GJGNY
Job Impacts Study

Preliminary Results Presentation to GJGNY Advisory Council
September 12, 2013

Jennifer Meissner, Carley Murray & Michelle Salisbury, NYSERDA

Rohit Vaidya, NMR Group, Project Phase 1
Elizabeth Johnston, ICF Consulting, Project Phase 2

nyserda
Energy. Innovation. Solutions.

Study Objectives

- Estimate the number of direct, indirect and induced jobs created/retained from GJGNY, including analysis of:
  - 2013 and projected 2015 impacts
  - Regional differences
  - Disadvantaged community impacts

- Examine changes in worker skill and wage level resulting from the GJGNY program

Phased Approach

- Phase 1 (NMR Group)
  - Estimate number of direct jobs, in FTEs, attributable to GJGNY-funded program activities
  - Identify direct FTEs created in disadvantaged communities
  - Collect data on other job-related impacts (wages, skills)
  - Provide inputs to macroeconomic impact analysis
- Phase 2 (ICF Consulting)
  - Conduct macroeconomic impact analysis to determine indirect and induced job effects
  - Perform wage comparison

nyserda Energy. Innovation. Solutions.

Important Notes

- Direct jobs (in FTEs) are point-in-time estimates by survey respondents
- Due to the close linkage of GJGNY with ratepayer funded programs, Phase 1 survey research carefully addressed attribution and attempted to isolate and claim only the GJGNY impacts
- Macroeconomic analysis output is gross jobs and is <u>not</u> net of potential impacts of alternative spending of the GJGNY funds
- Results should not be added/compared to results from jobs studies on other NYSERDA programs or portfolios

nyserda
Energy. Innovation. Solutions.

Phase 1 Analysis & Results

nyserda
Energy. Innovation. Solutions.

Phase 1: Analytic Approach

- Surveys to determine 2013 and 2015 direct jobs in FTEs attributable to GJGNY
  - Point-in-time estimates from program inception through Q1 2013 and from current time to Q1 2015, respectively
  - 2015 estimate assumes GJGNY funding continues at current level and that 2013 estimated jobs continue through 2015
  - Includes both new and retained jobs
  - Associated hourly wage levels

Energy. Innovation. Solutions.

Phase 1: Analytic Approach

- Surveys assessed Up-skilled and Up-waged FTEs
  - Improved worker skills
  - For those also up-waged, collected previous hourly wage, wage increase, current hourly wage
- Disadvantaged communities
  - Unemployment rate greater than NY state average

nyserda
Energy. Innovation. Solutions.

Phase 1: Programs & Data Sources

Program	Secondary Data	Primary Data: In-Depth Interviews (IDI)	Primary Data: Surveys
Home Performance with ENERGY STAR (HPwES)	CRIS database	Implementation, QA, and *Marketing Contractor***; Loan Processors & Providers	Audit and Installation Contractors
CBO Outreach & Marketing (CBOs)	SharePoint	Training & Implementation Contractor, CBOs, *Marketing Contractor***	HPwES Audit and Installation Contractors**, WFD Training Partners**
Workforce Development (WFD)	GJGNY Hire Data DOL Data	*Marketing Contractor***	Training Partners** (OJT, non-OJT)
Multifamily Performance (MPP)	CRIS database	*Implementation, QA, and Marketing Contractor***	Performance Partners, Participants
Small Business / Not-for-Profit (SBNFP)		*Lenders*, Expeditors, *Marketing Contractor***, Audit Contractors	

*   Italicized interviews were conducted as part of other program evaluations. All other IDIs conducted by NMR. Surveys conducted by Abt SRBI, NYSERDA's evaluation survey contractor.
** Respondent worked across multiple programs and job impacts for all applicable programs were addressed in one interview.

nyserda Energy. Innovation. Solutions.

Phase 1: Interviews Completed

Surveys / In-depth Interviews	Conducted by	Completed Interviews	Population
HPwES Contractors	SRBI	71	407
HPwES Loan Processors and Providers	NMR	5	7
HPwES Implementer, QA Contractor	NMR	2	2
CBOs	NMR	18	18
CBO Training & Implementation Contractor	NMR	1	1
WFD Training Partners (OJT PON 2033B)	SRBI	22	36
WFD Training Partners (non-OJT PONS)	SRBI	8	14
MPP Performance Partners	SRBI	25	39
MPP Participants	SRBI	40	268
GJGNY Marketer	RIA/RW	1	1
MPP Implementer, QA Contractor	RIA/RW	2	2
SBNFP Audit Contractors	NMR	3	4
SBNFP Project Expeditors	NMR	3	3
SBNFP Lenders	RIA/TTC	4	6

nyserda
Energy. Innovation. Solutions.

Phase 1: Total Direct FTEs in 2013

Sector / NAICS Industry Group	Total Direct FTEs$^{\alpha}$	Current Wage$^{\beta}$
TOTAL (new FTEs added plus retained FTEs)	**905.8**	**$20.01**
SECTORS WITH MOST TOTAL FTEs		
Engineering Services	325.4	$22.02
Residential Remodelers	155.4	$15.08
Drywall and insulation Contractors	90.2	$17.91
Building Inspection Services	82.8	$19.33
Plumbing, Heating and Air-conditioning Contractors	77.3	$15.77

α New FTEs added because of GJGNY-related work + FTEs that would have been let go without GJGNY-related work, but were retained because of that work. New jobs added plus retained jobs.
β Weighted average hourly wage based on respondents reporting wage information.

Preliminary results 9-12-13.

nyserda
Energy. Innovation. Solutions.

Phase 1: FTEs Up-skilled & Up-waged in 2013

Sector / NAICS Industry Group	Up-skilled & Up-waged FTEs α	Wage Increase β	Current Wage β
TOTAL 2013 UP-SKILLED & UP-WAGED FTEs	**282.2**	**$4.24**	**$21.65**
SECTORS WITH MOST FTEs UP-SKILLED & UP-WAGED			
Engineering Services	142.1	$3.59	$20.85
Residential Remodelers	32.5	$6.27	$22.92
Drywall and insulation Contractors	37.9	$4.89	$22.25
Building Inspection Services	14.3	$3.25	$20.68
Plumbing, Heating and Air-conditioning Contractors	24.2	$3.96	$18.65

α FTEs for existing jobs that saw an hourly wage increase because of increased responsibility for GJGNY related work

β Weighted average hourly wage increase/wage based on respondents reporting wage information.

Preliminary results 9-12-13.

nyserda Energy. Innovation. Solutions.

Phase 1: Total Direct FTEs by Region in 2013

Region	Total Direct FTEs[α]	% of Total
TOTAL (new FTEs added plus retained FTEs)	**905.8**	**100%**
REGIONS WITH MOST DIRECT FTEs		
Finger Lakes	222.6	24.6%
Long Island	106.4	11.8%
Mid-Hudson and Westchester	104.5	11.5%
Western	99.5	11.0%
Capital	95.2	10.5%

α New FTEs added because of GJGNY-related work + FTEs that would have been let go without GJGNY-related work, but were retained because of that work. New jobs added plus retained jobs.

Preliminary results 9-12-13.

nyserda
Energy. Innovation. Solutions.

Phase 1: Direct FTEs in Disadvantaged Communities in 2013

Region	Direct FTEs[α]	% of Total
TOTAL (new FTEs added plus retained FTEs)	**905.8**	**100%**
TOTAL IN DISADVANTAGED COMMUNITIES	**155.6**	**17.2%**
REGIONS WITH MOST DIRECT FTEs		
Southern Tier	55.7	6.1%
Mid-Hudson & Westchester	39.5	4.4%
Central	13.4	1.5%
Bronx	12.6	1.4%
Western	9.2	1.0%

α New FTEs added because of GJGNY-related work + FTEs that would have been let go without GJGNY-related work, but were retained because of that work. New jobs added plus retained jobs.

Preliminary results 9-12-13.

nyserda
Energy. Innovation. Solutions.

Phase 1: FTEs Projected by 2015

Sector / NAICS Industry Group	Total Direct FTEs α
TOTAL FTEs BY 2015	**2,545.6**
SECTORS WITH MOST TOTAL FTEs BY 2015	
Plumbing, Heating and Air-conditioning Contractors	706.0
Residential Remodelers	528.7
Engineering Services	478.4
Drywall and insulation Contractors	418.5
Building Inspection Services	121.7

α 2013 added FTEs + 2013 retained FTEs + 2015 expected FTEs added.

Preliminary results 9-12-13.

nyserda
Energy. Innovation. Solutions.

Phase 2 Analysis & Results

Phase 2: Analytic Approach

- New York State IMPLAN model (version 3.0)
  - Configure and run modeling scenarios statewide for 2013 and 2015
  - Input for new and retained jobs used direct FTE and wage data
  - Input for up-skilled and up-waged jobs used wage increases for associated FTEs (or based on other survey data or publically-available wage data for NYS)

- Conduct comparison of GJGNY wages

nyserda Energy. Innovation. Solutions.

Phase 2: Scenarios of Analysis

- 2013 New Jobs: Workers hired from program inception to support GJGNY-related work
- 2013 Retained Jobs: Workers retained specifically to support GJGNY-related work
- 2013 Up-skilled and Up-waged Jobs: Labor income associated with up-skilled workers who subsequently received higher wages
- 2015 Jobs: Includes projection of all workers hired or retained from program inception to 2015

nyserda Energy. Innovation. Solutions.

Modeling Framework

Direct Economic Impacts

Phase I

Direct GJGNY Jobs (new and retained)

Direct GJGNY up-skilled and up-waged labor income

Purchases of goods and services

Purchases of goods and services

Phase II

e.g. construction materials and services

e.g. engineering, professional services

Purchases of goods and services

Consumer goods and services

Sales and jobs from household spending on food, housing, clothing, health, education, transportation, use of government services, etc.

Indirect Economic Impacts

Induced Economic Impacts

Energy. Innovation. Solutions.

Phase 2: Economic Modeling Output

- **Jobs** – Created by industry, based on the output per worker and output impacts for each industry.
- **Labor Income** – A component of the value added; it consists of all forms of job income. Consistent with I/O terminology, IMPLAN defines this as the sum of the worker compensation and proprietor's income.
- **Output** – Represents the total value of the output from each industry, which is attributable to program jobs and industry spending.
- **Gross State Product (GSP)** – Catch-all for payments made by individual industry sectors to workers, interests, profits, and indirect business taxes.

nyserda
Energy. Innovation. Solutions.

Phase 2: Results through 2013

- In 2013 GJGNY program supports approximately 1,590 NYS jobs and nearly $125M in GSP
- Every direct job supports 1.64 jobs and every direct dollar of GSP supports nearly $2 of total GSP

2013	Jobs	Labor Income	GSP	Output	Jobs Multiplier	GSP Multiplier
Direct Effect	970	$54,104,000	$63,380,000	$130,295,000	1.64	1.97
Indirect Effect	270	$17,628,000	$27,035,000	$40,590,000		
Induced Effect	350	$19,464,000	$34,443,000	$52,361,000		
Total Effect	**1,590**	**$91,196,000**	**$124,858,000**	**$223,246,000**		

Source: IMPLAN results, job figures rounded to the nearest ten, dollar figures rounded to the nearest thousand so totals may not sum

Preliminary results 9-12-13.

nyserda Energy. Innovation. Solutions.

Phase 2: Results through 2015

- By 2015, GJGNY is expected to support approximately 4,360 NYS jobs and nearly $342M in GSP
- Every direct job supports 1.61 jobs and every direct dollar of GSP supports nearly $2 total GSP

2015	Jobs	Labor Income	GSP	Output	Jobs Multiplier	GSP Multiplier
Direct Effect	2,710	$ 140,399,000	$ 178,713,000	$ 387,450,000	**1.61**	**1.91**
Indirect Effect	760	$ 47,967,000	$ 74,222,000	$ 114,983,000		
Induced Effect	890	$ 50,082,000	$ 88,564,000	$ 134,645,000		
Total Effect	**4,360**	**$ 238,419,000**	**$ 341,499,000**	**$ 637,077,000**		

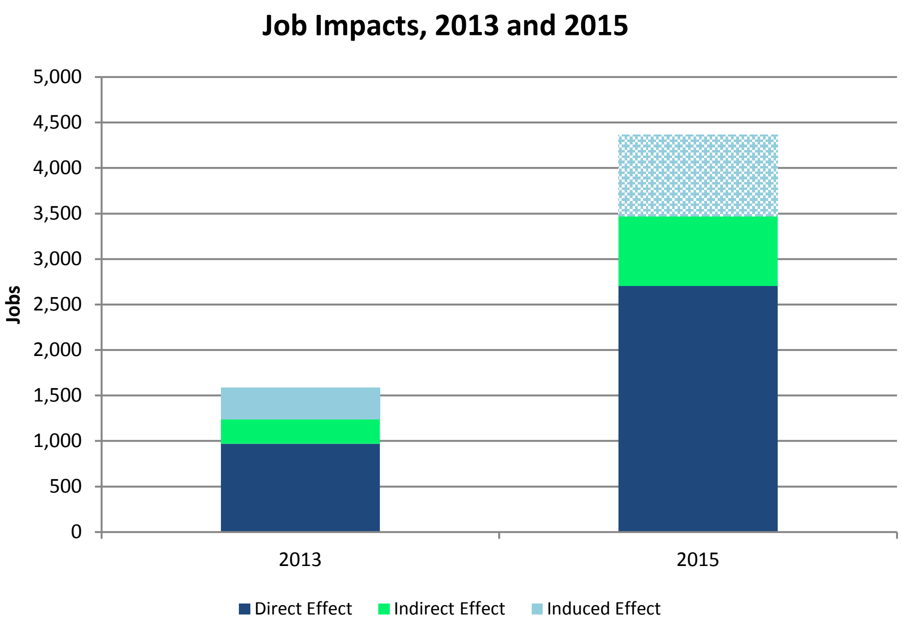
Source: IMPLAN results, job figures rounded to the nearest ten, dollar figures rounded to the nearest thousand so totals may not sum

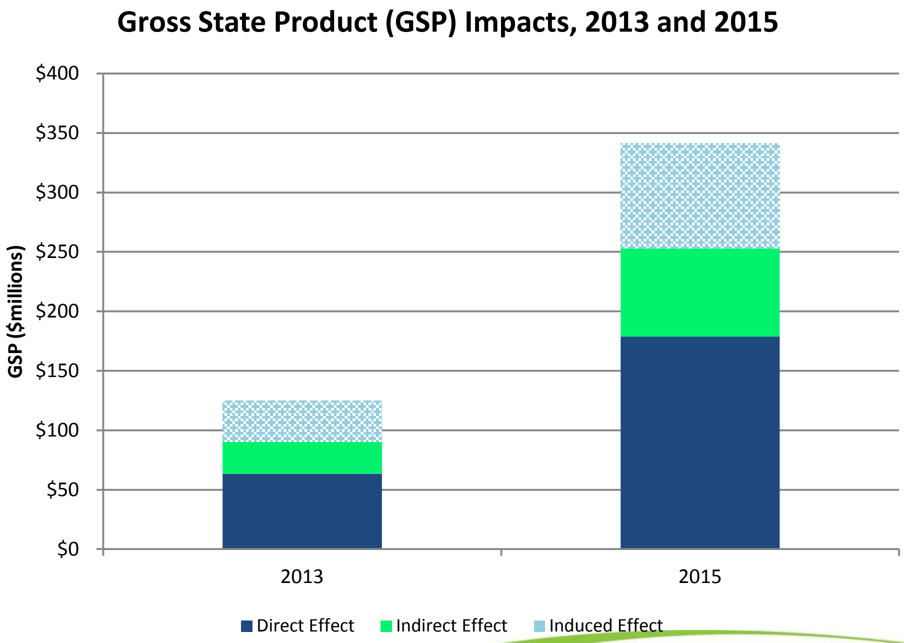
Preliminary results 9-12-13.

nyserda
Energy. Innovation. Solutions.

Phase 2: 2013 vs. 2015 Results

- 2015 results signify progressive expected growth of direct jobs and total effect
- Trends in impact contribution consistent
  - Direct jobs account for 61% of 2013 and 62% of 2015 total job impacts
  - Direct GSP accounts for 51% of 2013 and 52% of 2015 total GSP impact





Source: IMPLAN results. Preliminary results 9-12-13.

Phase 2: Results by Job Type

- Most significant impacts result from New Jobs
- Slightly higher jobs multiplier from Retained Jobs, due to higher labor income-per-worker

Job Type	Jobs	Labor Income	GSP	Output	Jobs Multiplier	GSP Multiplier
2013 New Jobs	960	$ 52,957,000	$ 73,851,000	$ 137,383,000	1.61	1.97
2013 Retained Jobs	610	$ 37,583,000	$ 49,846,000	$ 84,098,000	1.64	1.93
2013 Up-Skilled/Up-Waged Jobs	10	$ 656,000	$ 1,161,000	$ 1,765,000	N/A	N/A

Note: Totals include direct, indirect, and induced effects
Source: IMPLAN results, job figures rounded to the nearest ten, dollar figures rounded to the nearest thousand so totals may not sum

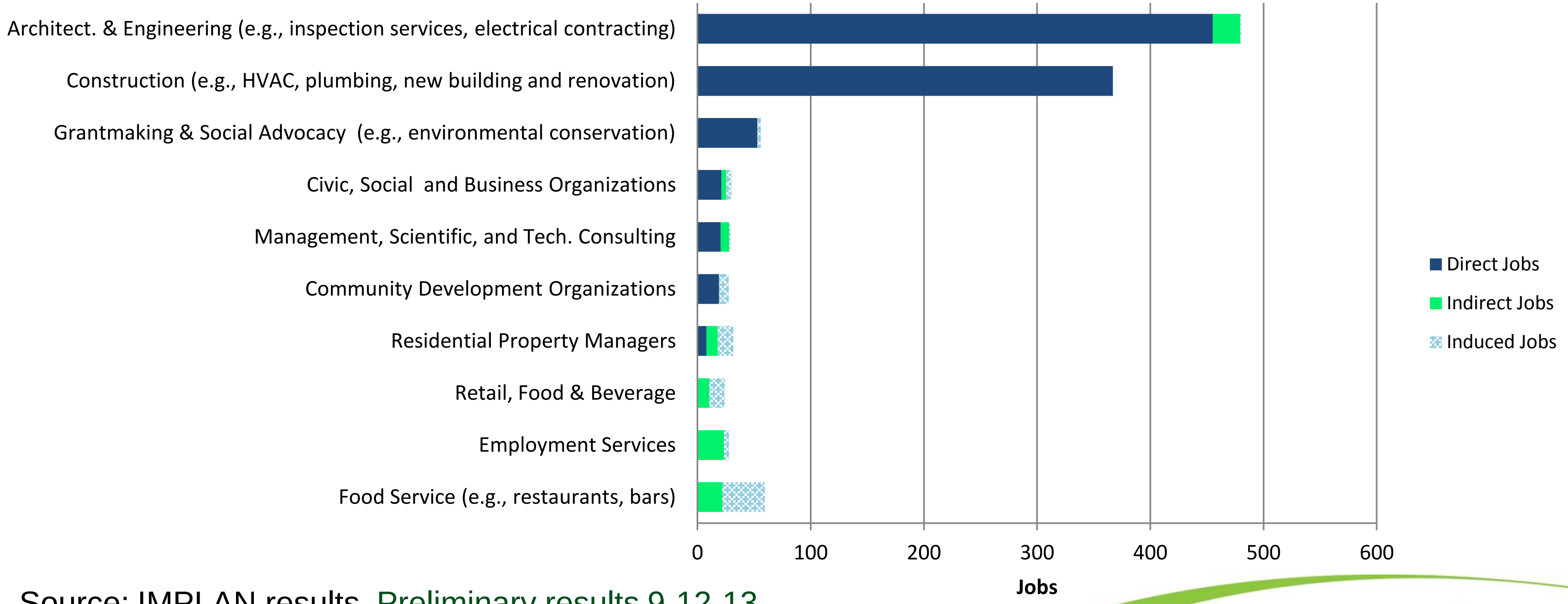
Preliminary results 9-12-13.

nyserda
Energy. Innovation. Solutions.

Phase 2: 2013 Results by Industry

- Architecture & Engineering and Construction industries drive job impacts
- Same top two industries dominate for 2015, but with Construction overtaking Architecture & Engineering

Job Impacts by Industry, sorted by number of direct jobs, 2013



Source: IMPLAN results. Preliminary results 9-12-13.

Phase 2: Wage Comparison Results

- Average annual wage difference between Up-skilled/Up-waged Workers' previous and current wage $11,300 (18% increase)

- Industries with greater than average wage difference:
  - Building Inspection Services: 19%
  - Engineering Services: 21%
  - Plumbing, heating and air -conditioning contractors: 27%
  - Drywall and insulation contractors: 28%
  - Residential Remodelers: 38%

- Industries with a less than average wage difference:
  - Other Management Consulting Services: 9%
  - Other Social Advocacy Organizations: 13%
  - Environment, Conservation and Wildlife Organizations: 15%
  - New Single-family housing construction: 17%

Preliminary results 9-12-13.

Questions?

- NYSERDA
  - Carley Murray (Phase 1), cm1@nyserda.ny.gov
  - Michelle Salisbury (Phase 2), mls@nyserda.ny.gov
- NMR Group (Phase 1)
  - Rohit Vaidya, rvaidya@nmrgroupinc.com
- ICF Consulting (Phase 2)
  - Elizabeth Johnston, Elizabeth.Johnston@icfi.com

nyserda
Energy. Innovation. Solutions.