

MEMORANDUM

To: Carley Murray, NYSERDA

From: Rohit Vaidya and Beth Poulin, NMR Group

Date: March 11, 2013

Re: Work Plan for Survey Research and Analysis to Support Assessment of Economic Impacts of the Green Jobs Green New York Program

Section 1: **NOTICE**

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Section 2: **ABSTRACT AND KEY WORDS**

This memorandum presents the work plan for survey research and analysis to support assessment of economic impacts of the Green Jobs Green New York Program. The primary purpose of the research is to estimate the number of direct jobs generated as a result of GJGNY-funded program activities and determine other job-related impacts, particularly on wage levels and worker skills, as well as challenges in recruiting skilled workers. This information will serve as inputs to an economic impact analysis to be performed by ICF Resources, LLC (ICF). The survey research includes analysis of secondary data, addition of questions to relevant data collection efforts by other program evaluations, and in-depth interviews and surveys with program partners and trade allies.

Key words: energy efficiency, job impacts, evaluation research

Section 3: **INTRODUCTION AND BACKGROUND**

The Green Jobs Green New York Act of 2009 directs NYSEERDA to establish and administer the Green Jobs Green New York Program (GJGNY). The GJGNY Program is a statewide program to promote energy efficiency and the installation of clean technologies to reduce energy costs and reduce greenhouse gas emissions. The program provides access to no-cost and reduced-cost energy audits, installation services, low-cost, innovative financing through revolving load funds, workforce development, job placement and outreach by constituency-based organizations serving targeted communities. The GJGNY program components have been integrated into the following NYSEERDA efforts: Workforce Development, Home Performance with ENERGY STAR Program (HPwES), Multifamily Performance Program, Small Commercial/Not-for-Profit Program, Outreach and Marketing through Constituency-based Organizations (CBOs).

The key focus of this study is to estimate the number of direct jobs generated as a result of GJGNY-funded program activities and determine other job-related impacts, particularly on wage levels and worker skills. This information will serve as inputs to an economic impact analysis to be performed by ICF. Note that this study will be a targeted effort focused on assessing the direct job impacts as a result of the GJGNY program and that broader questions such as those associated with program delivery and performance and performance will be addressed through other process and impact evaluations.

To assemble this information, NMR will lead a multi-phase research effort. Information on the NYSEERDA programs will be compiled to identify sectors with direct GJGNY job impacts. The outcome of this task will be the identification of the North American Industry Classification System (NAICS) codes for all groups, trade allies, partners, and organizations that benefit directly from the GJGNY program. As the GJGNY program components have been integrated into NYSEERDA programs that receive funding from sources as well, a crucial element of this research will be to determine the job impacts of these programs that can be attributed to GJGNY. Accordingly, a methodology will be developed for attribution of job impacts to GJGNY versus other program funding sources. The magnitude of job impacts will be assessed through an analysis of a combination of information from secondary and primary data sources. Secondary data sources may include program tracking data and training partner data. The approach to primary data collection will first seek to leverage surveys being conducted by other program evaluations, identify any gaps in coverage of GJGNY-impacted program partners and trade allies, and then conduct surveys with these groups. All of the secondary and primary data will be analyzed and triangulated to develop an integrated estimate of job impacts. The deliverables from this research effort will include a report on direct job impacts and job-related impacts attributable to GJGNY and a spreadsheet including number of direct jobs created and average wages by NAICS code, New York State region, and disadvantaged community status. The spreadsheet will provide the inputs for the economic impact analysis by ICF.

Section 4: **EVALUATION METHODOLOGY**

This study will seek to estimate the magnitude of direct job impacts attributable to the GJGNY program through an analysis of a combination of information from secondary and primary data sources including program tracking data, training partner data, and in-depth interviews and surveys with program partners and trade allies associated with NYSERDA programs that include GJGNY components.

4.1 RESEARCH OBJECTIVES

The key focus of this study is to estimate the number of jobs generated as a result of GJGNY-funded program activities and determine other job-related impacts, particularly on wage levels and worker skills. This information will serve as inputs to an economic impact analysis to be performed by ICF Resources.

Objectives of the study include:

- Estimate the number of direct jobs generated as a direct result of GJGNY-funded program activities.
- Determine other job-related impacts, particularly on wage levels and worker skills, as well as challenges in recruiting skilled workers.
- Identify the direct jobs created in disadvantaged communities in the state.

4.2 TASK 1: IDENTIFY PROGRAMS WITH DIRECT GJGNY JOB IMPACTS

We worked with NYSERDA evaluation staff to identify sectors with direct GJGNY job impacts. Based on this effort, we identified the following distinct NYSERDA programs with GJGNY components:

- Home Performance with ENERGY STAR (HPwES). 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 a 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.
- Small Commercial/Not-for-Profit. Energy audits and GJGNY financing are available for buildings used or occupied by a small business or not-for-profits (NFPs). 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 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.
- **Multifamily Performance Program.** 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%. The MPP Partner is also responsible for verifying that the energy-related work scope is installed in compliance with GJGNY requirements.
 - **CBO 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.
 - **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. Another important component of WFD is to place workers in jobs with NYSERDA contractors, where they can obtain on-the-job training (OJT).

Additional activities supported by GJGNY include the following:

- **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.

- 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.

This effort also identified the following key trade ally groups and program partners or private-sector firms and not-for-profit organizations that might have direct job impacts from these programs.

- Home Performance with ENERGY STAR contractors
- Audit contractors
- Lenders
- MPP Performance Partners
- Constituency-based organizations (CBOs)
- WFD Training Partners
- Implementation contractors
- Quality assurance contractors
- Marketing contractors

Note that some of these trade ally types may be associated with more than one program and specific trade ally companies may also provide services in multiple programs.

In addition to the programs and initiatives described above, we identified the following programs that may be affected indirectly through referrals from GJGNY-funded activities. These include the following programs.

- EmPower
- New York ENERGY STAR Homes
- FlexTech

4.3 TASK 2: ATTRIBUTION METHODOLOGY FOR DIRECT JOB IMPACTS

Two of the directly affected NYSERDA programs (Small Commercial/Not-for-Profit and CBOs) are funded entirely by GJGNY. Correspondingly, any associated job impacts can be attributed entirely to GJGNY. However, the other three directly affected NYSERDA programs (HPwES, MPP, and WFD) receive funding from other sources such as EEPS or SBC. For the latter group of programs, it will be necessary to determine the magnitude of any occurring job impacts that can be attributed to GJGNY versus other funding sources. To accomplish this, the interviews and surveys of trade allies and program partners will include questions that ask the respondent to provide an estimate of the volume of work that they would have done in the absence of the GJGNY-funded program component. For example, an HPwES audit contractor who reported adding jobs to handle increased audit volumes following the introduction of the GJGNY free or reduced cost audits would be asked to estimate the volume of audits they would have done in that period in the absence of the availability of audits at a free or reduced cost, i.e., if the customer had to pay the full price for the audits similar to what they had to do prior to the introduction of the GJGNY free or reduced cost audits.

Other factors that may be considered in the development of the attribution methodology include but are not limited to:

- Funding sources and amounts
- Age of program
- Timing of introduction of GJGNY components

4.4 TASK 3: ASSESS DIRECT JOB IMPACTS BASED ON SECONDARY DATA SOURCES

We will perform an initial assessment of the magnitude of job impacts through an analysis of information available from secondary data sources. These data sources are anticipated to include

- Program tracking data (e.g., CRIS database, CBO SharePoint site)
- Training partner data
- Other research studies (e.g., Pace University studies)¹

¹ ICF will compare the average hourly wages received from NMR to secondary source data to determine if wage differentials exist for GJGNY-funded jobs. The secondary source data may include QCEW, IMPLAN, and/or other sources, based on further discussion with NYSERDA and subject to time and resource constraints.

4.5 TASK 4: ASSESS DIRECT JOB IMPACTS BASED ON PRIMARY DATA SOURCES

We will conduct the assessment of job impacts on programs that directly receive GJGNY funding: HPwES, Small Commercial/Not-for-Profit, MPP, CBOs, and WFD.² This effort will be based on primary data collection through two parallel paths. We will leverage existing data collection efforts by program evaluation currently underway as well as conduct our own primary data collection.

For each of the identified trade ally groups and program partners, we will determine the NAICS code for their business type for use in the subsequent impact analysis to be conducted by ICF. We are working with ICF to finalize the questions that will be included in primary data collection surveys and interviews so as to ensure that responses will meet the needs of the economic impact analysis to be conducted by ICF. Specifically, ICF has provided a template of a spreadsheet that we are working with to ensure that the surveys and interviews will yield the information needed to populate it. ICF is also reviewing and providing input on the questions to ensure that they are designed to capture the information needed for the economic impact analysis.

4.5.1 Task 4a: Interviews by Existing Program Evaluations

We have currently identified the following program evaluations that are planning to conduct surveys or interviews with trade ally groups in the identified programs and on a schedule that aligns with the job impacts analysis schedule.

Table 1. Interviews and Surveys Planned by Existing NYSERDA Program Evaluations

Program Evaluations	Surveyed Group	Planned Schedule*
Multi-family Performance Process/MCA	Implementation, QA, and Marketing Contractors; Lenders	March 2013
	Performance Partners, Participants	March – April 2013
Small Commercial/Not-for-Profit	Expeditors, Audit Contractors, Lenders, Participants	March 2013

The topics and questions that may be included in the surveys by the other program evaluations include but are not limited to:

- NYSERDA program participation
- Number of jobs added and retained that could be attributed to GJGNY program components

² The GJGNY-funded activities may also potentially have secondary job impacts through referrals to other NYSERDA programs. In theory, a large enough volume of such referrals could result in contractors needing to hire new employees. Schedule and budget constraints, however, do not permit assessing these impacts.

- Job types and occupational categories (e.g., trade, managerial, sales, administrative, support, etc.)
- Full-time and part-time jobs
- Projection of the number of jobs two years into the future (2015)
- Hourly wage levels of new and retained jobs
- Other job-related impacts, e.g., higher wage levels, improved worker skills, etc.
- Challenges in recruiting skilled workers
- Contractor service area
- Counties where jobs are taking place
- Firmographics

4.5.2 Task 4b: In-depth Interviews with Trade Allies and Program Partners

We will also conduct in-depth interviews with trade allies in the following groups that are not being addressed by other evaluations in time for the GJGNY job impacts analysis.

Table 2. In-depth Interviews by NMR

Program Evaluations	In-Depth Interviews
Home Performance with ENERGY STAR (HPwES)	Implementation, QA, and Marketing Contractors; Lenders (6)
Workforce Development (WFD)	
CBOs	Implementation Contractor (1). Lenders (4). CBOs (18).

We anticipate that the interviews will take an average of 20-25 minutes to complete. The topics and questions that may be included in the interviews include but are not limited to:

- NYSERDA program participation
- Number of jobs added and retained that could be attributed to GJGNY program components
 - Job types and occupational categories (e.g., trade, managerial, sales, administrative, support, etc.)
 - Full-time and part-time jobs
 - Projection of the number of jobs two years into the future (2015)
- Hourly wage levels of new and retained jobs
- Other job-related impacts, e.g., higher wage levels, improved worker skills, etc.
- Challenges in recruiting skilled workers
- Contractor service area

- Counties where jobs are taking place
- Firmographics

4.5.3 Task 4c: Surveys of Trade Allies and Program Partners

We will also conduct surveys of trade allies in the following groups that are not being addressed by other evaluations in time for the GJGNY job impacts analysis.

Table 2. Surveys by NMR

Program Evaluations	Surveys
Home Performance with ENERGY STAR (HPwES)	HPwES Contractors (70)
Workforce Development (WFD)	Training Partners (50)
CBOs	HPwES Contractors (25).* Training Partners (25).*

* Estimated. These respondents are anticipated to overlap with respondents to the corresponding HPwES and WFD surveys.

We anticipate that the surveys will take an average of 15-20 minutes to complete. The topics and questions that may be included in the surveys include but are not limited to:

- NYSERDA program participation
- Number of jobs added and retained that could be attributed to GJGNY program components
 - Job types and occupational categories (e.g., trade, managerial, sales, administrative, support, etc.)
 - Full-time and part-time jobs
 - Projection of the number of jobs two years into the future (2015)
- Hourly wage levels of new and retained jobs
- Other job-related impacts, e.g., higher wage levels, improved worker skills, etc.
- Challenges in recruiting skilled workers
- Contractor service area
- Counties where jobs are taking place
- Firmographics

4.6 TASK 5: INTEGRATED ESTIMATE OF JOB IMPACTS

We will analyze and triangulate the secondary and primary data collected to develop an integrated estimate of job impacts. In conducting this analysis, we will work with ICF on the integration of the data.

4.7 TASK 6: RESEARCH AND ANALYSIS DELIVERABLES

We will produce a report on the analysis of the secondary and primary data, the integration of the estimates of job impacts, and the methodology for attribution to GJGNY. These results will include:

- Direct job impacts by NAICS code (in the State of New York)
- Direct job impacts by New York State region (e.g., NYSEDA regions, Governor's economic development regions)
- Direct job impacts by economically disadvantaged communities³
- Average hourly wages of new jobs by NAICS
- Impacts on wage levels, improved worker skills, etc.
- Projected job impacts two years into the future (2015)

NMR will deliver to ICF a spreadsheet with the extrapolation of the number of direct jobs (by NAICS, New York State region, and disadvantaged community status) to the full program population. The spreadsheet will also include average hourly wages by NAICS. The spreadsheet provided will contain two sets of figures: current (2013) and projected (2015) direct jobs.

³ According to the 2012 NYSEDA Workforce Development Program Market Characterization and Assessment Report MCA: "The definition of disadvantaged workers are individuals at least 17 years of age that fall within one of the following two categories: unemployed workers and incumbent workers. Within these two categories a wide variety of population groups exist, including individuals with barriers to employment, such as limited English proficiency; youth 17 years of age and older who have dropped out of school and are seeking employment; persons with disabilities; and ex-offenders. In-school high school students and other students enrolled in secondary education programs are not included in this definition. Included in the definition of unemployed is those group who are underemployed, or not included in the labor force" (footnote 23, page 1-10). In operationalizing this we will likely need to use proxies based on county median income levels or unemployment rates. The latter could be similar to the approach used in the survey of low-moderate income customers in the 2011 GJGNY evaluation which used the following definition: customers 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). For CBOs, we will use the definitions used by each CBO.

4.8 STUDY SCHEDULE

4.8.1 Timeline

Table 2 provides the schedule for the study. The following schedule is accordingly designed to provide the job impacts spreadsheet to ICF by mid-May 2013. However, this sets an *extremely tight timeline* for particularly the primary data collection and analysis. We are particularly concerned that if the timelines for the surveys being planned by any of the other evaluations slip, our timeline will be correspondingly affected.

Table 2. Study Schedule

Task	Task Description	Expected Completion Period
	Work plan finalized and approved	February 2013
1	Identify Programs with Direct GJGNY Job Impacts	January - February 2013
2	Attribution Methodology for Direct Job Impacts	February 2013
3	Direct Job Impacts Based on Secondary Data Sources	February – April 2013
4	Direct Job Impacts Based on Primary Data Sources	February – April 2013
4a	Interviews and Surveys by Existing Program Evaluations	February – April 2013
4b	Interviews with Trade Allies and Program Partners	February – April 2013
4c	Surveys of Trade Allies and Program Partners	February – April 2013
5	Integrated estimate of Job Impacts	April - May 2013
6	Research and Analysis Deliverables	March – July 2013
6a	Spreadsheet of Job Impacts	May 17, 2013
6b	Draft report	June 17, 2013
6c	Final report	July 19, 2013