energy management systems, indoor air quality and ventilation, high efficiency smart appliances, advanced insulation and air sealing techniques, commercial cooling systems]
- f. Training to Address Certification and Accreditation Needs – **[IF NECESSARY READ]**: including BPI, HERS, CEM]
- g. Internships and Apprenticeship Programs – **[IF NECESSARY READ]**: intended to link academic and work experience]
- h. Professional Development and Continuing Education Programs
- i. Other types of training programs (Specify): _____ **[RECORD VERBATIM]**
 - 01 OF NO VALUE AT ALL
 - 02

- 03
- 04
- 05 EXTREMELY VALUABLE
- 96 REFUSED
- 97 DON'T KNOW

T3. When your company recruits new employees, how difficult is it to find enough adequately skilled applicants in your area? Please give your response using a scale of 1 to 5 where 1 is 'not at all difficult' and 5 is 'extremely difficult.'

- 01 NOT AT ALL DIFFICULT
- 02
- 03
- 04
- 05 EXTREMELY DIFFICULT

- 94 VOLUNTEERED: COMPANY HAS NO EMPLOYEES (SELF-EMPLOYED) [**GO TO NEXT SECTION**]
- 96 REFUSED
- 97 DON'T KNOW

T4. How important are the following qualifications to your company when recruiting new employees? Please give your response using a scale of 1 to 5, where 1 is Not at all important and 5 is Extremely important. [**READ AND RECORD A RESPONSE TO EACH ITEM**]
How important is...[**INSERT ITEM**]?

- a. Worker Readiness/Job Readiness Training
- b. BPI certification
- c. Residential building construction experience

- 01 NOT AT ALL IMPORTANT
- 02
- 03
- 04
- 05 EXTREMELY IMPORTANT
- 96 REFUSED
- 97 DON'T KNOW

T5. Including yourself, how many employees did your business have in October 2010 and how many employees did it have as of September 2011?

01 [RECORD NUMBERS FOR OCT 2010: _____ & SEPT 2011: _____]

96 REFUSED

97 DON'T KNOW

T6. [ASK T6 IF T5 = 01 AND NUMBER FOR SEPT 2011 > OCT 2010]: What percentage of this increase in the number of your employees, if any, do you attribute to the increased volumes of work from the Home Performance with ENERGY STAR program?

01 [RECORD PERCENT [ACCEPT 1-100]

94 NONE

96 REFUSED

97 DON'T KNOW

SECTION VII: WRAP UP

I'd like to ask you a few wrap up questions based on your experience so far with the program including the free or reduced-cost audits and the available financing.

W1. Now, I'd like you to think about your **OVERALL** experience with the Home Performance with ENERGY STAR program. How satisfied are you **overall** with the program? Please use a scale from 1 to 5, where 1 means "not at all satisfied" and 5 means "extremely satisfied".

01 NOT AT ALL SATISFIED

02

03

[GO TO W4]

04

[GO TO W4]

05 EXTREMELY SATISFIED [GO TO W4]

96 REFUSED [GO TO W4]

97 DON'T KNOW [GO TO W4]

W2. You indicated that you are dissatisfied with the program overall. What is the **one** most important reason you are **not** satisfied with the program? [PROBE FOR A SPECIFIC REASON.]

01 [RECORD VERBATIM]

02 PROGRAM IS TOO COMPLICATED, BURDEN OF
PAPERWORK/BUREAUCRACY/RED TAPE

03 SOME MEASURES NO LONGER ELIGIBLE/CHANGING OR DIFFICULT
STANDARDS FOR MEASURE QUALIFICATION/REDUCTION OF REBATES

95 OTHER (SPECIFY): _____ [RECORD VERBATIM]

- 96 REFUSED **[GO TO W4]**
- 97 DON'T KNOW **[GO TO W4]**

W3. Are there any other reasons you are not satisfied?

- 01 **[RECORD VERBATIM]**
- 02 PROGRAM IS TOO COMPLICATED, BURDEN OF PAPERWORK/BUREAUCRACY/RED TAPE
- 03 SOME MEASURES NO LONGER ELIGIBLE/CHANGING OR DIFFICULT STANDARDS FOR MEASURE QUALIFICATION/REDUCTION OF REBATES
- 95 OTHER (SPECIFY): _____ **[RECORD VERBATIM]**
- 94 NONE
- 96 REFUSED
- 97 DON'T KNOW

W4. Now I'd like to ask you about specific aspects of your experience with the Home Performance with ENERGY STAR program. Using a scale from 1 to 5, where 1 means "not at all satisfied" and 5 means "extremely satisfied". **[READ AND RECORD A RESPONSE FOR EACH ITEM]**?
How satisfied are you with...**[INSERT ITEM]**?

- a. Program application processes and procedures?
- b. Communications with program and implementation staff?
- c. Audit processes and procedures?
- d. Financing approval processes and procedures?

- 01 NOT AT ALL SATISFIED
- 02
- 03
- 04
- 05 EXTREMELY SATISFIED
- 96 REFUSED
- 97 DON'T KNOW

W5. Are there any other issues related to the Home Performance with ENERGY STAR program that we have not discussed and you would like to mention?

- 01 **[RECORD VERBATIM]**
- 02 PROGRAM IS TOO COMPLICATED, BURDEN OF PAPERWORK/BUREAUCRACY/RED TAPE
- 03 APPROVAL PROCESS IS TOO LONG FOR AUDITS AND/OR FINANCING

- 04 DISSATISFACTION WITH FREQUENCY AND QUANTITY OF PROGRAM CHANGES
- 05 COMMUNICATION NEEDS TO BE IMPROVED
- 06 DISSATISFACTION WITH NEW GUIDELINES AND MEASURES THAT ARE NO LONGER ELIGIBLE FOR THE PROGRAM
- 07 PAYMENTS FOR AUDITS ARE TOO LOW/FREE AUDITS DON'T LEAD TO INCREASE IN INSTALLATION JOBS
- 08 PROGRAM DOESN'T UNDERSTAND CONTRACTOR NEEDS/VIEWPOINT, NOT ENOUGH CONTRACTOR INPUT
- 95 OTHER (SPECIFY): _____ [RECORD VERBATIM]
- 94 NONE
- 96 REFUSED
- 97 DON'T KNOW

Thank you. Those are all the questions I have for you.

In the next few weeks you may be contacted by another interviewer conducting a survey on behalf of NYSERDA. If you are, please be assured it is a different survey and your participation in that survey is very important. We appreciate your responses today and to any future survey efforts.

2.2 NYSERDA GJGNY COMBINED PARTICIPANT SURVEY

INTRODUCTION

[THE SAMPLE FILE WILL HAVE THREE TYPES OF RESPONDENTS IN IT

- 1) THOSE WHO FULLY PARTICIPATED IN PROGRAM (CM)
- 2) THOSE WHO HAD AUDITS PERFORMED, BUT DID NOT INSTALL ANY MEASURES (AC)
- 3) THOSE WHO HAVE BEEN APPROVED FOR AN AUDIT, BUT HAVE NOT HAD ONE PERFORMED (AN)

THE VARIABLE “STATUS” WILL HAVE EITHER A 1 (FOR CM RESPONDENTS), A 2 (FOR AC RESPONDENTS), OR 3 (FOR AN RESPONDENTS)

INT1. Hello, may I please speak with [INSERT NAME]?

- 01 YES [GO TO INTRODUCTION TEXT]
- 02 NO [SAY “Perhaps you can help me anyway.” GO TO INTRODUCTION TEXT]
- 96 REFUSED [SAY “Perhaps you can help me anyway.” GO TO INTRODUCTION TEXT]
- 97 DON’T KNOW [SAY “Perhaps you can help me anyway.” GO TO INTRODUCTION TEXT]

My name is _____ and I am calling from _____ on behalf of New York State Energy Research and Development Authority, or NYSERDA, regarding your experience with the New York Home Performance with ENERGY STAR Program.

[IF STATUS = 1 READ]: We would like to learn about your experience participating in the Home Performance with ENERGY STAR Program.

[IF STATUS = 2 READ]: We would like to learn about your experience with the audit provided through the Home Performance with ENERGY STAR Program.

[IF STATUS = 3 READ]: We would like to learn about your experience applying for an audit through the Home Performance with ENERGY STAR Program

This brief interview should take between 10 and 15 minutes.

[IF INT1 ≠ 01 ASK INT2, ELSE SKIP TO INSTRUCTIONS BEFORE INT3-1]

INT2. Are you familiar with your household’s participation in this program?

- 01 YES [CONTINUE TO THE INSTRUCTIONS BEFORE INT3-1]
- 02 NO [THANK AND TRY BACK AGAIN LATER]
- 96 REFUSED [THANK AND TRY BACK AGAIN LATER]
- 97 DON’T KNOW [THANK AND TRY BACK AGAIN LATER]

[READ IF NECESSARY: We are not selling anything. We want to assure you that this interview is confidential to the extent permitted by law. We will report all responses in aggregate and will not attribute any comments to you. Your opinions are very important to us and will help NYSERDA improve this program and other services for customers.]

[ASK INT3-1 IF STATUS = 01, ELSE SKIP TO INSTRUCTIONS BEFORE INT3-2]

- 01 INT3-1. According to our records, you participated in the New York Home Performance with ENERGY STAR program. As part of your participation you received a home energy audit. After this audit you received recommendations for potential energy efficient measures to install. After receiving these recommendations you worked with a Home Performance contractor to install one or more of these measures. Is this correct? YES **[SKIP TO NEXT SECTION]**
- 02 NO **[SKIP TO INT3a]**
- 96 REFUSED **[THANK AND TERMINATE]**
- 97 DON'T KNOW **[SKIP TO INT3a]**

[ASK INT3-2 IF STATUS = 02, ELSE SKIP TO INSTRUCTIONS BEFORE INT3-3]

INT3-2. According to our records, you participated in the New York Home Performance with ENERGY STAR program. As part of your participation you received a home energy audit. After this audit you received recommendations for potential energy efficient measures to install. Is this correct? **[DO NOT READ LIST]**

- 01 YES
- 02 NO, NEVER HAD AN AUDIT **[SKIP TO INT3a]**
- 96 REFUSED **[THANK AND TERMINATE]**
- 97 DON'T KNOW **[SKIP TO INT3a]**

INT3-2a. Have you implemented any of the recommendations from the audit?

- 01 YES
- 02 NO **[SKIP TO NEXT SECTION]**
- 96 REFUSED **[THANK AND TERMINATE]**
- 97 DON'T KNOW **[SKIP TO INT3a]**

INT3-2b. Did you receive financial assistance from the Home Performance with ENERGY STAR program to implement any of the recommendations? Assistance could include special low-interest financing and/or cash incentives.

- 01 IMPLEMENTED MEASURES OUTSIDE OF THE PROGRAM (DID **NOT** RECEIVE FINANCIAL ASSISTANCE) [**SKIP TO NEXT SECTION**]
- 02 IMPLEMENTED MEASURES THROUGH THE PROGRAM (RECEIVED FINANCIAL ASSISTANCE) [**THANK AND TERMINATE**]
- 96 REFUSED [**THANK AND TERMINATE**]
- 97 DON'T KNOW [**SKIP TO INT3a**]

[ASK INT3-3 IF STATUS = 03]

INT3-3. According to our records, you were approved for a free or reduced-cost audit as part of the New York Home Performance with ENERGY STAR program. Is that correct? However, as of this time you have not yet taken advantage of the audit. Is that correct?

- 01 YES
- 02 NO [**SKIP TO INT3a**]
- 96 REFUSED [**THANK AND TERMINATE**]
- 97 DON'T KNOW [**SKIP TO INT5**]

INT3-3a. [IF INT3-3 = YES] Again, according to our records, as of this time you have not yet taken advantage of the audit. Is that correct?

- 01 YES [**SKIP TO NEXT SECTION**]
- 02 NO
- 96 REFUSED [**THANK AND TERMINATE**]
- 97 DON'T KNOW [**SKIP TO INT5**]

INT3-3b. [IF INT3-3a = NO] Since completing the audit have you implemented any of the recommendations?

- 01 YES
- 02 NO [**CODE AUDIT STATUS AS "AUDIT COMPLETED" (AC) AND SKIP TO NEXT SECTION**]
- 96 REFUSED [**THANK AND TERMINATE**]
- 97 DON'T KNOW [**SKIP TO INT5**]

INT3-3c. Did you receive financial assistance from the Home Performance with ENERGY STAR program to implement any of the recommendations? Assistance could include special low-interest financing and/or cash incentives.

- 01 IMPLEMENTED MEASURES OUTSIDE OF THE PROGRAM (DID NOT RECEIVE FINANCIAL ASSISTANCE) [**CODE AUDIT STATUS AS “AUDIT COMPLETED” (AC) AND SKIP TO NEXT SECTION**]
- 02 IMPLEMENTED MEASURES THROUGH THE PROGRAM (RECEIVED FINANCIAL ASSISTANCE) [**THANK AND TERMINATE**]
- 96 REFUSED [**THANK AND TERMINATE**]
- 97 DON'T KNOW [**SKIP TO INT3a**]

INT3a. If you participated in the program, someone would have come to your house to evaluate the energy efficiency of your home and told you about measures you could install in your home to improve its energy efficiency. Do you recall participating in the program now?

- 01 RESPONDENT NOW REMEMBERS PROGRAM [**IF STATUS = 01 AUTO-RECODE INT3-1 AS 01 AND GO TO NEXT SECTION**
IF STATUS = 02 INTERVIEWER PROBE TO DETERMINE WHETHER RESPONDENT INSTALLED ANY MEASURES AND WHETHER THEY WERE INSTALLED THROUGH THE PROGRAM OR NOT; RECODE INT3-2 AS 01/02 ACCORDINGLY AND GO TO NEXT SECTION]
- 02 RESPONDENT DOESN'T REMEMBER PROGRAM
- 96 REFUSED
- 97 DON'T KNOW

INT3b. Is there someone else in the household who would know about having participated in the Home Performance with ENERGY STAR program?

- 01 YES [**ASK TO SPEAK WITH THEM AND REPEAT INTRODUCTION AFTER INT1**]
- 02 NO [**THANK AND TERMINATE**]
- 96 REFUSED [**THANK AND TERMINATE**]
- 97 DON'T KNOW [**THANK AND TERMINATE**]

INT4. Is there someone else in the household who would know about having participated in the Home Performance with ENERGY STAR Program?

- 01 YES [**ASK TO SPEAK WITH THEM AND REPEAT INTRODUCTION AFTER INT1**]
- 02 NO [**THANK AND TERMINATE**]

96 REFUSED [**THANK AND TERMINATE**]

97 DON'T KNOW [**THANK AND TERMINATE**]

INT5. You would have had to fill out an application to receive a free or reduced-cost audit. [READ IF NECESSARY: DOES THIS HELP YOU REMEMBER THE AUDIT YOU APPLIED FOR?]

01 RESPONDENT NOW REMEMBERS PROGRAM [**AUTO-RECODE INT3-2 AS 01 AND GO TO NEXT SECTION**]

02 RESPONDENT DOESN'T REMEMBER PROGRAM

96 REFUSED

97 DON'T KNOW

INT5a. Is there someone else in the household who would know about having applied for a free or reduced-cost audit?

01 YES [**ASK TO SPEAK WITH THEM AND REPEAT INTRODUCTION AFTER INT1**]

02 NO [**THANK AND TERMINATE**]

96 REFUSED [**THANK AND TERMINATE**]

97 DON'T KNOW [**THANK AND TERMINATE**]

SECTION 1: AWARENESS OF PROGRAM AND GJGNY ELEMENTS

AW1. How did you **first** hear about the Home Performance with ENERGY STAR program? **[DO NOT READ; RECORD ONLY ONE ANSWER]**

- 01 NYSERDA WEBSITE
- 02 THE INTERNET (**NYSERDA BANNER AD**)
- 03 THE INTERNET (GENERAL – SOMETHING **BESIDES** NYSERDA BANNER AD)
- 04 RADIO AD
- 05 TV AD
- 06 NEWSPAPER AD OR STORY
- 07 CONTRACTOR
- 08 WORD OF MOUTH – NEIGHBOR, FRIEND, CO-WORKER, FAMILY MEMBER, ETC.
- 09 CBO – CONSTITUENCY BASED ORGANIZATION
- 10 HOME SHOW
- 11 LOCAL GOVERNMENT SOURCES
- 95 OTHER (SPECIFY)
- 96 REFUSED
- 97 DON'T KNOW

AW2. **[READ IF STATUS = 01 OR 02:** Before participating in the program,] Were you aware that the Home Performance Program offered free or reduced-cost audits?]

- 01 YES
- 02 NO **[SKIP TO AW4]**
- 96 REFUSED **[SKIP TO AW4]**
- 97 DON'T KNOW **[SKIP TO AW4]**

[IF AW2 = 01 ASK AW3, ELSE SKIP TO AW4]

AW3. How did you **first** learn about the free or reduced-cost audits? **[DO NOT READ; RECORD ONLY ONE ANSWER]**

- 01 NYSERDA WEBSITE
- 02 THE INTERNET (**NYSERDA BANNER AD**)
- 03 THE INTERNET (GENERAL – SOMETHING **BESIDES** NYSERDA BANNER AD)
- 04 RADIO AD
- 05 TV AD
- 06 NEWSPAPER AD OR STORY
- 07 CONTRACTOR
- 08 WORD OF MOUTH – NEIGHBOR, FRIEND, CO-WORKER, FAMILY MEMBER, ETC.
- 09 CBO – CONSTITUENCY BASED ORGANIZATION
- 10 HOME SHOW
- 11 LOCAL GOVERNMENT SOURCES
- 95 OTHER (SPECIFY)

96 REFUSED

97 DON'T KNOW

AW4. [**READ IF STATUS = 01 OR 02:** For this question please try to think back to before you participated in the program,] Were you aware that the Home Performance Program offered low interest loans to finance energy efficient measures?]

01 YES

02 NO [**IF STATUS = 03 SKIP TO NEXT SECTION**]

96 REFUSED [**SKIP TO NEXT SECTION**]

97 DON'T KNOW [**SKIP TO NEXT SECTION**]

AW4a. [**READ IF STATUS = 01 OR 02 AND AW4 = NO**] Before today, were you aware that the Home Performance Program offered low interest loans to finance energy efficient measures?]

01 YES

02 NO [**SKIP TO NEXT SECTION**]

96 REFUSED [**SKIP TO NEXT SECTION**]

97 DON'T KNOW [**SKIP TO NEXT SECTION**]

AW5. How did you **first** learn about these low-interest loans? [**DO NOT READ; RECORD ONLY ONE ANSWER**]

01 NYSERDA WEBSITE

02 THE INTERNET (**NYSERDA BANNER AD**)

03 THE INTERNET (GENERAL – SOMETHING **BESIDES** NYSERDA BANNER AD)

04 RADIO AD

05 TV AD

06 NEWSPAPER AD OR STORY

07 CONTRACTOR

08 WORD OF MOUTH – NEIGHBOR, FRIEND, CO-WORKER, FAMILY MEMBER, ETC.

09 CBO – CONSTITUENCY BASED ORGANIZATION

10 HOME SHOW

11 LOCAL GOVERNMENT SOURCES

95 OTHER (SPECIFY)

96 REFUSED

97 DON'T KNOW

SECTION 2: PARTICIPATION MOTIVATION AND BARRIERS

Now I'd like to talk about when you decided to participate in the Home Performance with ENERGY STAR Program.

[ASK PM1 ONLY IF STATUS = 01 OR 02]

PM1. Please think back to when you first decided to schedule an audit and participate in the program. Why did you choose to participate at that time, as opposed to participating at an earlier or later date? **[DO NOT READ. PROBE FOR SPECIFIC REASONS. ACCEPT MULTIPLE RESPONSES.]**

- 01. HAD JUST HEARD ABOUT THE PROGRAM
- 02. WAS CONCERNED ABOUT HEATING COSTS IN THE WINTER
- 03. WAS CONCERNED ABOUT COOLING COSTS IN THE SUMMER
- 04 MY ENERGY BILLS WERE INCREASING
- 05 I DIDN'T HAVE THE MONEY BEFORE
- 06 CONTRACTOR'S SUGGESTION / ADVICE
- 07 WORD OF MOUTH – MY NEIGHBOR/FRIENDLY/FAMILY WAS DOING IT
- 08 BROKEN EQUIPMENT (REPAIR OR REPLACE)
- 95 OTHER (SPECIFY)
- 96 REFUSED
- 97 DON'T KNOW

PM2. **[READ IF STATUS = 03:** Please think back to when you decided to apply for a free or reduced-cost audit.] What was the **ONE** most important reason you were interested in having your home evaluated by a Home Performance auditor?

- 01 TO SAVE ON ENERGY COSTS/BILLS
- 02 I WAS THINKING ABOUT/PLANNING TO INSTALL ENERGY EFFICIENT MEASURES ANYWAY
- 03 TO FIND OUT HOW ENERGY EFFICIENT MY HOME WAS/TO GET MY HOME EVALUATED
- 04 TO GET AN EXPERT'S ADVICE ABOUT WHAT ENERGY EFFICIENCY MEASURES TO INSTALL/HOW TO MAKE HOME MORE ENERGY EFFICIENT

- 05 TO SAVE ENERGY—NOT FURTHER SPECIFIED WHETHER FOR COST,
ENVIRONMENT
- 06 TO HELP THE ENVIRONMENT
- 07 BROKEN OR FAILING EQUIPMENT - REPAIR OR REPLACEMENT
- 95 OTHER (SPECIFY)
- 96 REFUSED
- 97 DON'T KNOW

[IF PM2 ≠ 96/97 ASK PM3, ELSE SKIP TO INSTRUCTIONS BEFORE PM4]

PM3. Were there any other reasons in addition to the one you just mentioned? **[DO NOT READ. ACCEPT MULTIPLE RESPONSES]**

- 01 TO SAVE ON ENERGY COSTS/BILLS
- 02 I WAS THINKING ABOUT/PLANNING TO INSTALL ENERGY EFFICIENT
MEASURES ANYWAY
- 03 TO FIND OUT HOW ENERGY EFFICIENT MY HOME WAS/TO GET MY HOME
EVALUATED
- 04 TO GET AN EXPERT'S ADVICE ABOUT WHAT ENERGY EFFICIENCY MEASURES
TO INSTALL/HOW TO MAKE HOME MORE ENERGY EFFICIENT
- 05 TO SAVE ENERGY—NOT FURTHER SPECIFIED WHETHER FOR COST,
ENVIRONMENT
- 06 TO HELP THE ENVIRONMENT
- 07 BROKEN OR FAILING EQUIPMENT - REPAIR OR REPLACEMENT
- 94 NO OTHER REASONS
- 95 OTHER (SPECIFY)
- 96 REFUSED
- 97 DON'T KNOW

[ASK PM4 ONLY IF STATUS = 01/02, ELSE SKIP TO INSTRUCTIONS BEFORE PM5b]

PM4. Again, please think back to when you first decided to schedule an audit. Were there any barriers or obstacles that you had to overcome in order to participate in the program?

- 01 YES
- 02 NO **[SKIP TO NEXT SECTION]**
- 96 REFUSED **[SKIP TO NEXT SECTION]**
- 97 DON'T KNOW **[SKIP TO NEXT SECTION]**

PM5a. What was the **one** most important barrier or obstacle that you had to overcome in order to participate?

- 01 NOT ENOUGH MONEY AVAILABLE/DIDN'T FIT INTO BUDGET
- 02 DIDN'T HAVE TIME TO PARTICIPATE
- 03 THE HASSLE OF SCHEDULING, ETC.
- 04 WAITING FOR OLD EQUIPMENT TO BREAK/WEAR OUT
- 05 GATHERING ENERGY USE DATA FOR APPLICATION

- 95 OTHER (SPECIFY)

- 96 REFUSED [**SKIP TO NEXT SECTION**]
- 97 DON'T KNOW [**SKIP TO NEXT SECTION**]

[ASK PM5b IF STATUS = 03, ELSE SKIP TO INSTRUCTIONS BEFORE PM6a]

PM5b. What is the **one** most important reason that you have not yet completed an energy audit?

[RECORD ONLY ONE ANSWER]

- 01 NOT ENOUGH MONEY AVAILABLE/DIDN'T FIT INTO BUDGET
- 02 DIDN'T HAVE TIME TO PARTICIPATE
- 03 THE HASSLE OF SCHEDULING, ETC.
- 04 WAITING FOR OLD EQUIPMENT TO BREAK/WEAR OUT
- 05 GATHERING ENERGY USE DATA FOR APPLICATION

- 95 OTHER (SPECIFY)

- 96 REFUSED [**SKIP TO NEXT SECTION**]
- 97 DON'T KNOW [**SKIP TO NEXT SECTION**]

[ASK PM6a IF STATUS = 01/02, ELSE SKIP TO INSTRUCTIONS BEFORE PM6b]

PM6a. Were there any other barriers or obstacles that you had overcome?

- 01 NOT ENOUGH MONEY AVAILABLE/DIDN'T FIT INTO BUDGET
- 02 DIDN'T HAVE TIME TO PARTICIPATE
- 03 THE HASSLE OF SCHEDULING, ETC.
- 04 WAITING FOR OLD EQUIPMENT TO BREAK/WEAR OUT
- 05 GATHERING ENERGY USE DATA FOR APPLICATION

- 94 NO OTHER BARRIERS

- 95 OTHER (SPECIFY)

- 96 REFUSED
- 97 DON'T KNOW

[ASK PM6b IF STATUS = 03, ELSE SKIP TO NEXT SECTION]

PM6b. Are there any other reasons? **[READ IF NECESSARY:** Are there any other reasons you haven't completed an energy audit?]

- 01 NOT ENOUGH MONEY AVAILABLE/DIDN'T FIT INTO BUDGET
- 02 DIDN'T HAVE TIME TO PARTICIPATE
- 03 THE HASSLE OF SCHEDULING, ETC.
- 04 WAITING FOR OLD EQUIPMENT TO BREAK/WEAR OUT
- 05 GATHERING ENERGY USE DATA FOR APPLICATION

- 94 NO OTHER REASONS

- 95 OTHER (SPECIFY)

- 96 REFUSED
- 97 DON'T KNOW

SECTION 3: SATISFACTION WITH PROGRAM

[ASK SP1 – SP 5 ONLY IF STATUS = 01/02] ELSE SKIP TO SP6]

SP1. Now, I'd like you to think about your OVERALL experience with the Home Performance with ENERGY STAR program up to this point – please include any services received or energy efficient measures installed. Overall, how satisfied are you with the program? Would you say you are very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, or very dissatisfied?

- 01 VERY SATISFIED **[SKIP TO INSTRUCTIONS BEFORE SP4]**
- 02 SATISFIED **[SKIP TO INSTRUCTIONS BEFORE SP4]**
- 03 NEITHER SATISFIED NOT DISSATISFIED **[SKIP TO INSTRUCTIONS BEFORE SP4]**
- 04 DISSATISFIED
- 05 VERY DISSATISFIED
- 96 REFUSED **[SKIP TO SP6]**
- 97 DON'T KNOW **[SKIP TO SP6]**

SP2. You indicated that you were **dissatisfied** with the program overall. What was the **one** most important reason you were not satisfied with the program? **[PROBE FOR SPECIFIC REASON]**

- 01 [RECORD VERBATIM]
- 96 REFUSED **[SKIP TO SP6]**
- 97 DON'T KNOW **[SKIP TO SP6]**

SP3. Were there any other reasons you were **not** satisfied?

- 01 [RECORD VERBATIM]
- 94 NO – NO OTHER REASONS
- 96 REFUSED
- 97 DON'T KNOW

[ASK SP4 IF SP1 = 01/02, ELSE SKIP TO SP6]

SP4. You indicated that you were **satisfied** with the program overall. What was the one most important reason you were satisfied with the program? **[PROBE FOR SPECIFIC REASON]**

- 01 [RECORD VERBATIM]
- 96 REFUSED **[SKIP TO INSTRUCTIONS BEFORE SP6]**
- 97 DON'T KNOW **[SKIP TO INSTRUCTIONS BEFORE SP6]**

SP5. Were there any other reasons you were **satisfied**? [**PROBE FOR SPECIFIC REASONS**]

- 01 [RECORD VERBATIM]
- 94 NO – NO OTHER REASONS
- 96 REFUSED
- 97 DON'T KNOW

SP6. [**READ IF STATUS = 01/02**: Now I'm going to ask you about specific aspects of your experience with the Home Performance with ENERGY STAR Program. For each aspect, please tell me if you were very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, or very dissatisfied.]

[**READ TO ALL**: How satisfied were you with the **application process and paperwork required to participate in the program**? Would you say you are very satisfied, satisfied, neither satisfied nor dissatisfied, dissatisfied, or very dissatisfied?

- 01 VERY SATISFIED [**SKIP TO INSTRUCTIONS BEFORE SP9**]
- 02 SATISFIED [**SKIP TO INSTRUCTIONS BEFORE SP9**]
- 03 NEITHER SATISFIED NOT DISSATISFIED [**SKIP TO INSTRUCTIONS BEFORE SP9**]
- 04 DISSATISFIED
- 05 VERY DISSATISFIED
- 96 REFUSED [**SKIP TO INSTRUCTIONS BEFORE SP9**]
- 97 DON'T KNOW [**SKIP TO INSTRUCTIONS BEFORE SP9**]

SP7. You indicated that you were **dissatisfied** with the application process and paperwork. What was the **one** most important reason you were **not** satisfied? [**PROBE FOR SPECIFIC REASON**]

- 01 [RECORD VERBATIM]
- 96 REFUSED [**SKIP TO INSTRUCTIONS BEFORE SP9**]
- 97 DON'T KNOW [**SKIP TO INSTRUCTIONS BEFORE SP9**]

SP8. Were there any other reasons you were not satisfied? [**PROBE FOR SPECIFIC REASON**]

- 01 [RECORD VERBATIM]
- 94 NO – NO OTHER REASONS
- 96 REFUSED
- 97 DON'T KNOW

[ASK SP9 ONLY IF STATUS = 01/02, ELSE SKIP TO INSTRUCTIONS BEFORE SP11]

SP9. How satisfied were you with the energy audit of your home that was done by the home performance contractor? **[READ IF NECESSARY:** This is the first time someone came to your home to look around and make recommendations about equipment to install or actions to take]

- 01 VERY SATISFIED **[SKIP TO INSTRUCTIONS BEFORE SP10]**
- 02 SATISFIED **[SKIP TO INSTRUCTIONS BEFORE SP10]**
- 03 NEITHER SATISFIED NOT DISSATISFIED **[SKIP TO INSTRUCTIONS BEFORE SP10]**
- 04 DISSATISFIED
- 05 VERY DISSATISFIED
- 96 REFUSED **[SKIP TO INSTRUCTIONS BEFORE SP10]**
- 97 DON'T KNOW **[SKIP TO INSTRUCTIONS BEFORE SP10]**

SP9a. You indicated you were dissatisfied with the audit of your home. What was the **one** most important reason you were **not** satisfied?

- 01 [RECORD VERBATIM]
- 96 REFUSED **[SKIP TO INSTRUCTIONS BEFORE SP10]**
- 97 DON'T KNOW **[SKIP TO INSTRUCTIONS BEFORE SP10]**

SP9b. Were there any other reasons you were **not** satisfied?

- 01 [RECORD VERBATIM]
- 94 NO – NO OTHER REASONS
- 96 REFUSED
- 97 DON'T KNOW

[ASK SP10 ONLY IF STATUS = 01/02, ELSE SKIP TO NEXT SECTION]

SP10. Overall, how satisfied were you with the contractor who performed the **audit**? **[READ IF NECESSARY:** This is the contractor who performed the **initial** audit, not anybody who may have installed measures in your home.]

- 01 VERY SATISFIED **[SKIP TO INSTRUCTIONS BEFORE SP11]**
- 02 SATISFIED **[SKIP TO INSTRUCTIONS BEFORE SP11]**
- 03 NEITHER SATISFIED NOT DISSATISFIED **[SKIP TO INSTRUCTIONS BEFORE SP11]**
- 04 DISSATISFIED
- 05 VERY DISSATISFIED
- 96 REFUSED **[SKIP TO INSTRUCTIONS BEFORE SP11]**
- 97 DON'T KNOW **[SKIP TO INSTRUCTIONS BEFORE SP11]**

SP10a. You indicated you were dissatisfied with the contractor who performed the audit. What was the **one** most important reason you were **not** satisfied with this contractor?

- 01 [RECORD VERBATIM]
- 96 REFUSED [SKIP TO INSTRUCTIONS BEFORE SP11]
- 97 DON'T KNOW [SKIP TO INSTRUCTIONS BEFORE SP11]

SP10b. Were there any other reasons you were dissatisfied? [PROBE FOR SPECIFIC REASONS]

- 01 [RECORD VERBATIM]
- 94 NO – NO OTHER REASONS
- 96 REFUSED
- 97 DON'T KNOW

[ASK SP11 ONLY IF STATUS = 01, ELSE SKIP TO NEXT SECTION]

SP11. How satisfied were you with the energy efficient measures you installed?

- 01 VERY SATISFIED [SKIP TO SP12]
- 02 SATISFIED [SKIP TO SP12]
- 03 NEITHER SATISFIED NOT DISSATISFIED [SKIP TO SP12]
- 04 DISSATISFIED
- 05 VERY DISSATISFIED
- 96 REFUSED [SKIP TO SP12]
- 97 DON'T KNOW [SKIP TO SP12]

SP11a. You indicated you were dissatisfied with the energy efficient measures you installed. What was the **one** most important reason you were **not** satisfied with the measures?

- 01 [RECORD VERBATIM]
- 96 REFUSED [SKIP TO SP12]
- 97 DON'T KNOW [SKIP TO SP12]

SP11b. Were there any other reasons you were dissatisfied? [PROBE FOR SPECIFIC REASONS]

- 02 [RECORD VERBATIM]
- 94 NO – NO OTHER REASONS
- 96 REFUSED
- 97 DON'T KNOW

SP12. How satisfied were you with the contractor who performed the energy efficient measures?

- 01 VERY SATISFIED [**SKIP TO NEXT SECTION**]
- 02 SATISFIED [**SKIP TO NEXT SECTION**]
- 03 NEITHER SATISFIED NOT DISSATISFIED [**SKIP TO NEXT SECTION**]
- 04 DISSATISFIED
- 05 VERY DISSATISFIED
- 96 REFUSED [**SKIP TO NEXT SECTION**]
- 97 DON'T KNOW [**SKIP TO NEXT SECTION**]

SP12a. You indicated you were dissatisfied with the contractor who performed the energy efficient measures. What was the **one** most important reason you were **not** satisfied with this contractor?

- 01 [RECORD VERBATIM]
- 96 REFUSED [**SKIP TO NEXT SECTION**]
- 97 DON'T KNOW [**SKIP TO NEXT SECTION**]

SP12b. Were there any other reasons you were dissatisfied? [**PROBE FOR SPECIFIC REASONS**]

- 01 [RECORD VERBATIM]
- 94 NO – NO OTHER REASONS
- 96 REFUSED
- 97 DON'T KNOW

SECTION 4: INSTALLATION/REASONS FOR NOT INSTALLING

[ASK IR1 IF STATUS = 01/02, ELSE SKIP TO INSTRUCTIONS BEFORE IR2]

IR1. When the contractor performed an energy audit of your home and told you about things you could do to increase your home's energy efficiency, which of the following measures were recommended to you?

Did the contractor recommend **[INSERT ITEMS a-h; ROTATE ITEMS a-g]**

- a. Air sealing?
- b. Insulation?
- c. Energy efficient windows?
- d. Energy efficient doors?
- e. ENERGY STAR qualified heating equipment?
- f. ENERGY STAR qualified cooling equipment?
- g. Structural repairs? (SPECIFY)
- h. Something else I didn't mention? (SPECIFY)
 - 01 YES
 - 02 NO
 - 96 REFUSED
 - 97 DON'T KNOW

[ASK IR2 IF STATUS = 02/03, ELSE SKIP TO INSTRUCTIONS BEFORE IR3]

IR2. **[READ IF STATUS = 02:** Did you install any of these energy efficient measures?]

[READ IF STATUS = 03: Since applying for a free or reduced-cost audit, have you installed any energy efficient measures on your own?]

- 01 YES
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

[ASK IR3 IF IR2 = 01 OR STATUS = 01, ELSE SKIP TO NEXT SECTION]

IR3. Which of these energy efficient measures did you install? Did you choose to implement or install...

[READ IN SAME ORDER AS IR1. IF STATUS = 01/02 ONLY ASK ITEMS FROM IR1a-f = 01]

- a. Air sealing?
- b. Insulation?
- c. Energy efficient windows?
- d. Energy efficient doors?
- e. ENERGY STAR qualified heating equipment?
- f. ENERGY STAR qualified cooling equipment?
- g. Structural repairs?
- h. Something else I didn't mention? (SPECIFY) **[INSERT DESCRIPTION FROM IR1h]**
 - 01 YES
 - 02 NO
 - 96 REFUSED
 - 97 DON'T KNOW

[ASK IR4 – IR7 ONLY IF STATUS = 02/03, ELSE SKIP TO INSTRUCTIONS BEFORE IR8]

[ASK IR4 IF ANY IR3a-h = 01, ELSE SKIP TO INSTRUCTIONS BEFORE IR12]

IR4. Did you receive any kind of rebates or financing to install any of these energy efficient measures?

- 01 YES
- 02 NO **[SKIP TO IR7]**
- 96 REFUSED **[SKIP TO IR7]**
- 97 DON'T KNOW **[SKIP TO IR7]**

IR5. From what source or sources did you receive these rebates or financing? **[DO NOT READ. CODE ALL THAT APPLY]**

- 01 OUTSIDE OR THIRD-PARTY FINANCING SUCH AS A HOME EQUITY OR PERSONAL LOAN
- 02 CREDIT CARDS
- 03 REBATE OR INCENTIVE FROM ELECTRIC OR GAS UTILITY
- 95 SOME OTHER SOURCE (SPECIFY)
- 96 REFUSED
- 97 DON'T KNOW

IR6. How important was receiving financing to your decision to install the particular energy efficient measures that you installed? Please use a scale from 1 to 5, where 1 means not at all important and 5 means extremely important.

- 01 NOT AT ALL IMPORTANT
- 02
- 03
- 04
- 05 EXTREMELY IMPORTANT
- 96 REFUSED
- 97 DON'T KNOW

[SKIP TO INSTRUCTIONS BEFORE IR8]

IR7. Why did you decide to purchase and install the recommended energy efficient measures without using the financing or rebates available from the Home Performance with ENERGY STAR program? **[DO NOT READ. ACCEPT MULTIPLE RESPONSES.]**

- 01 REBATES HIGHER THROUGH ANOTHER PROGRAM
- 02 BETTER FINANCING THROUGH ANOTHER PROGRAM
- 03 DID NOT QUALIFY FOR FINANCING
- 04 TOO MUCH OF A HASSLE
- 95 OTHER (SPECIFY)
- 96 REFUSED
- 97 DON'T KNOW

[ASK IR8 IF STATUS = 02, ELSE SKIP TO INSTRUCTIONS BEFORE IR9]

IR8. How influential was advice or information from the audit or installation contractor in deciding how to pay for or finance the measures you installed? Please use a scale from 1 to 5, where 1 means no influence at all, and 5 means extremely influential.

- 01 NO INFLUENCE AT ALL
- 02
- 03
- 04
- 05 EXTREMELY INFLUENTIAL
- 96 REFUSED
- 97 DON'T KNOW

[ASK IR9 IF STATUS = 01 AND ANY IR3a-h = 01, ELSE SKIP TO INSTRUCTIONS BEFORE IR11]

IR9. What was the **one** most important reason you decided to **implement** or **install** these measures?

- 01 TO SAVE ON ENERGY COSTS/BILLS
- 02 I WAS THINKING ABOUT/PLANNING TO INSTALL ENERGY EFFICIENT MEASURES ANYWAY
- 03 TO SAVE ENERGY – NOT FURTHER SPECIFIED WHETHER FOR COST OR ENVIRONMENT
- 04 TO HELP THE ENVIRONMENT
- 05 NEEDED THE NEW EQUIPMENT/MEASURES – NECESSITY/NEED
- 06 TO INCREASE COMFORT LEVEL IN HOME
- 95 OTHER (SPECIFY)
- 96 REFUSED **[SKIP TO INSTRUCTIONS BEFORE IR11]**
- 97 DON'T KNOW **[SKIP TO INSTRUCTIONS BEFORE IR11]**

IR10. Were there any other reasons? **[MARK ALL THAT APPLY]**

- 01 TO SAVE ON ENERGY COSTS/BILLS
- 02 I WAS THINKING ABOUT/PLANNING TO INSTALL ENERGY EFFICIENT MEASURES ANYWAY
- 03 TO SAVE ENERGY – NOT FURTHER SPECIFIED WHETHER FOR COST OR ENVIRONMENT
- 04 TO HELP THE ENVIRONMENT
- 05 NEEDED THE NEW EQUIPMENT/MEASURES – NECESSITY/NEED
- 06 TO INCREASE COMFORT LEVEL IN HOME
- 94 NO OTHER REASONS
- 95 OTHER (SPECIFY)
- 96 REFUSED
- 97 DON'T KNOW

[ASK IR11 IF STATUS = 01 OR IF (STATUS = 02 AND ANY IR3a-h = 01), ELSE SKIP TO INSTRUCTIONS BEFORE IR12]

IR11. Please think back to when you decided which measures to implement. How influential was advice from the contractor in deciding which measures to implement? Please use a scale of 1 to 5, where 1 means the contractor had no influence at all and 5 means the contractor was extremely influential.

- 01 NO INFLUENCE AT ALL
- 02
- 03
- 04
- 05 EXTREMELY INFLUENTIAL
- 96 REFUSED
- 97 DON'T KNOW

[ASK IR12 IF (STATUS = 01 OR 02) AND ANY IR3a-h = 02, ELSE SKIP TO INSTRUCTIONS BEFORE IR14]

IR12. What was the **one** most important reason you decided not to install **[IF ANY IR3a-h = 01 SHOW "some"; IF ALL ASKED IR3a-h = 02, SHOW "all"]** these energy efficient measures? **[DO NOT READ; PROBE FOR SPECIFIC REASONS; ACCEPT ONE RESPONSE ONLY] [DISPLAY TEXT FROM IR3a-h = 02 TO JOB RESPONDENT MEMORY IF NEEDED]**

- 01 TOO BUSY/NOT ENOUGH TIME
- 02 TOO EXPENSIVE/COST TOO MUCH
- 03 DIDN'T THINK IT WOULD SAVE ENERGY
- 04 NOT ENOUGH REBATES/INCENTIVES/FINANCING
- 05 DIDN'T THINK IT WAS NECESSARY
- 06 PLANNED TO DO IT IN THE FUTURE
- 07 NOT A PRIORITY FOR ME
- 95 OTHER (SPECIFY)
- 96 REFUSED **[SKIP TO INSTRUCTIONS BEFORE IR14]**
- 97 DON'T KNOW **[SKIP TO INSTRUCTIONS BEFORE IR14]**

IR13. Were there any other reasons? **[DO NOT READ; PROBE FOR SPECIFIC REASONS; ACCEPT MULTIPLE RESPONSES]**

- 01 TOO BUSY/NOT ENOUGH TIME
- 02 TOO EXPENSIVE/COST TOO MUCH
- 03 DIDN'T THINK IT WOULD SAVE ENERGY
- 04 NOT ENOUGH REBATES/INCENTIVES/FINANCING
- 05 DIDN'T THINK IT WAS NECESSARY
- 06 PLANNED TO DO IT IN THE FUTURE
- 07 NOT A PRIORITY FOR ME
- 94 NO OTHER REASONS

95 OTHER (SPECIFY)

96 REFUSED

97 DON'T KNOW

[ASK IR14 IF STATUS = 01, ELSE SKIP TO NEXT SECTION]

IR14. Thinking back to when you decided to install the energy efficient measures. Why did you choose to install them at that time, as opposed to waiting until a later date to install them? **[DO NOT READ;**

PROBE FOR SPECIFIC REASONS; ACCEPT MULTIPLE RESPONSES]

01 HAD JUST HAD THE AUDIT

02 WAS CONCERNED ABOUT HEATING COSTS IN THE WINTER

03 WAS CONCERNED ABOUT OLD OR INEFFICIENT HEATING EQUIPMENT

04 WAS CONCERNED ABOUT COOLING COSTS IN THE SUMMER

05 MY ENERGY BILLS WERE INCREASING

06 I DIDN'T HAVE THE MONEY BEFORE

07 TO REPLACE A BROKEN OR FAILING (MALFUNCTIONING) SYSTEM

08 TO IMPROVE HEALTH, SAFETY, OR COMFORT IN HOME

09 PROGRAM FINANCING WAS AVAILABLE

10 PROGRAM REBATES WERE AVAILABLE

95 OTHER (SPECIFY)

96 REFUSED

97 DON'T KNOW

SECTION 5: INCENTIVES (GJGNY ELEMENTS/FINANCING DECISIONS)

[SKIP SECTION 5 IF STATUS = 03]

IN1. According to our records your audit would have cost [MaxIncentiveDollars] dollars more if you had to pay the full cost of the audit. If you had to pay this additional [MaxIncentiveDollars] dollars, how likely would you have been to participate in the program? Please use a scale from 1 to 5, where 1 means not at all likely and 5 means extremely likely.

- 01 NOT AT ALL LIKELY
- 02
- 03
- 04
- 05 EXTREMELY LIKELY
- 96 REFUSED
- 97 DON'T KNOW

[ASK IN2 IF STATUS = 01 OR IF (STATUS = 02 AND ANY IR3a-h = 01), ELSE SKIP TO INSTRUCTIONS BEFORE IN3]

IN2. How important was the audit you received to your decision to install the energy efficient measures that you did? Please use a scale from 1 to 5, where 1 means not at all important, and 5 means extremely important.

- 01 NOT AT ALL IMPORTANT
- 02
- 03
- 04
- 05 EXTREMELY IMPORTANT
- 96 REFUSED
- 97 DON'T KNOW

[ASK IN3 IF STATUS = 01, ELSE SKIP TO NEXT SECTION]

IN3. According to our records you received an incentive of [RebateAmount] dollars for the measures you installed through the Home Performance program. How important was this incentive to your decision to proceed with installing the measures that were installed? Please use a scale from 1 to 5, where 1 means not at all important, and 5 means extremely important.

- 01 NOT AT ALL IMPORTANT
- 02
- 03
- 04
- 05 EXTREMELY IMPORTANT

96 REFUSED

97 DON'T KNOW

[CATI PROGRAMMING: FOR THE NEXT FEW QUESTIONS – “LoanInfo” IS A FLAG CONTAINED IN THE SAMPLE FILE. THIS FLAG WILL EITHER BE 1 (YES) OR 2 (NO) (AND BLANK IN RARE CASES). YES MEANS THAT WE HAVE EXISTING INFORMATION ON SOURCES OF LOANS FOR A RESPONDENT. IF THE FLAG = YES THERE WILL BE OTHER FLAGS GJ = Green Jobs-Green New York Financing, 3P = 3rd Party Financing, CA = Cash or out of pocket. THESE FLAGS WILL ALSO BE 1 (YES) OR 2 (NO). YES MEANS THAT A RESPONDENT USED THAT TYPE OF FINANCING. THESE FLAGS WILL BE USED TO SCREEN RESPONDENTS TO QUESTIONS AND SHOULD BE POPULATED INTO QUESTIONS WHERE SPECIFIED.]

[IF LoanInfo = 01 ASK IN4; IF LoanInfo = 02 OR IS BLANK SKIP TO INSTRUCTIONS BEFORE IN6]

IN4. According to our records you used **[IF GJ = YES INSERT “Green Jobs-Green New York Financing; IF 3P = YES INSERT “3rd Party Financing; IF CA = YES INSERT “Cash or out of pocket funds”]** to pay for the energy efficient measures you installed through the program? Is this correct?

01 YES

02 NO **[SKIP TO INSTRUCTIONS BEFORE IN6]**

96 REFUSED

97 DON'T KNOW

IN5. Did you use any other sources to pay for the energy efficient measures you installed through the program?

01 YES

02 NO

96 REFUSED

97 DON'T KNOW

IF IN4 = 01, RECORD SOURCES FROM FILE HERE AS IF RESPONDENTS ANSWERED THE QUESTION. IF IN4 = 01, DO NOT READ ANY a-f CONTAINED IN SAMPLE FILE – AS THE RESPONDENT HAS ALREADY CONFIRMED IN IN4 [E.G. IF A RESPONDENT CONFIRMS “GREEN JOBS-GREEN NEW YORK FINANCING AT IN4, DO NOT SHOW IN6a]

[IF IN4 = 02 OR IN5 = 01 ASK IN6, ELSE SKIP TO INSTRUCTIONS BEFORE IN11]

IN6. **[IF IN5 = 01 READ:** Which of the following additional sources did you use to pay for the energy efficient measures you installed through the program?] **[INSERT ITEMS a-f THAT WERE NOT CONFIRMED IN IN4; ROTATE ITEMS a-e]**

[IF IN4 = 02 OR LoanInfo = 02 OR BLANK READ: Which of the following sources did you use to pay for the energy efficient measures you installed through the program?] Did you use...

[INSERT ITEMS a-f; ROTATE ITEMS a-e]

- a. Green Jobs-Green New York Financing (through the program)?
- b. ENERGY \$mart Loans (through the program)?
- c. Outside or third-party financing such as a home equity or personal loan?
- d. Credit cards?
- e. Cash or out of pocket funds?
- f. Another source that I did not mention? (SPECIFY)
 - 01 YES
 - 02 NO
 - 96 REFUSED
 - 97 DON'T KNOW

[ASK IN7 IF IN6c = 01, ELSE SKIP TO INSTRUCTIONS BEFORE IN8]

IN7. Why did you choose to obtain financing from a third party loan provider?

- 01 [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW

[ASK IN8 IF IN6a OR IN6b = 01, ELSE SKIP TO INSTRUCTIONS BEFORE IN9]

IN8. Why did you decide to finance the installation of the energy efficient measures through the Home Performance program?

- 01 [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW

[ASK IN9 IF BOTH IN6a AND IN6b ≠ 01, ELSE SKIP TO INSTRUCTIONS BEFORE IN10]

IN9. Why did you decide **not** to finance the energy efficient measures through the Home Performance program?

- 01 [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW

[ASK IN10 IF ANY IN6a, IN6b, OR IN6c = 01, ELSE SKIP TO INSTRUCTIONS BEFORE IN11]

IN10. How important was receiving the financing to your decision to install the particular energy efficient measures that you installed? Please use a scale from 1 to 5, where 1 means not at all important and 5 means extremely important.

- 01 NOT AT ALL IMPORTANT
- 02
- 03
- 04
- 05 EXTREMELY IMPORTANT
- 96 REFUSED
- 97 DON'T KNOW

[ASK IN11 IF GJ = 01, ELSE SKIP TO IN12]

IN11. According to our records you received an incentive of **[RebateAmount]** AND you received low-interest financing through the program. How important was receiving BOTH the incentive and the financing to your decision to proceed with installing the measures that were installed? Again, use a scale from 1 to 5, where 1 means not at all important and 5 means extremely important.

- 01 NOT AT ALL IMPORTANT
- 02
- 03
- 04
- 05 EXTREMELY IMPORTANT
- 96 REFUSED
- 97 DON'T KNOW

IN12. Did you discuss how to pay or finance the measures you installed with the installation contractor or during the audit?

- 01 YES
- 02 NO **[SKIP TO NEXT SECTION]**
- 96 REFUSED **[SKIP TO NEXT SECTION]**
- 97 DON'T KNOW **[SKIP TO NEXT SECTION]**

IN13. How influential was advice or information from the audit or installation contractor in deciding how to pay for or finance the measures you installed? Please use a scale from 1 to 5, where 1 means no influence at all and 5 means extremely influential.

- 01 NO INFLUENCE AT ALL
- 02
- 03
- 04
- 05 EXTREMELY INFLUENTIAL
- 96 REFUSED
- 97 DON'T KNOW

SECTION 6: AWARENESS AND PARTICIPATION IN OTHER PROGRAMS

AP1. In addition to the Home Performance with ENERGY STAR program, are you aware of any other programs provided by NYSERDA that can help you save energy in your home?

- 01 YES
- 02 NO **[SKIP TO AP5]**
- 96 REFUSED **[SKIP TO AP5]**
- 97 DON'T KNOW **[SKIP TO AP5]**

AP2. Which other energy saving program have you heard of? **[DO NOT READ; ACCEPT MULTIPLE RESPONSES.]**

- 01 NEW YORK ENERGY STAR HOMES
- 02 ASSISTED HOME PERFORMANCE WITH ENERGY STAR
- 03 ASSISTED NEW YORK ENERGY STAR HOMES
- 04 EMPOWER NEW YORK
- 95 OTHER (SPECIFY)
- 96 REFUSED
- 97 DON'T KNOW

AP3. Have you participated in any other NYSERDA programs?

- 01 YES
- 02 NO **[SKIP TO AP5]**
- 96 REFUSED **[SKIP TO AP5]**
- 97 DON'T KNOW **[SKIP TO AP5]**

AP4. Which NYSERDA programs have you participated in? **[DO NOT READ; ACCEPT MULTIPLE RESPONSES]**

- 01 NEW YORK ENERGY STAR HOMES
- 02 ASSISTED HOME PERFORMANCE WITH ENERGY STAR
- 03 ASSISTED NEW YORK ENERGY STAR HOMES
- 04 EMPOWER NEW YORK
- 95 OTHER (SPECIFY)
- 96 REFUSED
- 97 DON'T KNOW

AP5. Are you aware of any programs to help you save energy that are offered by your electric or gas utility?

- 01 YES
- 02 NO **[SKIP TO NEXT SECTION]**
- 96 REFUSED **[SKIP TO NEXT SECTION]**
- 97 DON'T KNOW **[SKIP TO NEXT SECTION]**

AP6. Which utility energy efficiency programs are you aware of?

- 01 [RECORD VERBATIM]
- 96 REFUSED

- 97 DON'T KNOW

AP7. Have you ever participated in any utility energy efficiency programs?

- 01 YES
- 02 NO **[SKIP TO NEXT SECTION]**
- 96 REFUSED **[SKIP TO NEXT SECTION]**
- 97 DON'T KNOW **[SKIP TO NEXT SECTION]**

AP8. Which utility energy efficiency programs have you participated in?

- 01 [RECORD VERBATIM] **[RECORD EACH PROGRAM LISTED SEPARATELY TO BE USED IN AP9]**
- 96 REFUSED
- 97 DON'T KNOW

[ASK AP9 FOR EACH SEPARATE PROGRAM LISTED IN AP8]

AP9. When did you participate in these programs? Did you participate... [READ IF NECESSARY: When did you participate in **[INSERT APPLICABLE VERBATIM FROM AP8]?]** **MARK ONE RESPONSE FOR EACH PROGRAM ASKED ABOUT.**

- 01 After November 15th, 2010, that is between November 15th and now,

- 02 Between January, 2010 and November 15th, 2010,
- 03 Or before January 2010?
- 96 REFUSED
- 97 DON'T KNOW

AP10. Why did you choose to participate in these utility programs?

- 01 [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW

AP11. In addition to any rebates or incentives you received from NYSERDA's Home Performance with ENERGY STAR program, did you receive any incentives from third parties such as utilities for the measures that were installed through the Home Performance with ENERGY STAR program?

- 01 YES
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

AP12. From whom did you receive additional incentives? **[DO NOT READ. RECORD MULTIPLE RESPONSES.]**

- 01 EQUIPMENT MANUFACTURER
- 02 CONTRACTOR
- 03 ELECTRIC UTILITY
- 04 GAS UTILITY
- 05 OIL/PROPANE PROVIDER
- 95 OTHER (SPECIFY)
- 96 REFUSED
- 97 DON'T KNOW

AP13. What type of incentive did you receive? **[DO NOT READ; RECORD MULTIPLE RESPONSES.]**

- 01 CASH INCENTIVE/REBATE
- 02 DEFERRED PAYMENTS
- 03 DISCOUNT FROM CONTRACTOR
- 04 LOW-INTEREST FINANCING
- 95 OTHER (SPECIFY)
- 96 REFUSED
- 97 DON'T KNOW

SECTION 7: DEMOGRAPHICS

I have just a few final questions. These questions are asked for statistical purpose only. The information collected here is strictly confidential.

D1. Do you own or rent your home?

- 01 OWN/BUYING
- 02 RENT/LEASE
- 96 REFUSED
- 97 REFUSED

D2. What type of home do you live in? is it a... **[READ LIST]**

- 01 Single-family detached house,
- 02 Single-family attached house (like a townhouse, row house, or duplex),
- 03 Apartment building with 2-4 units,
- 04 Apartment building with 5 or more units,
- 05 Mobile home or house trailer,
- 95 Or something else? (SPECIFY)
- 96 REFUSED
- 97 DON'T KNOW

D3. When was your home built? Please stop me when I get to the appropriate category. Was it the...

- 01 1930s or earlier
- 02 1940s
- 03 1950s
- 04 1960s
- 05 1970s
- 06 1980s
- 07 1990s
- 08 Or 2000 or later?
- 96 REFUSED
- 97 DON'T KNOW

D4. Approximately how large is your home? **[READ LIST]**

- 01 Less than 1,400 square feet,
- 02 1,400 to 1,999 square feet,
- 03 2,000 to 2,499 square feet,
- 04 2,500 to 3,499 square feet,
- 05 3,500 to 3,999 square feet,
- 06 4,000 to 4,999 square feet,
- 07 Or 5,000 square feet or more

96 REFUSED

97 DON'T KNOW

D5. How many rooms are in your home, not counting bathrooms?

01 [RECORD NUMBER]

96 REFUSED

97 DON'T KNOW

D6. What is your age? [**IF RESPONDENT REFUSES, SAY:** If you prefer, I can read age ranges and you can stop me when I read the correct range.]

[DO NOT READ UNLESS RESPONDENT INITIALLY REFUSES]

01 18 TO 24

02 25 TO 34

03 35 TO 44

04 45 TO 54

05 55 TO 64

06 65 OR OVER

96 REFUSED

D7. Counting yourself, how many people normally live in this household on a full time basis? Please include everyone who lives in your home whether or not they are related to you and exclude anyone who is just visiting or children who may be away at college or in the military.

01 [RECORD NUMBER] **DO NOT ALLOW A VALUE OF 0; VALID RANGE: 1-25**

96 REFUSED

97 DON'T KNOW

[IF D7 = 01 AUTOFILL ALL D8a-G AS 0 AND GO TO D9]

D8. Excluding yourself, how many people in your household are...

[ALLOW ENTRY OF NUMBER FOR EACH a-g. INCLUDE RESPONSE OPTIONS FOR 96 AND 97] [SUM OF a-g CANNOT EXCEED NUMBER IN D1a. MUST = TO ONE LESS THAN TOTAL IN D1a. ONCE REACH MAXIMUM, AUTO-FILL "0" IN REST OF RANGES AND GO TO D3.]

[DO NOT READ]

a. 0 to 17?

- b. 18 to 24?
 - c. 25 to 34?
 - d. 35 to 44?
 - e. 45 to 54?
 - f. 55 to 64?
 - g. 65 or older?
- 01 [RECORD NUMBER]
- 96 REFUSED
- 97 DON'T KNOW

D9. Do you pay your electric bill directly to your electric company or is it paid in some other way?

[PROBE USING PRE-CODED RESPONSES IF NEEDED]

- 01 PAY DIRECTLY
- 02 INCLUDED IN RENT OR CONDO FEE
- 03 PAID FOR IN SOME OTHER WAY
- 96 REFUSED
- 97 DON'T KNOW

D10. Is English the primary language spoken in your home?

- 01 YES **[SKIP TO D12]**
- 02 NO
- 96 REFUSED **[SKIP TO D12]**
- 97 DON'T KNOW **[SKIP TO D12]**

D11. What is the primary language spoken in your home? **[PROMPT IF NECESSARY]**

- 01 ENGLISH
- 02 SPANISH
- 03 MANDARIN
- 04 CANTONESE
- 05 TAGALOG
- 06 KOREAN
- 07 VIETNAMESE
- 08 RUSSIAN
- 09 JAPANESE
- 95 OTHER (SPECIFY)
- 96 REFUSED

- 97 DON'T KNOW

- D12. Do you consider yourself to be Spanish, Hispanic, or Latino?
 - 01 YES
 - 02 NO
 - 96 REFUSED
 - 97 DON'T KNOW

- D13. Do you consider yourself to be...?
 - 01 White,
 - 02 Black or African-American,
 - 03 American Indian, Native Hawaiian, Pacific Islander, or Alaska Native,
 - 04 Asian,
 - 95 Or something else? (SPECIFY)
 - 96 REFUSED
 - 97 DON'T KNOW

- D14. What is the highest level of schooling you have completed so far? **[DO NOT READ]**
 - 01 LESS THAN NINTH GRADE
 - 02 NINTH TO TWELFTH GRADE; NO DIPLOMA
 - 03 HIGH SCHOOL GRADUATE (INCLUDES GED)
 - 04 SOME COLLEGE, NO DEGREE
 - 05 ASSOCIATES DEGREE
 - 06 BACHELORS DEGREE
 - 07 GRADUATE OR PROFESSIONAL DEGREE
 - 96 REFUSED
 - 97 DON'T KNOW

- D15. Please tell me which category best describes your total combined household income. That is the total income for all members of your household from all sources. Please stop me when I get to the right category. **[READ LIST; SELECT ONE RESPONSE]**
 - 01 Less than \$15,000
 - 02 \$15,000 to just under \$25,000
 - 03 \$25,000 to just under \$30,000
 - 04 \$30,000 to just under \$35,000
 - 05 \$35,000 to just under \$50,000
 - 06 \$50,000 to just under \$75,000

- 07 \$75,000 to just under \$100,000
- 08 \$100,000 to just under \$150,000
- 09 \$150,000 or more
- 96 REFUSED
- 97 DON'T KNOW

D16. **[DO NOT READ]** Record gender.

- 01 MALE
- 02 FEMALE

[THANK AND TERMINATE/END OF SURVEY TEXT: Those are all the questions I have for you.

Thank you for taking the time to respond to this survey.]

2.3 NYSERDA GJGNY NON-PARTICIPANT AND LOW-MODERATE INCOME SURVEY

SAMPLE INSTRUCTIONS

Sample will come from five separate sources and quotas per source are listed in the table below:

SAMPLE FLAG	REGION	GJGNY NP	LIGHTING Homeowner
1	UPSTATE A (UA)	70	34
2	UPSTATE B (UB)	70	29
3	DOWNSTATE A (DA) – Orange & Rockland	4	7
4	DOWNSTATE B (DB) – NYC & WESTCHESTER	50	70
5	DOWNSTATE C (DC) – LONG ISLAND (Suffolk/Nassau)	16	0
	TOTAL	210	140

PROGRAMMER: PUNCH FIPS CODE FOR ALL RECORDS.

SECTION I: INTRODUCTION AND SCREENING

Hello, my name is _____ and I am calling from Braun Research on behalf of New York State Energy Research and Development Authority. We are contacting residents throughout New York in order to learn more about how households use energy. We are not selling anything. I would like to speak with the person who is primarily responsible for your household's energy-related decisions. This would be the person who is responsible for paying the utility bills or making decisions about adjusting your home's thermostat or selecting new appliances. **[IF NECESSARY: We want to assure you that this interview is confidential to the extent permitted by law. We will report all responses in aggregate and will not attribute any comments to you. This survey will take approximately 15 minutes to complete.]**

S1. Would you say that..

- 01 You are primarily responsible for some or all of your household's energy related decisions
- 02 You share responsibility for your household's energy related decisions with others, or
- 03 You are not responsible for your household's energy related decisions **[ASK TO SPEAK WITH APPROPRIATE PERSON, OR ARRANGE FOR A CALL BACK TIME]**
- 96 REFUSED **[THANK AND TERMINATE]**
- 97 DON'T KNOW **[THANK AND TERMINATE]**

S2. Do you own or rent your home? **[DO NOT READ]**

- 01 OWN
- 02 RENT/LEASE **[GO TO FAILED SCREENER Qs THEN THANK AND TERMINATE]**
- 03 OWN CONDO/COOP **[QUALIFIES FOR LIGHTING ONLY]**
- 96 REFUSED **[THANK AND TERMINATE]**
- 97 DON'T KNOW **[THANK AND TERMINATE]**

S3. What type of home do you live in? Is it a...? **[READ LIST. SELECT ONE RESPONSE].**

- 01 Single-family detached house **[QUALIFIES FOR BOTH]**
- 02 Single-family attached house (townhouse, row house, or duplex) **[QUALIFIES FOR BOTH]**
- 03 Building with 2-4 units **[QUALIFIES FOR BOTH]**
- 04 Building with 5 or more units **[QUALIFIES FOR LIGHTING ONLY]**

- 05 Mobile home or house trailer, or **[QUALIFIES FOR LIGHTING ONLY]**
- 95 Something else **[QUALIFIES FOR LIGHTING ONLY]**
- 96 REFUSED **[THANK AND TERMINATE]**
- 97 DON'T KNOW **[THANK AND TERMINATE]**

S4. In the last year, have you installed at least one light fixture inside your home or outside your home? This does not mean simply having changed a light bulb. Rather it means that the fixture could either have replaced an existing fixture or been a completely new source of light, but it has to have been wired into your electrical system, not simply plugged into an outlet.

- 01 YES
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

PROGRAMMER:

- **IF S2 = 03 – GO TO BOX “S” [CAN QUALIFY FOR LIGHTING ONLY]**
- **IF S3 = 04, 05, 95 – GO TO BOX “S” [CAN QUALIFY FOR LIGHTING ONLY].**
- **IF S3 = 01, 02, 03 – CONTINUE WITH S5.**

S5. Have you ever participated in a Home Performance program offered by NYSERDA? If you participated in a NYSERDA Home Performance program you would have had a Home Performance contractor perform an energy audit of your home and you would have received recommendations for energy efficiency improvements for your home.

[IF DON'T KNOW PROMPT: you may remember the program as the Home Performance with ENERGY STAR program, the Assisted Home Performance with ENERGY STAR program, or the EmPower program.]

[IF ASKED WHAT IS NYSERDA: NYSERDA stands for the “New York State Energy Research and Development Authority.” Among other things, they provide information and programs to people to help them save energy in their homes.]

- 01 YES **[GO TO QUALIFICATION BOX S. QUALIFIES FOR LIGHTING ONLY]**
- 02 NO
- 96 REFUSED **GO TO BOX S**

97 DON'T KNOW **GO TO BOX S**

[ASK S6 AND S7 IF S5 = 02]

S6. I'm going to read a list of actions that people can take to reduce energy usage or increase energy efficiency in their home. In **the past year**, which of these actions, if any, have you taken to improve the energy efficiency of your home? **[READ EACH.]**

- a) Air sealing **[IF NECESSARY: this includes caulking windows, etc.]**
- b) Adding or upgrading insulation
- c) Installing energy efficient windows
- d) Installing energy efficient doors
- e) Installing ENERGY STAR qualified heating equipment
- f) Installing ENERGY STAR qualified cooling equipment, this includes individual air conditioners and not just central air conditioning
- g) Structural repairs (repairing an outside wall or roof)

01 YES

02 NO

96 REFUSED

97 DON'T KNOW

S7. Now, I'm going to read you the same list of actions, and I'd like you to tell me how likely or unlikely you are to take each action **in the next year** **[FOR LOW INCOME SAMPLE, ADD: if half of the cost was covered by the Home Performance with Energy Star Program]**. Please use a scale from 1 to 5, where 1 means "not at all likely" and 5 means "very likely." **[READ ITEM. RECORD NUMBER 1-5 FOR EACH ITEM a-g.] [PROGRAMMER: A RATING OF "4" OR "5" TO ANY ITEM IN S7 QUALIFIES AS "LIKELY TO TAKE ACTION".]**

- a) Air sealing **[IF NECESSARY: this includes caulking windows, etc.]**
- b) Adding or upgrading insulation
- c) Installing energy efficient windows
- d) Installing energy efficient doors
- e) Installing ENERGY STAR qualified heating equipment
- f) Installing ENERGY STAR qualified cooling equipment, this includes individual air conditioners and not just central air conditioning
- g) Structural repairs (repairing an outside wall or roof)

- 01 NOT AT ALL LIKELY
- 02
- 03
- 04
- 05 VERY LIKELY
- 96 REFUSED
- 97 DON'T KNOW

PROGRAMMER: CHECK QUALIFICATION BOX “S” ON NEXT PAGE TO DETERMINE WHICH SURVEY THE RESPONDENT WILL COMPLETE. EACH QUALIFIED RESPONDENT WILL COMPLETE EITHER GJGNY OR LIGHTING, NOT BOTH.]QUALIFICATION INSTRUCTIONS FOR SURVEY ASSIGNMENT AND BOX S:

QUESTION KEY:

S2 =HOME OWNERSHIP (ALSO DEFINES CONDO/COOP OWNERS)

S3=TYPE OF HOUSING UNIT OWNED

S4=INSTALLED LIGHTING FIXTURE PAST YEAR

S5=PARTICIPATION IN HPwES [*ONLY NONPARTICIPANTS QUALIFY GJGNY*]

S6=ENERGY REDUCING ACTIONS TAKEN PAST YEAR

S7=LIKELIHOOD OF TAKING ENERGY REDUCING ACTION IN NEXT YEAR [“4” OR “5” =*LIKELY*]

PLEASE PUNCH QUALIFICATION VARIABLES. “Box S” Codes =

- = 01 – RESPONDENT QUALIFIED FOR LIGHTING FIXTURE SURVEY ONLY
- = 02 – RESPONDENT QUALIFIED FOR GJGNY SURVEY ONLY
- = 03 – RESPONDENT QUALIFIES FOR BOTH AND WAS RANDOMLY SENT TO LIGHTING FIXTURE SURVEY
- = 04 – RESPONDENT QUALIFIES FOR BOTH AND WAS RANDOMLY SENT TO GJGNY
- = 05 – RESPONDENT QUALIFIES FOR BOTH BUT GJGNY QUOTA IS FILLED, SO THEY WENT TO LIGHTING
- = 06 – RESPONDENT QUALIFIES FOR BOTH, BUT LIGHTING QUOTA IS FILLED, SO THEY WENT TO GJGNY
- = 07 – RESPONDENT QUALIFIED FOR LIGHTING FIXTURE SURVEY ONLY BUT QUOTA FILLED
- = 08 – RESPONDENT QUALIFIED FOR GJGNY SURVEY ONLY BUT QUOTA FILLED
- = 09 – RESPONDENT NOT ELIGIBLE FOR EITHER SURVEY

NOTE: EACH OF THE FIVE REGIONS HAS ITS OWN SAMPLE, QUOTAS FOR ONE SAMPLE SOURCE (REGION) **CANNOT** BE USED TO FILL A QUOTA FOR A DIFFERENT REGION.

ASK THESE QUESTIONS FOR ALL FAILED SCREENERS, BEFORE ENDING SURVEY:

- S2 HOME OWNERSHIP (CAPTURED IN SCREENER)
- D1 RESPONDENT AGE
- D1a TOTAL NUMBER OF PEOPLE IN HH
- D2 AGES OF OTHER PEOPLE IN HH
- D11 RESPONDENT EDUCATION

THIS INFORMATION WILL BE COLLECTED AND SAVED FOR ALL FAILED SCREENERS BEFORE TERMINATING. THE DATA WILL BE USED FOR WEIGHTING PURPOSES.

CREATE A VARIABLE CALLED “box_s”, AND ASSIGN TO SURVEY AS FOLLOWS:

- **IF S2=03(CONDO) AND S4=01 - CHECK SURVEY REGION QUOTAS, IF:**
 - SAMPLE REGION 5, GO TO FAILED SCREENER, THEN TERMINATE. [Box S= 09]
 - NOT REG 5 & LIGHTING QUOTA OPEN, GO TO LIGHTING SURVEY [Box S= 01]
 - NOT REG 5 & LIGHTING QUOTA CLOSED, GO TO FAILED SCREENER, THEN QF (Quota Fill) [Box S=07]
- **IF S2=03 (CONDO) AND S4=02, 96, 97 – GO TO FAILED SCREENER, THEN TERM [Box S=09].**

IF S2=01 (OWN -UNSPECIFIED), AND:

- **S3=01, 02, 03 AND S4=01 AND S5=02 AND [S6=01 TO ANY OR S7=4 OR 5 TO ANY] – CHECK SURVEY REGION QUOTAS. IF:**
 - NOT REG 5 & BOTH QUOTAS OPEN, ASSIGN RANDOMLY. [Box S=03 or 04]
 - NOT REG 5 & ONLY LIGHTING OPEN – GO TO LIGHTING. [Box S=05]
 - NOT REG 5 & ONLY GJGNY OPEN – GO TO GJGNY. [Box S=06]
 - REG 5 & GJGNY OPEN – GO TO GJGNY. [Box S= 02]
 - REG 5 & GJGNY CLOSED – GO TO FAILED SCREENER, THEN QF. [Box S=08]
- **S3=01, 02, 03 AND S4=02, 96, 97 AND S5=02 AND [S6 =01 TO ANY OR S7 = 4 OR 5 TO ANY -] CHECK SURVEY REGION QUOTAS. IF:**
 - OPEN, GO TO GJGNY SURVEY.[Box S=02]
 - CLOSED, GO TO FAILED SCREENER, THEN QF. [Box S=08]
- **S3=01, 02, 03 AND S4=01 AND S5=01, 96, 97 – CHECK SURVEY REGION QUOTAS, IF:**
 - REG 5, GO TO FAILED SCREENER, THEN TERMINATE. [Box S=09]
 - NOT REG 5 AND QUOTA OPEN, GO TO LIGHTING SURVEY.[Box S=01]

- NOT REG 5 AND QUOTA CLOSED, GO TO FAILED SCREENER, THEN QF. [Box S=07]
- S3=01, 02, 03 AND S4=01 AND S5=02 AND [S6 ≠01 TO ANY AND S7 ≠ 4 OR 5 TO ANY] – CHECK SURVEY REGION QUOTAS. IF:
 - REG 5, GO TO FAILED SCREENER, THEN TERMINATE. [Box S=09]
 - NOT REG 5 AND QUOTA OPEN, GO TO LIGHTING SURVEY. [Box S=01]
 - NOT REG 5 AND QUOTA CLOSED, GO TO FAILED SCREENER, THEN QF. [Box S=07]
- S3=01, 02, 03 AND S4=02, 96, 97 AND S5=01, 96, 97 – TERMINATE. [Box S=09].
- S3=01, 02, 03 AND S4=02, 96, 97 AND S5=02 AND [S6 ≠01 TO ANY AND S7 ≠ 4 OR 5 TO ANY] – TERMINATE. [Box S=09]
- S3= 04, 05, 95 AND S4=01 - CHECK SURVEY REGION QUOTAS. IF:
 - REG 5, GO TO FAILED SCREENER, THEN TERMINATE. [Box S=09]
 - NOT REG 5 AND QUOTA OPEN, GO TO LIGHTING SURVEY. [Box S=01]
 - NOT REG 5 AND QUOTA CLOSED, GO TO FAILED SCREENER, COUNT AS QF [Box S=07]
- S3= 04, 05, 95 AND S4=02, 96, 97 – GO TO FAILED SCREENER, THEN TERMINATE. [Box S=09]

FYI: NOT QUALIFIED FOR EITHER GJGNY OR LIGHTING SURVEYS. IF:

- **NOT A HOMEOWNER (S2=2/96/ 97)**
- **HAVE NOT INSTALLED FIXTURE (S4=2/96/97) AND IS AN HPwES PROGRAM PARTICIPANT (S5=1) – THANK AND TERMINATE.**
- **HAVE NOT INSTALLED FIXTURE (S4) AND IS NOT A PARTICIPANT AND NEVER HAS OR IS NOT PLANNING TO IMPLEMENT ENERGY EFFICIENCY MEASURES (S6/S7) – THANK AND TERMINATE.**

MAIN GJGNY SURVEY:

SECTION 2: MOTIVATIONS AND BARRIERS

G1. You indicated that you

[IF S6=1 TO ANY AND S7=4 OR 5 TO ANY, SHOW: already have taken or plan to take actions to reduce energy usage or increase energy efficiency in your home. What is the one most important reason why you took or plan to take]

[IF S6=1 TO ANY AND S7≠ 4 OR 5 TO ANY, SHOW: already have taken actions to reduce energy usage or increase energy efficiency in your home. What is the one most important reason why you took]

[IF S6≠ 1 TO ANY AND S7=4 OR 5 TO ANY, SHOW: plan to take actions to reduce energy usage or increase energy efficiency in your home. What is the one most important reason why you plan to take]

this/these action(s)? [DO NOT READ. ACCEPT ONE RESPONSE]

- 01 TO SAVE ENERGY
- 02 TO HELP THE ENVIRONMENT
- 03 TO SAVE ON ENERGY BILLS
- 04 TO TAKE ADVANTAGE OF AVAILABLE REBATES OR INCENTIVES
- 05 TO IMPROVE HOME COMFORT
- 06 HOME REPAIRS/REPLACE
- 07 UPGRADE/REMODEL/IMPROVE APPEARANCE/RESALE
- 08 IMPROVE SAFETY
- 09 DISCOUNTED/ON SALE/INEXPENSIVE
- 95 OTHER [SPECIFY]
- 96 REFUSED [GO TO G3]
- 97 DON'T KNOW [GO TO G3]

G2. Are there any other reasons why you

[IF S6=1 TO ANY AND S7=4 OR 5 TO ANY, SHOW: took or plan to take]

[IF S6=1 TO ANY AND S7≠ 4 OR 5 TO ANY, SHOW: took]

[IF S6 ≠ 1 TO ANY AND S7=4 OR 5 TO ANY, SHOW: plan to take]

this/these action(s)? **[PROBE: Anything else?][DO NOT READ. ACCEPT MULTIPLE RESPONSES.]**

- 01 TO SAVE ENERGY
- 02 TO HELP THE ENVIRONMENT
- 03 TO SAVE ON ENERGY BILLS
- 04 TO TAKE ADVANTAGE OF AVAILABLE REBATES OR INCENTIVES
- 05 TO IMPROVE HOME COMFORT
- 06 HOME REPAIRS/REPLACE
- 07 UPGRADE/REMODEL/IMPROVE APPEARANCE/RESALE
- 08 IMPROVE SAFETY
- 09 DISCOUNTED/ON SALE/INEXPENSIVE
- 95 OTHER [SPECIFY]
- 94 NO OTHER REASONS
- 96 REFUSED
- 97 DON'T KNOW

G3. Thinking of the actions that you **[PROGRAMMER: USE SAME LOGIC AS IN G1 FOR TEXT SUBSTITUTION: [took or plan to take]/[took]/[plan to take]** to reduce energy usage or increase energy efficiency in your home, are there any barriers that **you** **[had to or will need]/[had]/[will need]** to overcome to take these actions?

- 01 YES
- 02 NO **[GO TO G6]**
- 96 REFUSED **[GO TO G6]**
- 97 DON'T KNOW **[GO TO G6]**

G4. What is the one most important barrier that you **[PROGRAMMER: USE SAME LOGIC AS IN G1 FOR TEXT SUBSTITUTION: [had to or will need]/[had]/[will need]** to overcome to take these actions? **[DO NOT READ. ACCEPT ONE RESPONSE.]**

- 01 HIGH COST OF MEASURE(S)
- 02 MEASURES NOT EFFECTIVE
- 03 NO AVAILABLE REBATES/INCENTIVES
- 04 WAITING FOR OLD EQUIPMENT TO BREAK/WEAR OUT
- 05 NOT ELIGIBLE FOR FINANCING
- 06 FINDING AN AFFORDABLE/QUALIFIED CONTRACTOR
- 95 OTHER [SPECIFY]
- 96 REFUSED **[GO TO G6]**
- 97 DON'T KNOW **[GO TO G6]**

G5. Are there any other barriers that you **[PROGRAMMER: USE SAME LOGIC AS IN G1 FOR TEXT SUBSTITUTION: [had to or will need]/[had]/[will need]** to overcome to take these actions? **[PROBE: Anything else?][PROGRAMMER: ONLY SHOW RESPONSES 1-5 NOT MENTIONED IN G4. ALWAYS SHOW PRECODES 94, 95, AND 96/97] [DO NOT READ. ACCEPT MULTIPLE RESPONSES.]**

- 01 HIGH COST OF MEASURE(S)
- 02 MEASURES NOT EFFECTIVE
- 03 NO AVAILABLE REBATES/INCENTIVES
- 04 WAITING FOR OLD EQUIPMENT TO BREAK/WEAR OUT
- 05 NOT ELIGIBLE FOR FINANCING
- 06 FINDING AN AFFORDABLE/QUALIFIED CONTRACTOR
- 94 NO OTHER BARRIERS

- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

G6. Besides any actions that we have already discussed, what other actions, if any, are you aware of that you could take to save energy? **[PROBE FOR SPECIFIC ACTIONS. PROBE: Anything else?]**
[RECORD VERBATIM]

- 02 PURCHASE/UPGRADE TO ENERGY EFFICIENT APPLIANCES
- 03 SHUT OFF LIGHTS/TURN THINGS OFF WHEN NOT IN USE/UNPLUG
- 04 SWITCH TO/USE ALTERNATE FUEL SOURCE
- 05 SWITCH TO ENERGY EFFICIENT LIGHTING/CFLs/LEDs
- 06 PURCHASE NEW HVAC EQUIPMENT/WATER HEATER
- 07 INSTALL NEW WINDOWS/DOORS
- 08 LOWER THERMOSTAT SETTINGS/PROGRAMMABLE THERMOSTAT
- 09 INSULATION/CAULKING/SEALING
- 94 NO OTHERS/NONE
- 95 OTHER [RECORD VERBATIM]
- 96 REFUSED
- 97 DON'T KNOW

SECTION 3: AWARENESS OF ENERGY EFFICIENCY PROGRAMS AND PAST PARTICIPATION

G7a. Are you aware of any programs offered by NYSERDA that can help you save energy?

- 01 YES
- 02 NO **[GO TO G7c]**
- 03 VOLUNTEERED: I'VE NEVER HEARD OF NYSERDA **[GO TO G7c]**
- 96 REFUSED **[GO TO G7c]**
- 97 DON'T KNOW **[GO TO G7c]**

G7b. What are the NYSERDA energy saving programs you have heard of? **[DO NOT READ LIST. ACCEPT MULTIPLE RESPONSES.]**

- 01 HOME PERFORMANCE WITH ENERGY STAR
- 02 NEW YORK ENERGY STAR HOMES
- 03 ASSISTED HOME PERFORMANCE WITH ENERGY STAR
- 04 ASSISTED NEW YORK ENERGY STAR HOMES
- 05 EMPOWER NEW YORK
- 6 lighting
- 7 weatherization
- 8 appliances
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

[IF "01" IN G7b, SKIP TO G7d. OTHERWISE, ASK G7c]

G7c. The Home Performance with ENERGY STAR program is sponsored by NYSERDA. This is a program in which someone comes to your house to evaluate the energy efficiency of your home, tells you about upgrades you could make to your home to improve its energy efficiency, and then may provide financing and incentives to help pay for these upgrades. Have you heard of the Home Performance with ENERGY STAR program offered by NYERSDA?

- 01 YES
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

[ASK G7d IF G7a = 1 OR G7c=1, ELSE SKIP TO INSTRUCTIONS ABOVE G8a]

G7d. You said that you were aware of energy-saving programs offered by NYSERDA. How did you hear about these programs? **[PROBE: Any other way?][DO NOT READ; ACCEPT MULTIPLE RESPONSES]**

- 01 CBO – COMMUNITY/CONSTITUENCY BASED ORGANIZATION
- 02 CONTRACTOR
- 03 HOME SHOW
- 04 LOCAL GOVERNMENT SOURCES
- 05 NEWSPAPER AD OR STORY
- 06 NYSERDA WEBSITE
- 07 RADIO AD
- 08 THE INTERNET (GENERAL/NOT BANNER AD – SOMETHING ELSE)
- 09 THE INTERNET (NYSERDA BANNER AD)
- 10 TV AD
- 11 WORD OF MOUTH—NEIGHBOR, FRIEND, CO-WORKER, FAMILY MEMBER, ETC.
- 12 BILL INSERTS
- 13 GENERAL MAILING/FLYER
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

[ASK G8a – G8d. IF G7b=1 OR G7c=1. OTHERWISE, GO TO G9.]

G8a. You indicated that you had heard of the Home Performance with ENERGY STAR program offered by NYSERDA.

The Home Performance with ENERGY STAR program currently offers free or reduced cost home energy audits. Before this call today, were you aware of this aspect of the program?

- 01 YES
- 02 NO **[GO TO G8c]**
- 96 REFUSED **[GO TO G8c]**
- 97 DON'T KNOW **[GO TO G8c]**

G8b. How did you hear of the free or reduced-cost audits? [**PROBE: Any other ways?]****[DO NOT READ; ACCEPT MULTIPLE RESPONSES]**

- 01 CBO – COMMUNITY/CONSTITUENCY BASED ORGANIZATION
- 02 CONTRACTOR
- 03 HOME SHOW
- 04 LOCAL GOVERNMENT SOURCES
- 05 NEWSPAPER AD OR STORY
- 06 NYERSDA WEBSITE
- 07 RADIO AD
- 08 THE INTERNET (GENERAL/ NOT BANNER AD – SOMETHING ELSE)
- 09 THE INTERNET (NYSERDA BANNER AD)
- 10 TV AD
- 11 WORD OF MOUTH—NEIGHBOR, FRIEND, CO-WORKER, FAMILY MEMBER, ETC.
- 12 BILL INSERTS
- 13 GENERAL MAILING/FLYER
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

G8c. The Home Performance with ENERGY STAR program offers financing to help pay for energy-efficiency upgrades. Prior to this interview, were you aware of this aspect of the program?

- 01 YES
- 02 NO [**GO TO G9**]
- 96 REFUSED [**GO TO G9**]
- 97 DON'T KNOW [**GO TO G9**]

G8d. How did you hear about the financing?

- 01 CBO – CONSTITUENCY BASED ORGANIZATION
- 02 CONTRACTOR
- 03 HOME SHOW
- 04 LOCAL GOVERNMENT SOURCES

- 05 NEWSPAPER AD OR STORY
- 06 NYSERDA WEBSITE
- 07 RADIO AD
- 08 THE INTERNET (GENERAL/NOT BANNER AD – SOMETHING ELSE)
- 09 THE INTERNET (NYSERDA BANNER AD)
- 10 TV AD
- 11 WORD OF MOUTH—NEIGHBOR, FRIEND, CO-WORKER, FAMILY MEMBER, ETC.
- 12 BILL INSERTS
- 13 GENERAL MAILING/FLYER
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

G9. Are you aware of any programs to help you save energy that are offered by your electric or gas utility?

- 01 YES
- 02 NO [GO TO THE INSTRUCTIONS BEFORE G13]
- 96 REFUSED [GO TO THE INSTRUCTIONS BEFORE G13]
- 97 DON'T KNOW [GO TO THE INSTRUCTIONS BEFORE G13]

G10. Which utility energy efficiency programs are you aware of?

- 02 CON EDISON PROGRAM
- 03 NATIONAL GRID PROGRAM
- 04 UPGRADE INCETIVES/REBATE FOR ENERGY EFFICIENT MEASURES
- 05 OTHER NAMED UTILITY COMPANY PROGRAM [UNSPEC]
- 06 FREE HOME ESTIMATE/HOME AUDIT/RECOMMEND ACTIONS
- 07 INFORMATION IN MAIL/FLYERS/BILL INSERTS
- 08 NYSEG
- 09 LIPA

- 10 O&R
- 11 CENTRAL HUDSON
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

G11. Have you participated in any utility energy efficiency programs?

- 01 YES
- 02 NO [GO TO THE INSTRUCTIONS BEFORE G13]
- 96 REFUSED [GO TO THE INSTRUCTIONS BEFORE G13]
- 97 DON'T KNOW [GO TO THE INSTRUCTIONS BEFORE G13]

G12. Which utility energy efficiency programs have you participated in?

- 02 CON EDISON PROGRAM
- 03 NATIONAL GRID PROGRAM
- 04 UPGRADE INCETIVES/REBATE FOR ENERGY EFFICIENT MEASURES
- 05 OTHER NAMED UTILITY COMPANY PROGRAM [UNSPEC]
- 06 FREE HOME ESTIMATE/HOME AUDIT/RECOMMEND ACTIONS
- 07 INFORMATION IN MAIL/FLYERS/BILL INSERTS
- 11 CENTRAL HUDSON
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

SECTION 4: INTEREST IN HOME PERMORMANCE WITH ENERGY STAR AND GJGNY

[ASK G13 IF G7b= 1 OR G7c=1. OTHERWISE SKIP TO G14]

G13. You indicated that you are aware of but have not participated in the Home Performance with ENERGY STAR program. Why have you not participated in the program? **[DO NOT READ; ACCEPT MULTIPLE RESPONSES]**

- 01 AWARE OF THE PROGRAM, BUT DID NOT KNOW I WAS ELIGIBLE TO PARTICIPATE
- 02 DO NOT HAVE THE TIME / TOO BUSY
- 03 I HAVE ALREADY INSTALLED MOST MEASURES
- 04 MY HOME IS ALREADY ENERGY EFFICIENT
- 05 NOT INTERESTED IN INSTALLING MEASURES
- 06 TOLD I COULD NOT, BY THE PROGRAM
- 07 TOO EXPENSIVE / DON'T HAVE THE MONEY TO INSTALL MEASURES
- 08 TOO MUCH HASSLE TO PARTICIPATE IN THE PROGRAM
- 09 CAN INSTALL THE MEASURES OURSELVES
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

G14. **[PROGRAMMER: IF G7b≠ 1 AND G7c≠ 1, SHOW THE PROGRAM DESCRIPTION ABOVE THE QUESTION TEXT, AS DISPLAYED HERE. DO NOT SHOW DESCRIPTION BELOW.]**

The Home Performance with ENERGY STAR program is offered by NYSERDA. This is a program in which a Home Performance contractor comes to your house to evaluate the energy efficiency of your home, and then tells you about measures you could install in your home to improve its energy efficiency.]

[QUESTION TEXT] Using a scale from 1 to 5, where 1 means “not at all interested” and 5 means “very” interested, how interested would you be in participating in the Home Performance with ENERGY STAR program? **[IF RESPONDENT ASKS, SAY:** If you were able to participate in the program, how interested would you be?]

[PROGRAMMER: IF G7b= 1 OR G7c=1, SHOW THE PROGRAM DESCRIPTION UNDER THE QUESTION TEXT, AS DISPLAYED HERE SO INTERVIEWER WILL ONLY READ IF NECESSARY.]

[INTERVIEWER: IF NECESSARY READ PROGRAM DESCRIPTION: The Home Performance with ENERGY STAR program is offered by NYSERDA. This is a program in which a Home Performance contractor comes to your house to evaluate the energy efficiency of your home, and then tells you about measures you could install in your home to improve its energy efficiency.]

- 01 NOT AT ALL INTERESTED
- 02
- 03 [GO TO G17]
- 04 [GO TO G17]
- 05 VERY INTERESTED [GO TO G17]
- 96 REFUSED [GO TO G17]
- 97 DON'T KNOW [GO TO G17]

G15. What is the one most important reason you would not be interested in participating in the Home Performance with ENERGY STAR program?]. **[DO NOT READ –PROBE FOR SPECIFIC REASONS; ACCEPT ONE RESPONSE]**

- 01 DO NOT HAVE THE TIME / TOO BUSY
- 02 I HAVE ALREADY INSTALLED MOST MEASURES
- 03 MY HOME IS ALREADY ENERGY EFFICIENT
- 04 NOT INTERESTED IN INSTALLING MEASURES
- 05 TOO EXPENSIVE / DON'T HAVE THE MONEY TO INSTALL MEASURES
- 06 TOO MUCH HASSLE TO PARTICIPATE IN THE PROGRAM
- 07 DO NOT KNOW ENOUGH ABOUT THE PROGRAM
- 08 DON'T PLAN TO STAY IN HOUSE MUCH LONGER/LEAVE FOR NEXT OWNER
- 09 KNOW WHAT WE NEED/WOULD DO IT OURSELVES
- 95 OTHER [SPECIFY]
- 96 REFUSED [GO TO G17]
- 97 DON'T KNOW [GO TO G17]

G16. Are there any other reasons? **[DO NOT READ; PROBE FOR SPECIFIC REASONS; ACCEPT MULTIPLE RESPONSES.] [PROGRAMMER: ONLY SHOW RESPONSES 1-7 NOT MENTIONED IN G15. ALWAYS SHOW PRECODES 94, 95, AND 96/97]**

- 01 DO NOT HAVE THE TIME / TOO BUSY
- 02 I HAVE ALREADY INSTALLED MOST MEASURES
- 03 MY HOME IS ALREADY ENERGY EFFICIENT
- 04 NOT INTERESTED IN INSTALLING MEASURES

- 05 TOO EXPENSIVE / DON'T HAVE THE MONEY TO INSTALL MEASURES
- 06 TOO MUCH HASSLE TO PARTICIPATE IN THE PROGRAM
- 07 DO NOT KNOW ENOUGH ABOUT THE PROGRAM
- 94 NO OTHER REASONS
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

ASK EVERYONE

G17. **[IF G7b=1 OR G7c=1 ADD:** As I mentioned earlier,

The Home Performance with ENERGY STAR program currently provides free or reduced-cost audits to income-eligible households. How interested would you be in **receiving a free or reduced-cost audit?**

Please use a scale from 1 to 5, where 1 means "not at all interested" and 5 means "very" interested.

- | | | |
|----|-----------------------|--------------------|
| 01 | NOT AT ALL INTERESTED | |
| 02 | | |
| 03 | | [GO TO G19] |
| 04 | | [GO TO G19] |
| 05 | VERY INTERESTED | [GO TO G19] |
| 96 | REFUSED | [GO TO G19] |
| 97 | DON'T KNOW | [GO TO G19] |

G18. Why are you not interested in receiving a free or reduced-cost audit?

- 02 DO NOT HAVE TIME/TOO BUSY/TOO MUCH OF A BOTHER
- 03 HOME IS ALREADY EFFICIENT
- 04 TOO EXPENSIVE/DON'T HAVE THE MONEY/NOT SPENDING THE MONEY
- 05 DON'T PLAN TO STAY IN HOUSE MUCH LONGER/LEAVE FOR NEXT OWNER
- 06 DON'T NEED IT/NOT INTERSTED
- 07 NOT SURE IF I WOULD QUALIFY
- 08 CAN DO THE WORK OURSELVES
- 09 SKEPTICAL OF PROGRAM/SCAM/PEOPLE IN THE HOUSE/JUST TRYING TO SELL ME SOMETHING
- 10 NEED MORE INFORMATION
- 96 REFUSED
- 97 DON'T KNOW

G19. The Home Performance with ENERGY STAR program also offers low-interest financing to help credit qualified households pay for the cost of energy efficiency upgrades. If you were to participate in the Home Performance with ENERGY STAR program, using the same scale from 1 to 5, how interested would you be in **taking advantage of this financing?** [READ IF NECESSARY: One means not at all interested and five means very interested]

- | | | |
|----|-----------------------|-------------|
| 01 | NOT AT ALL INTERESTED | |
| 02 | | |
| 03 | | [GO TO G21] |
| 04 | | [GO TO G21] |
| 05 | VERY INTERESTED | [GO TO G21] |
| 96 | REFUSED | [GO TO G21] |
| 97 | DON'T KNOW | [GO TO G21] |

G20. Why would you not be interested in taking advantage of this financing?

- | | |
|----|--|
| 02 | DO NOT HAVE TIME/TOO BUSY/TOO MUCH OF A BOTHER |
| 03 | HOME IS ALREADY EFFICIENT |
| 04 | TOO EXPENSIVE/DON'T HAVE THE MONEY/NOT SPENDING THE MONEY |
| 05 | DON'T PLAN TO STAY IN HOUSE MUCH LONGER/LEAVE FOR NEXT OWNER |
| 06 | DON'T NEED IT/NOT INTERSTED |
| 07 | NOT SURE IF I WOULD QUALIFY |
| 08 | CAN DO THE WORK OURSELVES |
| 09 | SKEPTICAL OF PROGRAM/SCAM/PEOPLE IN THE HOUSE/JUST TRYING TO SELL ME SOMETHING |
| 10 | NEED MORE INFORMATION |
| 11 | PREFER TO PAY CASH/DON'T NEED TO FINANCE/CAN AFFORD TO PAY |
| 12 | DON'T WANT MORE DEBT/DON'T LIKE TO BORROW |
| 96 | REFUSED |
| 97 | DON'T KNOW |

G21. If you were to participate in the Home Performance with ENERGY STAR program, using the same scale from 1 to 5, how interested would you be in **taking advantage of cash-back incentives** to help cover the cost of energy-efficiency upgrades through the Home Performance with ENERGY STAR program? **[READ IF NECESSARY: One means not at all interested and five means very interested.]**

- 01 NOT AT ALL INTERESTED
- 02
- 03 [GO TO G23]
- 04 [GO TO G23]
- 05 VERY INTERESTED [GO TO G23]
- 96 REFUSED [GO TO G23]
- 97 DON'T KNOW [GO TO G23]

G22. Why are you not interested in taking advantage of these cash-back incentives?

- 02 DO NOT HAVE TIME/TOO BUSY/TOO MUCH OF A BOTHER
- 03 HOME IS ALREADY EFFICIENT
- 04 TOO EXPENSIVE/DON'T HAVE THE MONEY/NOT SPENDING THE MONEY
- 05 DON'T PLAN TO STAY IN HOUSE MUCH LONGER/LEAVE FOR NEXT OWNER
- 06 DON'T NEED IT/NOT INTERSTED
- 07 NOT SURE IF I WOULD QUALIFY
- 08 CAN DO THE WORK OURSELVES
- 09 SKEPTICAL OF PROGRAM/SCAM/PEOPLE IN THE HOUSE/JUST TRYING TO SELL ME SOMETHING
- 10 NEED MORE INFORMATION
- 11 PREFER TO PAY CASH/DON'T NEED TO FINANCE/CAN AFFORD TO PAY
- 96 REFUSED
- 97 DON'T KNOW

SECTION 5: ENERGY EFFICIENCY OF HOME / BELIEFS AND ATTITUDES

G23. How concerned are you about the amount of the electricity and gas bills for your home? Please rate your level of concern on a scale of 1 to 5, where 1 means “not at all” concerned and 5 means “very” concerned.

- | | |
|----|----------------------|
| 01 | NOT AT ALL CONCERNED |
| 02 | |
| 03 | |
| 04 | |
| 05 | VERY CONCERNED |
| 96 | REFUSED |
| 97 | DON'T KNOW |

SECTION 6: DEMOGRAPHICS [D SERIES]

I just have a few final questions. These questions are asked for statistical purposes only. The information collected is strictly confidential.

D1. What is your age? **[IF RESPONDENT REFUSES, SAY: If you prefer, I can read age ranges and you can stop me when I read the correct range.]**

[DO NOT READ]

- | | |
|----|------------|
| 01 | 18 TO 24 |
| 02 | 25 TO 34 |
| 03 | 35 TO 44 |
| 04 | 45 TO 54 |
| 05 | 55 TO 64 |
| 06 | 65 OR OVER |
| 96 | REFUSED |

D1a. Counting yourself, how many people normally live in this household on a full time basis? Please include everyone who lives in your home whether or not they are related to you and exclude anyone who is just visiting or children who may be away at college or in the military. Including yourself, how many people live in your home on a full-time basis?

- | | |
|----|--|
| 01 | [RECORD NUMBER OF PEOPLE] [DO NOT ALLOW ZERO. VALID RANGE=1-25] |
|----|--|

- 96 REFUSED [GO TO D3]
- 97 DON'T KNOW [GO TO D3]

[IF D1a=1 AUTOFILL D2 TO ALL 0 AND GO TO D3. IF 2+ ASK D2.]

D2. Excluding you, how many people in your household are...

[ALLOW ENTRY OF NUMBER FOR EACH a-g. INCLUDE RESPONSE OPTIONS FOR 96 AND 97.][SUM OF a-g CANNOT EXCEED NUMBER IN D1a. MUST = TO ONE LESS THAN TOTAL IN D1a. ONCE REACH MAXIMUM, AUTO-FILL 0 IN REST OF RANGES AND GO TO D3.]
[DO NOT READ]

- a. 0 TO 17?
- b. 18 TO 24?
- c. 25 TO 34?
- d. 35 TO 44?
- e. 45 TO 54?
- f. 55 TO 64?
- g. 65 OR OVER?
- 01 [RECORD NUMBER]
- 96 REFUSED
- 97 DON'T KNOW

D3. When was your home built? Please stop me when I get to the right category.

- 01 1930s or earlier
- 02 1940s
- 03 1950s
- 04 1960s
- 05 1970s
- 06 1980s
- 07 1990s
- 08 2000 or later
- 96 REFUSED
- 97 DON'T KNOW

D4. Approximately how large is your home? Your best estimate is fine. **[READ CHOICES]**.

- 01 Less than 1,400 square feet
- 02 1,400 to less than 2,000 square feet
- 03 2,000 to less than 2,500 square feet
- 04 2,500 to less than 3,500 square feet
- 05 3,500 to less than 4,000 square feet
- 06 4,000 to less than 5,000 square feet, or
- 07 5,000 square feet or more?
- 96 REFUSED
- 97 DON'T KNOW

D5. How many rooms are in your home, not counting bathrooms?

- 01 **[RECORD SINGLE WHOLE NUMBER] [VALID RANGE 1 – 30]**
- 96 REFUSED
- 97 DON'T KNOW

D6. Do you pay your electric bill directly to your electric company or is your electricity bill **[IF S3=01 OR 02, SHOW: paid in some other way] / [IF S3 ≠ 01, 02 SHOW: included in your condo fee or paid in some other way]**?

- 01 PAY DIRECTLY
- 02 INCLUDED IN CONDO FEE **[SHOW ONLY IF S3 ≠ 01, 02]**
- 03 PAID FOR IN SOME OTHER WAY
- 96 REFUSED
- 97 DON'T KNOW

D7. Is English the primary language spoken in your home?

- 01 YES **[SKIP TO D9]**
- 02 NO
- 96 REFUSED **[SKIP TO D9]**
- 97 DON'T KNOW **[SKIP TO D9]**

D8. What is the primary language spoken in your home? **[PROMPT IF NECESSARY]**

- 01 SPANISH
- 02 MANDARIN
- 03 CANTONESE
- 04 TAGALOG
- 05 KOREAN
- 06 VIETNAMESE
- 07 RUSSIAN
- 08 JAPANESE
- 95 OTHER [SPECIFY]
- 96 REFUSED
- 97 DON'T KNOW

D9. Do you consider yourself to be Spanish, Hispanic, or Latino?

- 01 YES
- 02 NO
- 96 REFUSED
- 97 DON'T KNOW

D10. Do you consider yourself to be....?

- 01 White
- 02 Black or African-American
- 03 American Indian, Native Hawaiian, Pacific Islander, or Alaska Native
- 04 Asian, or
- 95 Something else? [Specify]
- 96 REFUSED
- 97 DON'T KNOW

D11. What is the highest grade of schooling you have completed so far? **[DO NOT READ]**

- 01 LESS THAN NINTH GRADE
- 02 NINTH TO TWELFTH GRADE; NO DIPLOMA
- 03 HIGH SCHOOL GRADUATE (INCLUDES GED)
- 04 SOME COLLEGE, NO DEGREE
- 05 ASSOCIATES DEGREE
- 06 BACHELORS DEGREE (4-YEAR DEGREE)

- 07 GRADUATE OR PROFESSIONAL DEGREE
- 96 REFUSED
- 97 DON'T KNOW

D12. Please tell me which category best describes your total combined household income. That is the total income for all members of your household from all sources in 2010. Please stop me when I get to the right category. **[READ LIST; SELECT ONE RESPONSE]**

- 01 Less than \$15,000
- 02 \$15,000 to just under \$25,000
- 03 \$25,000 to just under \$30,000
- 04 \$30,000 to just under \$35,000
- 05 \$35,000 to just under \$50,000
- 06 \$50,000 to just under \$60,000
- 07 \$60,000 to just under \$75,000
- 08 \$75,000 to just under \$100,000
- 09 \$100,000 to just under \$150,000
- 10 \$150,000 or more
- 96 REFUSED
- 97 DON'T KNOW

D12a. In what county do you live? **[DO NOT READ. ACCEPT ONE ANSWER]**

1	Albany	UB	17	Franklin	UB	33	Oneida	UA	48	Schuyler	UB
2	Allegany	UA	18	Fulton	UB	34	Onondaga	UA	49	Seneca	UA
3	Bronx	DB	19	Genesee	UA	35	Ontario	UA	50	St. Lawrence	UB
4	Broome	UB	20	Greene	UB	36	Orange	DA	51	Steuben	UB
5	Cattaraugus	UA	21	Hamilton	UB	37	Orleans	UA	52	Suffolk	DC
6	Cayuga	UA	22	Herkimer	UB	38	Oswego	UA	53	Sullivan	UB
7	Chautauqua	UA	23	Jefferson	UB	39	Otsego	UB	54	Tioga	UB
8	Chemung	UB	24	Kings	DB	40	Putnam	UB	55	Tompkins	UB
9	Chenango	UB	25	Lewis	UB	41	Queens	DB	56	Ulster	UB
10	Clinton	UB	26	Livingston	UA	42	Rensselaer	UB	57	Warren	UB
11	Columbia	UB	27	Madison	UA	43	Richmond	DB	58	Washington	UB

12	Cortland	UA	28	Monroe	UA	44	Rockland	DA	59	Wayne	UA
13	Delaware	UB	29	Montgomery	UB	45	Saratoga	UB	60	Westchester	DB
14	Dutchess	UB	30	Nassau	DC	46	Schenectady	UB	61	Wyoming	UA
15	Erie	UA	31	New York	DB	47	Schoharie	UB	62	Yates	UA
16	Essex	UB	32	Niagara	UA				96	REFUSED	
									97	DON'T KNOW	

D13. **[DO NOT READ]** Gender

- 01 MALE
- 02 FEMALE

[READ: Those are all the questions I have for you. Thank you for taking the time to respond to this survey.]