NEW YORK STATE OF OPPORTUNITY. | NYSERDA

New York's Regional Greenhouse Gas Initiative-Funded Programs Annual Status Report

Quarter Ending December 31, 2015

Final Report

May 2016

NYSERDA's Promise to New Yorkers:

NYSERDA provides resources, expertise, and objective information so New Yorkers can make confident, informed energy decisions.

Mission Statement:

Advance innovative energy solutions in ways that improve New York's economy and environment.

Vision Statement:

Serve as a catalyst – advancing energy innovation, technology, and investment; transforming New York's economy; and empowering people to choose clean and efficient energy as part of their everyday lives.

NYSERDA Record of Revision

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New York's Regional Greenhouse Gas Initiative-Funded Programs Annual Status Report Quarter Ending December 31, 2015

Final Report

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New York State Energy Research and Development Authority

May 2016

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Acronyms and Abbreviations

AHPwES	Assisted Home Performance with ENERGY STAR®
CBO	constituency-based organization
CGC	Cleaner, Greener Communities
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalents
EEPS	Energy Efficiency Portfolio Standard
EFC	New York State Environmental Facilities Corporation
EPA	U.S. Environmental Protection Agency
ERP	Energy Reduction Plan
GHG	greenhouse gas
GJGNY	Green Jobs - Green New York
HPwES	Home Performance with ENERGY STAR®
kW	kilowatt
kWh	kilowatt-hour
LIPA	Long Island Power Authority
MMBtu	million British thermal units
MPP	Multifamily Performance Program
MW	megawatt
MWh	megawatt-hour
NYPA	New York Power Authority
NYS or State	New York State
NYSDOL	New York State Department of Labor
NYSERDA	New York State Energy Research and Development Authority
OBR	On-Bill Recovery Financing Program
PON	Program Opportunity Notice
PV	photovoltaic (also known as solar electric)
RFP	request for proposals
RGGI	Regional Greenhouse Gas Initiative
RPS	Renewable Portfolio Standard
SBC	System Benefits Charge
ST	solar thermal (also known as solar hot water)
WFD	Workforce Training and Development

1 Introduction

In New York State, the Regional Greenhouse Gas Initiative (RGGI) program has been implemented through two complementary regulations: the New York State Department of Environmental Conservation (DEC) established New York's Carbon Dioxide (CO_2) Budget Trading Program (6 NYCRR Part 242, 6 NYCRR Part 200, General Provisions), and the New York State Energy Research and Development Authority (NYSERDA) established the CO_2 Allowance Auction Program (21 NYCRR Part 507). This report is prepared pursuant to New York's Regional Greenhouse Gas Initiative Investment Plan (2015 Operating Plan) and provides an update on the progress of programs through the quarter ending December 31, 2015. It contains an accounting of program spending; an estimate of program benefits; and a summary description of program activities, implementation, and evaluation. NYSERDA's Board approved an amendment providing updated program descriptions and funding levels for the 2015 version of the Operating Plan on June 18, 2015.

New York State (NYS or the State) invests RGGI proceeds to support comprehensive strategies that best achieve the RGGI CO_2 emission reduction goals. These strategies aim to reduce global climate change and pollution through energy efficiency, renewable energy, and carbon abatement technology. Deploying commercially available renewable energy and energy efficiency technologies helps to reduce greenhouse gas (GHG) emissions from both electricity and other energy sources in the short term. To move the State toward a more sustainable future, RGGI funds are used to empower communities to make decisions that prompt the use of cleaner and more energy efficient technologies that lead to lower carbon emissions as well as economic and societal co-benefits. RGGI helps to build capacity for long-term carbon reduction by training workers and partnering with industry. Using innovative financing, RGGI supports the pursuit of cleaner, more efficient energy systems and encourages investment to stimulate entrepreneurial growth of clean energy companies. All of these activities use funds in ways that accelerate the uptake of low-emitting technologies.

2 Summary of Portfolio and Program Benefits

An overview of the quantifiable benefits that are expected to be achieved with expended and encumbered funds through this quarter related to carbon dioxide equivalent (CO_2e) reductions, energy savings, and energy bill savings is presented in this section. For more information on the methodology used to calculate CO_2e reductions and energy bill savings, see Appendix A. Former program names are listed in Appendix B. Detailed benefit results are presented in Appendix C.

The estimated cumulative annualized and expected lifetime benefits as of December 31, 2015, at the portfolio and program levels, are shown in Table 1 and Table 2, respectively.[1] Investment benefits are further compared by fuel type in Figure 1. NYSERDA begins tracking program benefits once projects have been installed, and provides estimated benefits for projects under contract but not yet operational (pipeline benefits). These benefits are estimated based on the expected lifetime benefits from installed and pipeline savings. The metrics presented in this section are estimates and have not been evaluated. When evaluation results are available, they will be presented in future Evaluation and Status Reports, which will include these metrics along with macroeconomic indicators such as job creation resulting from program activity. The reporting of fund transfers may lag behind the installation date such that program benefits are reported prior to the financial reporting of funds spent. At this time, the program benefits include some projects that are also supported by other non-RGGI funding sources administered by NYSERDA.

Figure 1 shows energy savings, emission reductions, and participant energy bill savings realized through RGGI-funded projects by project fuel type as of December 31, 2015.

Key observations during this quarter:

- Electric energy efficiency comprised 42 percent of energy savings, 29 percent of emission reductions, and 42 percent of bill savings.
- #2 oil comprised 20 percent of energy savings, 36 percent of emission reductions, and 28 percent of bill savings.

[1] Cumulative annual benefits are reflective of the annual impacts from all currently operational projects installed, projects under a signed contract and projects with an application received that are not yet operational since program inception. Expected lifetime benefits are reflective of the total impacts over the entire lifecycle from all currently operational projects installed, projects under a signed contract and projects with an application received that are not yet operational since program inception. Please see Table A-4 in Appendix A for the measure-life assumptions.

- Natural gas comprised 15 percent of energy savings, 19 percent of emission reductions, and 7 percent of bill savings. #2 oil accounts for a much larger share of emission reductions and bill savings than natural gas because natural gas emits less carbon dioxide and costs less per unit of energy produced.
- Renewable generation comprised 21 percent of energy savings, 15 percent of emission reductions, and 22 percent of bill savings. Renewable generation and energy efficiency are responsible for a relatively small share of emission reductions in part because the average emissions factor for in-state electricity generation has diminished over the past decade with the retirement of coal generators and addition of new renewable energy sources.
- Other fuels (including propane, steam, wood, kerosene, coal, and #6 oil) comprised 1 percent of energy savings, 2 percent of emission reductions, and 1 percent of bill savings.

To highlight the diversity and effectiveness of the RGGI portfolio, this report includes success stories of projects that are advancing the previously stated strategies.

Table 1. Summary of Expected Cumulative Portfolio Benefits through December 31, 2015

Benefits through December 31, 2015[a]	Net Greenhouse Gas Emission Savings[b] (Tons CO_2e[c])	Total Net Fuel Savings (MMBtu)	Net Efficiency Electricity Savings (MWh)	Net Renewable Energy Generation (MWh)	Total Net Electricity Savings/Generation (MWh)	Energy Bill Savings to Participating Customers ($ Million)
Cumulative Annualized Installed Savings[d]	277,276	2,025,159	236,298	120,506	356,804	$102.2
Cumulative Annualized Pipeline Savings[e]	74,526	606,510	19,398	67,716	87,114	$27.7
Cumulative Annualized Committed Savings[f]	351,802	2,631,669	255,696	188,222	443,918	$129.9
Expected Lifetime Total Savings[g]	6,865,127	52,693,833	4,290,282	4,517,167	8,807,449	$2,710.8

[a] Cross-program overlap for projects that received any combination of a Green Jobs - Green New York (GJGNY) assessment, a GJGNY loan, or a RGGI-funded incentive through the Home Performance with ENERGY STAR® Program has been removed.

[b] These emission reductions are associated with both electric and fossil-fuel saving measures. Under a cap-and-trade system, the total number of emission allowances is determined by regulation. Regulated entities can purchase allowances and collectively emit up to the cap that is currently in place. Therefore, in the near term, electric efficiency projects may not decrease the overall amount of emissions going into the atmosphere. However, electric efficiency projects will reduce end-users' responsibility or footprint associated with emissions from electricity production.

[c] CO_2e stands for carbon dioxide equivalent and describes the amount of CO_2 that would have the same global warming potential as a given mixture of gases based on factors published by the Intergovernmental Panel on Climate Change.

[d] Inclusive of savings from all currently operational projects installed since program inception.

[e] Inclusive of savings from all projects under a signed contract and projects with an application received that are not yet operational.

[f] The sum of Installed Savings and Pipeline Savings.

[g] The expected benefits over the lifetime of all operational projects, projects under a signed contract, and projects with an application received that are not yet operational. See Table A-4 in Appendix A for the measure-life assumptions.

Table 2. Summary of Expected Cumulative Annualized Program Benefits through December 31, 2015

Program	Costs (millions of dollars)		Net Energy Savings (Annualized MMBtu)			Cost Benefit Ratio ($/MMBtu)		Net Electricity Savings or Renewable Energy Generation (Annualized MWh)			Cost Benefit Ratio ($/MWh)		Net Greenhouse Gas Emission Savings[a] (Annualized Tons CO_2e[b])			Cost Benefit Ratio ($/Ton CO_2e)	
	Total Incentives[c]	Total Associated Costs[d]	Installed Savings[e]	Pipeline Savings[f]	Total Committed Savings[g]	$/MMBtu Savings[h]	$/MMBtu EXPECTED LIFETIME Savings[i]	Installed Savings[e]	Pipeline Savings[f]	Total Committed Savings[g]	$/MWh Savings[h]	$/MWh EXPECTED LIFETIME Savings[i]	Installed Savings[e]	Pipeline Savings[f]	Total Committed Savings[g]	$/Ton CO2e Savings[h]	$/CO2e EXPECTED LIFETIME Savings[i]
Green Jobs - Green New York																	
One- to Four-Family Residential Buildings Program Assessments[j]	$24.3	$1.0	823,802	342,615	1,166,417	22	1	10,160	4,229	14,389	1,761	98	62,828	26,128	88,956	285	12
One-to Four-Family Residential Buildings Program Financing[j]	$60.5	$8.9	467,760	58,798	526,558	132	6	34,547	4,341	38,887	1,783	94	44,945	5,649	50,594	1,370	62
Multifamily Performance Program Assessments[j]	$3.4	$1.4	646,169	105,025	751,195	6	0.4	47,135	7,661	54,796	89	7	56,374	9,163	65,536	74	5
Small Commercial Energy Efficiency Program Financing[j]	$1.1	$0.5	6,176	-	6,176	256	12	626	-	626	2,524	194	563	-	563	2,803	154
Energy Efficiency																	
LIPA Energy Efficiency and Renewable Energy Initiative	$79.8	-	-	-	-	-	-	194,996	-	194,996	409	22	60,936	-	60,936	1,310	69
Multifamily Performance Program	$16.6	$2.0	290,930	272,230	563,160	33	2	5,803	5,430	11,233	1,659	128	24,767	23,175	47,941	389	25
Multifamily Carbon Emissions Reduction Program[k]	$5.7	$0.2	-	-	-	-	-	-	-	-	-	-	21,793	2,976	24,770	237	18
EmPower New York	$20.1	$1.4	109,746	19,061	128,807	167	7	-	-	-	-	-	8,197	1,490	9,687	2,219	92
Home Performance with ENERGY STAR®	$16.4	$1.7	280,646	8,502	289,147	63	3	1,534	67	1,601	11,310	628	22,914	688	23,602	767	32
Green Residential Building Program	$2.5	$0.3	36,548	-	36,548	75	3	1,573	-	1,573	1,748	97	2,663	-	2,663	1,032	45
Solar Hot Water (Thermal) Program	$4.1	$0.2	10,805	3,449	14,254	300	15	22	7	28	-	-	804	257	1,060	4,030	201
Low-Rise Residential New Construction Program[l]	$0.8	-	6,441	5,355	11,796	72	3	-	-	-	-	-	441	367	808	1,045	44
Renewable Energy																	
Renewable Heat New York[m]	$0.3	$0.04	1,136	1,415	2,550	122	6	39	19	58	5,376	269	77	84	160	1,940	97
NY-Sun Initiative	$47.6	$0.7	-	-	-	-	-	80,199	73,396	153,595	315	13	25,062	22,936	47,998	1,008	40
NYSERDA Solar Electric	$5.2	$0.1	-	-	-	-	-	2,064	153	2,217	2,400	96	645	48	693	7,679	307
Community Clean Energy																	
Regional Economic Development & GHG Reduction	$0.8	-	-	5,812	5,812	145	8	-	3,687	3,687	229	13	-	1,542	1,542	547	30
Cross-Program Overlap[n]	N/A	N/A	-654,999	-215,752	-870,752	N/A	N/A	-21,892	-11,876	-33,769	N/A	N/A	-55,734	-19,975	-75,709	N/A	N/A
TOTAL Annualized Cumulative Benefits[o]	**$289.3**	**$18.4**	**2,025,159**	**606,510**	**2,631,669**	**117**	**N/A**	**356,804**	**87,114**	**443,918**	**693**	**N/A**	**277,276**	**74,526**	**351,802**	**875**	**N/A**
TOTAL Expected Lifetime Cumulative Benefits[o]	**$289.3**	**$18.4**	**40,963,368**	**11,730,465**	**52,693,833**	**N/A**	**6**	**6,848,341**	**1,959,108**	**8,807,449**	**N/A**	**35**	**5,358,652**	**1,506,475**	**6,865,127**	**N/A**	**45**

Table notes are on the next page

Table 2 continued

[a] These emission reductions are associated with both electric and fossil-fuel saving measures. Under a cap-and-trade system, the total number of emission allowances is determined by regulation. Regulated entities can purchase allowances and collectively emit up to the cap that is currently in place. Therefore, in the near term, electric efficiency projects may not decrease the overall amount of emissions going into the atmosphere. However, electric efficiency projects will reduce end users' responsibility or footprint associated with emissions from electricity production.

[b] CO_2e stands for carbon dioxide equivalent and describes the amount of CO_2 that would have the same global warming potential as a given mixture of gases based on factors published by the Intergovernmental Panel on Climate Change.

[c] Inclusive of incentive dollars for expenditures, encumbrances, and contract pre-encumbrances.

[d] Inclusive of all non-incentive expenditures.

[e] Inclusive of savings from all currently operational projects installed since program inception.

[f] Inclusive of savings from all projects under a signed contract and projects with an application received that are not yet operational.

[g] The sum of Installed Savings and Pipeline Savings.

[h] The sum of Total Incentives and Total Associated Costs divided by Total Committed Savings.

[i] The sum of Total Incentives and Total Associated Costs divided by the Expected Lifetime Total Committed Savings. Inclusive of cross-program overlap.

[j] The benefits for this program include some projects that have also been supported by other non-RGGI NYSERDA funding sources.

[k] The Multifamily Carbon Emissions Reduction Program is a fuel-switching program and does not claim any energy or bill savings.

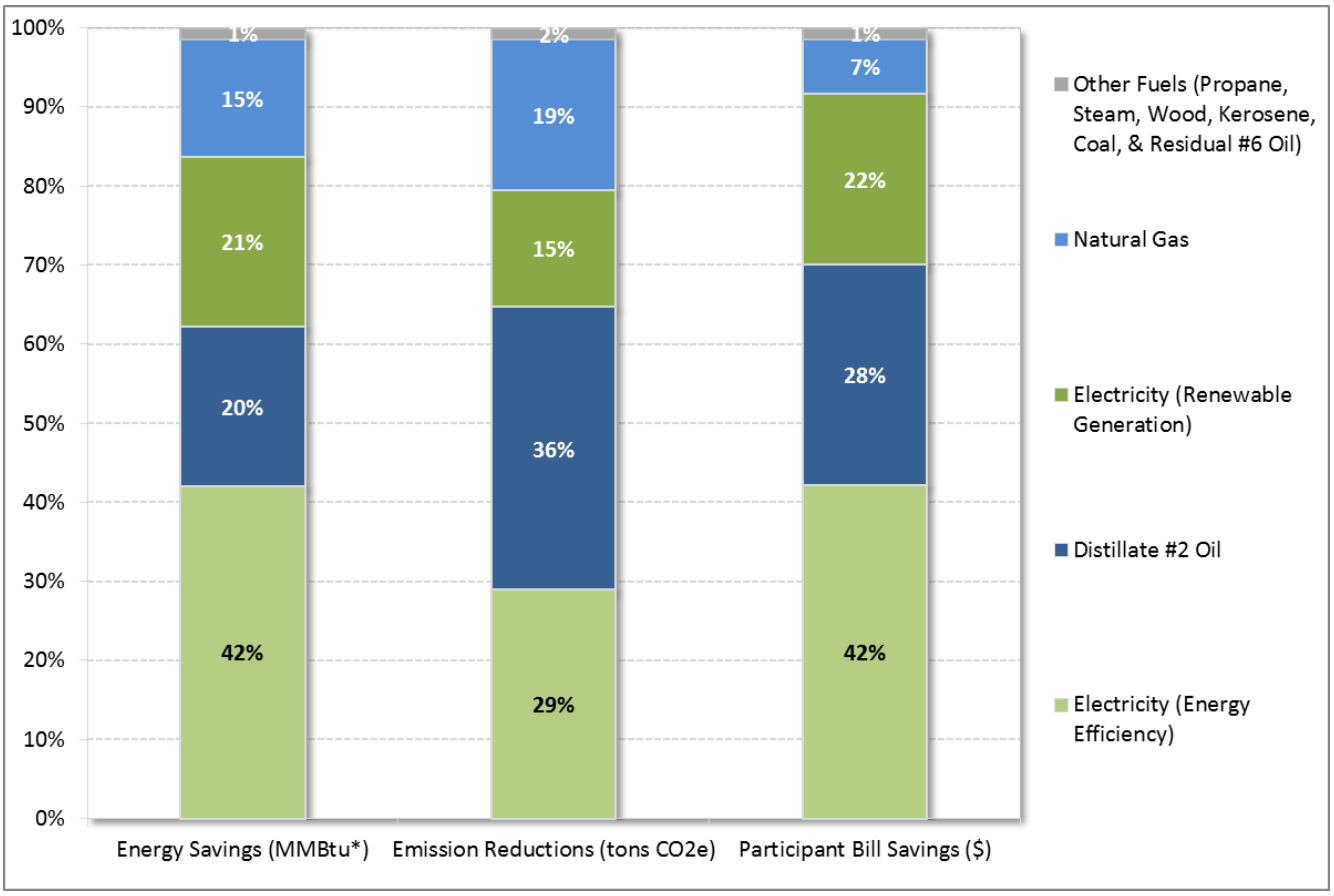
[l] The electricity savings for the Low-Rise Residential New Construction Program (LRNC) are supported with non-RGGI funding sources. Prior RGGI Status Reports erroneously included the electricity savings from the LRNC program as a RGGI-funded benefit.

[m] The Pipeline Savings for Renewable Heat NY decreased in the fourth quarter of 2015 compared to the second and third quarters of 2015 due to a change in methodology.

[n] Cross-program overlap accounts for projects that received any combination of a GJGNY assessment, a GJGNY loan, or a RGGI-funded incentive through the Home Performance with ENERGY STAR® Program, NY-Sun Program or Renewable Heat NY Program.

[o] Totals may not sum exactly due to rounding.

Figure 1. Percent Contribution by Fuel Type for Energy Savings, Emission Reductions, and Bill Savings through December 31, 2015[2]



* To convert to source MMBtu, the kWh savings, and generation for the electric measures were adjusted to account for savings at the source of generation. This approach enables an order of magnitude comparison between electric and fuel energy savings/generation. The source factor used is 9,860 Btu/kWh, which is based on a three-year rolling average (2009, 2010, and 2011) of the amount of fossil fuel energy generated to produce electricity over the three-year period, and includes a line loss factor of 7.2 percent.

2 Columns may not sum exactly to 100 percent due to rounding.

3 Funds

3.1 Proceeds

As of December 31, 2015, New York State sold nearly 300.6 million CO_2 allowances and received nearly $896.0 million in auction proceeds. In addition, nearly $9.1 million in interest was earned on the RGGI portfolio and more than $1.8 million in interest was earned on the Green Jobs - Green New York (GJGNY) program. More than $5.9 million in interest earnings were allocated on the RGGI portfolio and nearly $1.8 million in interest earnings were allocated to the GJGNY program. The allocated interest earnings are reinvested for program implementation and distributed across various RGGI programs. Detailed auction proceeds and total funds for NYS RGGI are presented in Appendix D and Appendix E, respectively. Total NYS RGGI funds are listed in Table 3, and detailed auction proceeds for NYS RGGI are displayed in Figure 2.

Table 3. New York State's RGGI Auction Results and Funds through December 31, 2015[a]

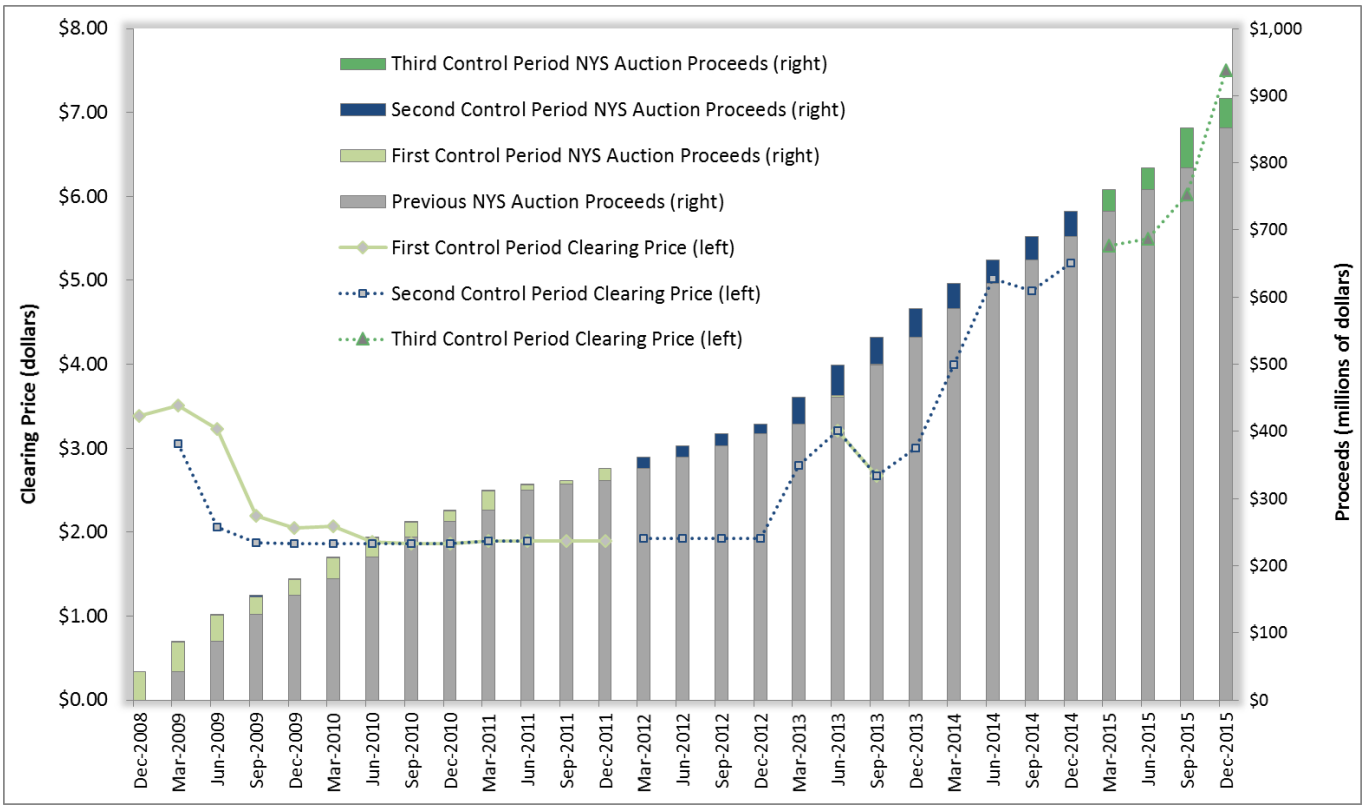
Source: RGGI, Inc. and NYSERDA

Fund Category	NYS Allowances Sold	Cumulative Funds
First Control Period Total	144,305,904	$336,282,535
Second Control Period Total	128,764,643	$391,950,232
Third Control Period Total	27,519,062	$167,732,009
RGGI Auction Proceeds	**300,589,609**	**$895,964,775**
RGGI Portfolio Interest Earnings		$9,067,174
GJGNY Program Interest Earnings		$1,844,037
TOTAL Funds		**$906,875,986**

[a] The first control period for fossil-fuel-fired electric generators took effect on January 1, 2009, and concluded on December 31, 2011. The second control period took effect on January 1, 2012, and concluded on December 31, 2014. The third control period took effect on January 1, 2015 and extends through December 31, 2018.

Figure 2. New York State's RGGI Auction Results through December 31, 2015

Source: RGGI, Inc.



3.2 Budget

Financial data for the approved RGGI programs through December 31, 2015, are presented in Table 4 through Table 6. Table 4 presents the current expended, encumbered, and committed funds for each program and reflects how the more than $906.9 million of current funds are distributed across the six major program areas and other costs:

- Renewable Energy
- Energy Efficiency
- Innovation GHG Abatement Strategies
- Community Clean Energy
- GJGNY
- NY Green Bank

Table 5 and Table 6 present the financial data for the approved GJGNY program and NY Green Bank, respectively, through December 31, 2015.

Table 4. Available Funding and Financial Status through December 31, 2015 (millions of dollars)

Source: NYSERDA

	Budgeted Funds [a]	Expended Funds[b]	Open Encumbrances[c]	Pre-Encumbrances[d]	Committed Funds[e]	Remaining Balance[f]
Renewable Energy						
Renewable Heat NY	10.3	1.7	5.7	1.2	8.6	1.7
NY-Sun	77.3	28.7	17.7	2.0	48.4	28.9
NYSERDA Solar Electric Programs	5.3	5.3	0.03	-	5.3	-
NY Generation Attribute Tracking	1.5	-	0.72	0.4	1.1	0.4
Advanced Renewable Energy	2.9	2.8	0.07	0.04	2.9	-
Total Renewable Energy	**97.3**	**38.4**	**24.3**	**3.6**	**66.3**	**31.0**
Energy Efficiency						
LIPA Energy Efficiency and Renewable Energy	79.8	79.8	-	-	79.8	-
Residential Efficiency Services	81.1	57.1	9.8	5.1	72.0	9.2
Municipal Water and Wastewater	1.2	1.2	-	-	1.2	-
Total Energy Efficiency	**162.2**	**138.1**	**9.8**	**5.1**	**153.0**	**9.2**
Innovative GHG Abatement Strategies						
Industrial Innovations	13.0	6.0	6.7	0.4	13.0	-
Climate Research and Analysis	11.6	5.1	2.4	0.3	7.8	3.8
Clean Energy Business Development	28.1	10.4	3.1	3.0	16.4	11.7
Charge NY	6.3	-	-	0.1	0.1	6.2
Transportation Research	5.4	1.9	0.12	3.3	5.3	0.1
Carbon Capture and Sequestration	1.0	1.0	-	-	1.0	-
Advanced Buildings	4.6	1.0	0.5	-	1.5	3.1
Competitive Greenhouse Gas Reduction Pilot	14.5	-	1.0	13.5	14.5	-
Total Innovative GHG Abatement Strategies	**84.6**	**25.4**	**13.8**	**20.5**	**59.6**	**25.0**
Community Clean Energy						
Climate Smart Communities	7.3	4.3	0.1	-	4.4	2.9
Economic Development Growth Extension	8.4	4.5	0.6	-	5.1	3.3
Cleaner, Greener Communities	106.1	16.8	35.3	45.9	98.0	8.1
Regional Economic Development and Greenhouse Gas Reductions	10.3	7.9	2.4	-	10.3	-
REV Campus Competition	3.0	-	-	-	-	3.0
Total Community Clean Energy	**135.0**	**33.4**	**38.5**	**45.9**	**117.7**	**17.3**
Other Costs [g]						
Deficit Reduction Plan (DRP) Transfer [h]	90.0	90.0	-	-	90.0	-
Con Edison Smart Grid Program [i]	20.6	20.6	-	-	20.6	-
Program Administration [j]	22.4	18.3	0.04	-	18.3	4.1
Metrics and Evaluation	15.0	2.9	3.0	5.7	11.6	3.4
RGGI Inc. Costs [k]	7.0	6.0	-	-	6.0	0.9
New York State Cost Recovery Fee	13.5	6.5	-	-	6.5	7.0
Allocation Surplus/(Deficit)[l]	15.1	-	-	-	-	15.1
Environmental Tax Credit	41.0	41.0	-	-	41.0	-
Unallocated Interest Earnings	3.2	-	-	-	-	3.2
OTHER COSTS TOTAL	**227.7**	**185.3**	**3.0**	**5.7**	**194.0**	**33.6**
SUBTOTAL	**706.7**	**420.6**	**89.4**	**80.7**	**590.7**	**116.0**
Green Jobs - Green New York						
Green Jobs - Green New York	147.3	120.3	8.2	12.1	140.6	6.7
NY Green Bank						
NY Green Bank[m]	52.9	3.4	11.6	9.9	25.0	27.9
TOTAL[n]	**906.9**	**544.3**	**109.2**	**102.7**	**756.2**	**150.6**

Table notes are on the next page

Table 4 continued

[a] Includes auction proceeds and allocated interest on the RGGI and GJGNY portfolios. The allocation is consistent with the budget presented in the Operating Plan.

[b] Invoices processed for payment by NYSERDA.

[c] Remaining funding obligated under a contract, purchase order, or incentive award.

[d] Planned funding for contracts awarded and under negotiation; and planned funding under active development through open solicitations with upcoming proposal due dates, adjusted so that the sum of the project commitments does not exceed Budgeted Funds. NYSERDA's annual audited financial statements may reflect project commitments in excess of Budgeted Funds. These commitments are expected to decrease over time due to project attrition and differences in estimated versus actual costs.

[e] The sum of Expended, Encumbered, and Pre-Encumbered funds.

[f] The difference between Budgeted Funds and Committed Funds.

[g] The values for Program Administration, Metrics and Evaluation, and the New York State Cost Recovery Fee represent aggregate funds and commitments for RGGI-funded activities, NOT including GJGNY. For information on GJGNY finances, refer to Table 5.

[h] On December 4, 2009, New York State enacted numerous deficit reduction measures that included the transfer of $90 million in RGGI auction proceeds to the General Fund following the global financial crisis.

[i] On December 22, 2009, NYSERDA's Board approved a proposed consent decree that resolves the legal challenge to the State's RGGI program. In October 2010, State Supreme Court Judge Thomas J. McNamara signed a Stipulation and Order of Discontinuance signed by all the parties, thereby formally ending the litigation. The parties to the consent decree presently estimate that the total commensurate benefit for the calendar years 2009-2017 is $20.8 million and agreed to dedicate such funds for the development of smart grid technologies in the Con Edison territory. The budget reflects allocations that are intended to fund NYSERDA's estimated liability for each calendar year control period consistent with the timing of estimated cash payments due to Con Edison. NYSERDA is also responsible for certain additional costs that may be incurred through 2017. NYSERDA's annual audited financial statements show an amount expended of $18.0 million to reflect these additional estimated costs that were required to be recorded.

[j] Includes NYSERDA's upfront administrative expenses related to the development and implementation of the CO_2 Budget Trading Program, the CO_2 Allowance Auction program, and the Operating Plan.

[k] The first-year budget includes RGGI Inc. start-up costs and New York State's share of ongoing RGGI Inc. expenses. RGGI Inc. is a nonprofit corporation created to support development and implementation of the CO_2 Budget Trading Program.

[l] Fiscal year 2015-2016 concluded with a surplus as a result of the difference between projected and actual revenues in that timeframe.

[m] The RGGI Status Report for Quarter Ending September 30, 2015 was republished in April 2015 to revise Table 6. NY Green Bank Available Funding and Financial Status. Please see republished RGGI Status Report for Quarter Ending September 30, 2015 for more details.

[n] Totals may not sum exactly due to rounding.

Table 5. Green Jobs - Green New York Available Funding and Financial Status through December 31, 2015 (millions of dollars)

	Budgeted Funds [a]	Expended Funds[b]	Open Encumbrances[c]	Pre-Encumbrances[d]	Committed Funds[e]	Remaining Balance[f]
Workforce Development, Outreach and Marketing						
Workforce Development	7.3	6.2	0.5	-	6.7	0.6
Outreach and Marketing	14.9	12.8	1.4	0.3	14.5	0.5
Total Workforce Development, Outreach and Marketing	**22.3**	**19.0**	**1.9**	**0.3**	**21.1**	**1.1**
Residential						
Energy Assessment Incentive	24.2	22.0	-	2.2	24.2	-
Implementation Costs	1.0	1.0	-	-	1.0	0.05
Financing: Loans	59.6	142.4	-	8.5	150.9	
Financing: Loan Repayments	-	(13.8)	-	-	(13.8)	
Financing: Implementation Costs	-	7.1	0.2	-	7.3	
Financing: Bond Proceeds	-	(56.9)	-	-	(56.9)	
Financing: Bond Issue Costs	-	1.9	0.1	-	2.0	
Financing: Short Term Note	-	(30.0)	-	-	(30.0)	
Total Financing	**59.6**	**50.8**	**0.3**	**8.5**	**59.6**	**-**
Total Residential	**84.7**	**73.7**	**0.3**	**10.7**	**84.7**	**0.05**
Multifamily						
Energy Assessments	3.8	2.8	0.7	-	3.5	0.3
Implementation Costs	1.6	1.4	0.0004	-	1.4	0.2
Financing: Loans	4.6	3.8	0.04	0.1	3.9	
Financing: Loan Repayments	-	(1.2)	-	-	(1.2)	
Financing: Implementation Costs	0.3	0.2	-	-	0.2	
Total Financing	**4.9**	**2.7**	**0.0**	**0.09**	**2.9**	**2.1**
Total Multifamily	**10.3**	**6.9**	**0.7**	**0.09**	**7.7**	**2.6**
Small Commercial						
Energy Assessments	8.6	5.4	3.2	-	8.6	0.0
Implementation Costs	1.0	0.7	0.4	-	1.0	0.0
Financing: Loans	2.0	1.2	-	-	1.2	
Financing: Loan Repayments	-	(0.2)	-	-	(0.2)	
Financing: Implementation Costs	0.3	0.2	0.3	-	0.5	
Total Financing	**2.3**	**1.3**	**0.3**	**-**	**1.6**	**0.7**
Total Small Commercial	**11.9**	**7.4**	**3.8**	**-**	**11.2**	**0.7**
SUBTOTAL	**129.3**	**107.0**	**6.7**	**11.1**	**124.8**	**4.5**
Other Costs						
Program Administration	10.4	8.6	-	-	8.6	1.8
Program Evaluation	5.6	2.9	1.5	1.0	5.4	0.2
New York State Cost Recovery Fee	1.9	1.8	-	-	1.8	0.1
Unallocated Interest Earnings	0.1	-	-	-	-	0.06
OTHER COSTS TOTAL	**18.0**	**13.3**	**1.5**	**1.0**	**15.8**	**2.2**
TOTAL[g]	**147.3**	**120.3**	**8.2**	**12.1**	**140.6**	**6.7**

[a] Includes auction proceeds and allocated interest on the Green Jobs - Green New York (GJGNY) funds. The allocation is consistent with the budget presented in the RGGI Operating Plan.

[b] Invoices processed for payment by NYSERDA.

[c] Remaining funding obligated under a contract, purchase order, or incentive award.

[d] Planned funding for contracts awarded and under negotiation; and planned funding under active development through open solicitations with upcoming proposal due dates, adjusted so that the sum of the project commitments does not exceed Budgeted Funds. NYSERDA's annual audited financial statements may reflect project commitments in excess of Budgeted Funds. These commitments are expected to decrease over time due to project attrition and differences in estimated versus actual costs.

[e] The sum of Expended, Encumbered, and Pre-Encumbered funds.

[f] The difference between Budgeted Funds and Committed Funds.

[g] Totals may not sum exactly due to rounding.

Table 6. NY Green Bank Available Funding and Financial Status through December 31, 2015 (millions of dollars)[3]

	Budgeted Funds [a]	Deployed Funds[b]	Committed Capital[c]	Approved Investments[d]	Committed Funds[e]	Remaining Balance[f]
Program Costs						
NY Green Bank	47,567,444	1,506,631	11,592,088	18,164,771	31,263,490	16,303,955
SUBTOTAL	**47,567,444**	**1,506,631**	**11,592,088**	**18,164,771**	**31,263,490**	**16,303,955**

	Budgeted Funds	Expenses[g]	Open Encumbrances[h]	Pre-Encumbrances[i]	Committed Funds[j]	Remaining Balance[f]
Other Costs						
Operating Expenses (Program Administration)	4,234,115	1,887,435	42,229	746,209	2,675,874	1,558,241
Program Evaluation	968,788	-	-	726,591	726,591	242,197
New York State Cost Recovery Fee	156,087	38,144	-	-	38,144	117,943
OTHER COSTS TOTAL	**5,358,990**	**1,925,580**	**42,229**	**1,472,800**	**3,440,609**	**1,918,381**

	Budgeted Funds	Deployed Funds plus Expenses	Committed Capital plus Open Encumbrances	Approved Investments plus Pre-Encumbrances	Committed Funds	Remaining Balance
TOTAL[k]	**52,926,434**	**3,432,211**	**11,634,317**	**19,637,570**	**34,704,098**	**18,222,336**

a The allocation is consistent with the budget presented in the RGGI Operating Plan. NY Green Bank funding being reported here is only NY Green Bank funds that were transferred from RGGI. The actual NY Green Bank budget is higher.

b Deployed Funds means, in any period, the aggregate funds that have been advanced by NY Green Bank subject to the terms of fully negotiated client and partner financing agreements executed in that period, expressed in dollars. Note that the amount of "Deployed Funds" is not of itself any measure of NY Green Bank success. Many transactions involve NY Green Bank's provision of credit enhancements which, by their nature, are contingent obligations that are generally not intended to be fully drawn against/funded. In addition, many NY GREEN BANK investments are "delayed draw" in that funds are not deployed until project sponsors meet certain development milestones over a time period necessary to originate, develop and construct a large number of smaller, distributed clean energy projects.

c Committed Capital means, in any period, the aggregate funds to be provided by NY Green Bank pursuant to fully negotiated client and partner financing agreements executed in that period, without such funds having yet been Deployed, expressed in dollars.

d Approved Investments represent proposed investments that have moved through NY Green Bank's transaction process – from proposal submission, evaluation, structuring/diligence/negotiation, agreement in principle, to vetting by NY Green Bank's Investment & Risk Committee ("IRC") and approval by NYSERDA's President & CEO after considering recommendations made by IRC members. Approved Investments represent an allocation of NY Green Bank's capital in accordance with the terms of the IRC approval – an interim stage before "Committed Funds" or "Deployed Funds". Once an Approved Investment has been fully negotiated, executed and closed, it becomes "Committed" and/or "Deployed" and no longer represents a current Approved Investment. Equally, if an Approved Investment becomes dormant for any reason for a continuous period of one year prior to being fully negotiated, executed and closed and at the end of that period the probability of that investment moving forward towards execution and closing is regarded as low, it may also be removed from the category of Approved Investments. In that event, all capital amounts corresponding to that investment are regarded as released and available for other NY Green Bank investments.

e The sum of Deployed Funds, Committed Capital and Approved Investments.

f The difference between Budgeted Funds and Committed Funds.

g Invoices processed for payment by NYSERDA.

h Remaining funding obligated under a contract, purchase order, or incentive award.

i Planned funding for contracts awarded and under negotiation; and planned funding under active development through open solicitations with upcoming proposal due dates, adjusted so that the sum of the project commitments does not exceed Budgeted Funds. NYSERDA's annual audited financial statements may reflect transaction commitments in excess of Budgeted Funds. These commitments are expected to decrease over time due to project/transaction attrition and differences in estimated versus actual costs.

j The sum of Expenses, Open Encumbrances and Pre-Encumbrances.

k Totals may not sum exactly due to rounding.

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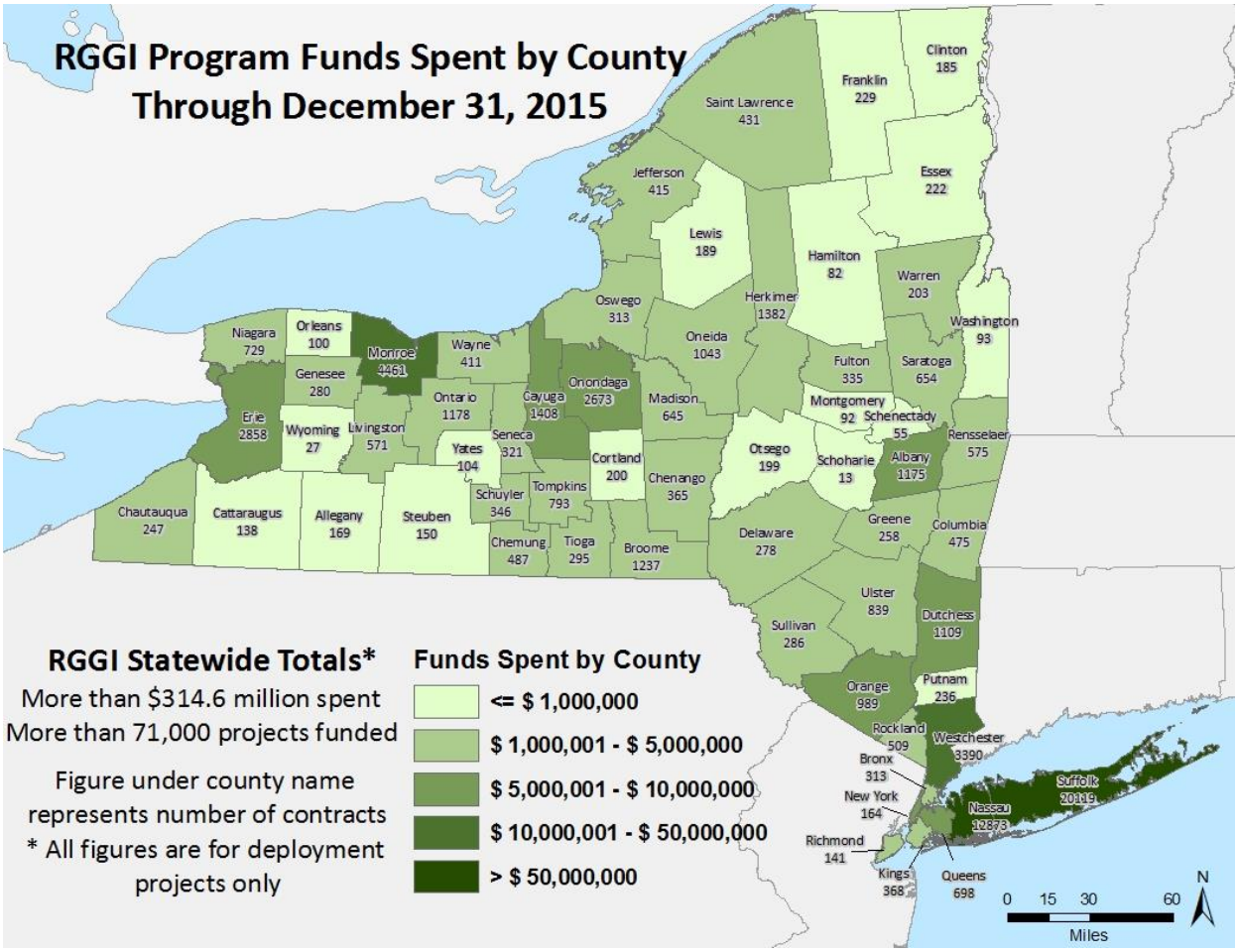
[3] The RGGI Status Report for Quarter Ending September 30, 2015 was republished in April 2016 with a revised Table 6. Please see republished RGGI Status Report for Quarter Ending September 30, 2015 for more details.

Figure 3 shows the distribution of more than $314.6 million in RGGI deployment project funds that have been spent on the more than 71,000 contracts completed in New York State as of December 31, 2015. Additional RGGI funds go toward activities with geographically diffuse benefits, such as climate research and workforce development.

Figure 3. Geographic Distribution of RGGI Funds Spent



4 Program Descriptions and Accomplishments

4.1 Renewable Energy

4.1.1 Renewable Heat NY

The Renewable Heat NY initiative is a long-term commitment to help the high efficiency, low-emission biomass heating industry reach scale. The long-term market development strategy for Renewable Heat NY includes the following objectives:

- Raise consumer awareness.
- Develop large-scale anchor customers to expand the wood pellet bulk delivery market.
- Promote supply chain development including workforce training and support for product development, manufacturing, laboratory and field testing, and equipment certification.
- Leverage NYSERDA's issuance of the Biomass Heating Roadmap to accelerate the use of biomass for heating using the most efficient low-emission technologies.
- Provide financial incentives to consumers for advanced efficiency and low-emission technologies to reduce upfront costs in the early years, which will phase down as the market achieves scale and upfront costs decrease.
- Provide support so that sustainable forestry practices are available and followed by small and large landowners.

In many respects, developing this market will inherently require capturing the benefits of scale, and particularly of local sale. Installation and pellet supply economics will demonstrate an economic service radius effect; workforce development and customer awareness will show gains from local density. Consequently, this initiative seeks to develop and expand clusters of activity, thereby meeting the overarching goal of helping the high-efficiency and low-emission biomass heating industry reach scale.

Renewable Heat NY is providing supply chain and service network development (i.e., workforce development, training, and research and development), along with consumer incentives and financing. These activities are not geared toward resource acquisition, but rather will position the market to takeoff and be sustainable over the long term. As the private market develops, investments of incentives and staff resources will be reduced.

Revised incentive levels remain in effect to stimulate the market and apply to all units installed prior to September 30, 2016. NYSERDA will assess the incentive level after that based on market factors and adjust accordingly.

Key accomplishments as of this quarter:

- Marketing efforts are reaching over 903,000 readers through print advertisements in 17 local and regional publications and many more potential customers through various outreach efforts including website updates, new branding for program materials, banner ads, paid search ads, education for NYSERDA's Consumer Services and Events Management and Hotline staff, and staffing at three public events with program information and marketing materials.
- One in-person training session was held for qualifying installers. Nine new qualified installers were trained. Enrollment of qualified installers is ongoing.
- Six pellet stoves have been installed; more than 15 projects are in process. Three residential cordwood units and one residential pellet boiler were installed; 11 residential cordwood and 10 residential pellet boiler installations are in-process.
- Feasibility studies and reviews by technical consultants are ongoing related to development of large commercial projects. Two large commercial pellet boiler projects are in-process.
- 23 new research projects have been contracted as a result of proposals received from PON 3027: Energy and Environmental Performance of Biomass-Fired Heating Equipment. These projects are addressing needs identified through the Renewable Heat NY program, and support the development and advancement of a high-efficiency, low-emissions biomass thermal industry in NYS.

Success Story 1: New York State supports high-efficiency and low-emissions biomass heating projects

RGGI funds are supporting 26 research and development projects as part of Renewable Heat NY to increase the high-efficiency, low-emissions heating system market for homeowners and businesses. Research areas include product development, safe bulk fuel storage studies, manufacturing and system packaging, comprehensive test method development for energy efficiency and emissions performance characterization, and innovations in biomass fuel processing and air quality.

4.1.2 NY-Sun Initiative

The NY-Sun initiative will drive the growth of the solar industry and make solar technology more affordable for all New Yorkers. The program provides declining incentives for the installation of systems and works to reduce solar electric balance-of-system costs through technology advancements, streamlined processes, and customer aggregation models. The goal is to achieve a sustainable solar industry that does not depend on incentives.

Community Solar NY, a component of the NY-Sun initiative, seeks to empower community projects across New York State through aggregation, group purchasing, and other existing and emerging strategies to make solar more accessible and affordable. The program will support projects organized by school districts, municipalities, nonprofit organizations, and other community institutions. In coordination with the New York Power Authority and the New York State Education Department, the K-Solar program offers targeted resources to help schools implement solar and act as hubs for community projects.

In August 2014, NY-Sun became a statewide program. RGGI funding enabled customers of the Long Island Power Authority (LIPA), the New York Power Authority (NYPA), and municipal power companies. NY-Sun supports end-use solar installations for commercial, industrial, and residential customers as well as electric utility applications to improve the performance of distribution circuits and reduce peak electric load in critical load pockets. These projects assist New York State communities that empower clean energy, healthy communities and empower economic development.

Key accomplishments as of this quarter:

- Community Solar NY Round 1: 2015 Solarize campaigns completed their activities and reported results. The 26 campaigns reached over 4,000 interested solar customers, resulting in 900 new solar installation contracts and saving participants a total of approximately $1.4 million on upfront purchase costs for solar.
- Community Solar NY Round 2: 2016 Solarize campaign applications were received and reviewed. 31 new Solarize campaigns will launch in spring 2016.
- Continued coordination with NYPA, the New York State Education Department, and other K-Solar partners to encourage participation of schools in K-Solar and local community solar outreach projects.
- Affordable Solar added incentives were available for residential installations with low-income homeowners. The added incentive matches the current megawatt block incentive, and was launched at $0.20/W for Long Island. The added incentive will continue after exhaustion of the Long Island megawatt block, until added incentive funds are exhausted.
- A total of 9,183 solar electric systems have been installed through December 31, 2015 on Long Island through PON 2112 and the Solar Pioneer Programs.

4.1.2.1 NYSERDA Solar Electric Program

NYSERDA's Solar Electric Program focuses on reducing GHG emissions in the long term by helping to establish a sustainable market for solar energy throughout New York State that includes targeted financial incentives. These RGGI funds supplement and do not supplant Renewable Portfolio Standard (RPS) funds, supporting installation of residential and small commercial systems in regions that do not pay into the RPS.

Key accomplishments as of this quarter:

- A total of 135 solar electric systems have been installed outside of Long Island using RGGI funding through December 31, 2015.

4.1.3 New York Generation Attribute Tracking (NYGATS)

NYSERDA is establishing NYGATS to record electricity generation attribute information within New York State, and processes generation attribute information from energy imported and consumed within the State, as a basis for creating tradable generation attribute certificates. Through the development of NYGATS, entities will be able to verify and substantiate ownership of renewable energy certificates (RECs) to either support regulatory compliance or to validate environmental attributes in trading markets. It will also characterize the attributes of electricity imports and exports, and have the capability to interface and exchange information with other certificate tracking systems. The system may also serve as an important building block for a potential future imports policy under the Regional Greenhouse Gas Initiative. As previously ordered by the Public Service Commission, this project will also be supported with System Benefits Charge (SBC) environmental disclosure program funding.

Key accomplishments as of this quarter:

- NYSERDA executed an Agreement on October 22, 2015 with APX, Inc. for the development, launch and operation of NYGATS for a period of five years.
- NYSERDA formally released draft NYGATS Operating Rules for public comment on October 27, 2015, with comments due by December 4, 2015.
- NYSERDA held a stakeholder meeting to discuss the draft NYGATS Operating Rules on November 16, 2015.

4.1.4 Advanced Renewable Energy Program

The Advanced Renewable Energy Program supports projects that foster the market introduction of a broad range of promising new and advanced renewable energy technologies, including advanced biomass, tidal, and offshore wind technologies.

Key accomplishments as of this quarter:

- GridMarket LLC began a small research project to analyze the characteristics of building load profiles using 15 minute interval meter data in the Con Edison distribution area and evaluating the potential benefits to customers and the grid of applying energy storage technologies to modify load and integrate with renewable generation.
- Offshore wind cost benefit analysis project work continues.

4.2 Energy Efficiency

4.2.1 LIPA Energy Efficiency and Renewable Energy Initiative

These funds enhance the ability of LIPA to provide energy efficiency and renewable energy services to LIPA customers in accordance with the approved LIPA budget. As the LIPA Solar Pioneer and Solar Entrepreneur PV incentive programs transitioned to a statewide solar electric program in 2014 through NY-Sun, these RGGI funds will be used primarily for energy efficiency programs administered by PSEG Long Island, the system operator for LIPA, that are consistent with PSEG-Long Island's clean energy programs and Reforming the Energy Vision (REV) plan. Funding and reporting requirements are established through a Memorandum of Understanding between NYSERDA and LIPA.

Key accomplishments as of this quarter:

- A total of 3,079 solar electric systems and commercial efficiency projects have been installed using RGGI funding through the LIPA Energy Efficiency and Renewable Energy Initiative programs from inception through December 31, 2015. The savings for these 2015 projects totaled more than 50 million net kWh.

4.2.2 Residential Efficiency Services

NYSERDA currently offers a suite of programs that provide comprehensive energy efficiency services for single and multifamily existing buildings and new construction, including low-income households. In addition to energy savings, these programs provide significant health and safety benefits through comprehensive testing and verification, improved air quality, and improved comfort. RGGI funds are used in combination with Energy Efficiency Portfolio Standard (EEPS) funds, which offer incentives to implement electric and gas efficiency measures, to supplement these resources to reach petroleum fuel opportunities. Coordination of these funding sources allows for efficiency contractors to provide comprehensive energy efficiency services to the home, expands the number of households served, and ensures that opportunities for carbon reduction measures are not lost.

4.2.2.1 Multifamily Performance Program

The Multifamily Performance Program (MPP) serves residential buildings with five or more units. Funds are targeted at efficiency measures that help to reduce on-site oil, non-firm natural gas, steam, and propane energy demand in multi-unit residential buildings. All buildings receive program support for energy assessments to determine cost effective measures, expected energy savings, and installation costs. Projects also receive implementation incentives to support the installation of measures identified by program supported assessments.

Key accomplishments as of this quarter:

- Through December 31, 2015, 144 energy efficiency projects were completed.

4.2.2.2 Multifamily Carbon Emission Reduction Program

The Multifamily Carbon Emissions Reduction Program (MCERP) provided financial assistance and technical support to owners of multifamily buildings converting their heating systems from #6 fuel oil to cleaner fuel alternatives. Less carbon-intensive fuels include ultra-low sulfur #2 fuel oil, biodiesel and biodiesel blends, natural gas, and renewable energy (geothermal and solar thermal). MCERP was positioned to encourage early adoption of New York City's phase-out of #6 oil and, as such, has contributed to an overall improvement in New York City's air quality. Converting #6 fuel oil-heated buildings to cleaner fuels reduces carbon emissions, improves air quality, and produces positive public health benefits. City-wide conversions have resulted in 69 percent and 23 percent reductions in airborne sulfur dioxide and soot concentrations, respectively. These benefits are concentrated in low-income areas of New York City, where poor air quality leads to higher rates of asthma and other respiratory illnesses, especially in children and the elderly.

Key accomplishments as of this quarter:

- In total, 144 multifamily buildings have converted from burning #6 oil to cleaner alternatives, primarily natural gas or a blend of natural gas and #2 oil.

4.2.2.3 EmPower New York

NYSERDA's EmPower New York (EmPower) program offers no-cost energy efficiency services to low-income (i.e., HEAP-eligible) homeowners and renters. These services include electric reduction and home performance measures such as appliance replacement, energy-efficient lighting, insulation, and air sealing. EmPower uses RGGI funding to serve low-income applicants that heat with oil and propane and are ineligible for EEPS funding. These energy efficiency measures aid in the reduction of GHG emissions and provide long-term carbon reductions. On-site energy education offers customers additional strategies for managing their energy costs. Services are provided by participating contractors that are accredited through the Building Performance Institute. Currently, 177 EmPower contractors are assisting in RGGI-funded projects.

Key accomplishments as of this quarter:

- 553 households across New York State were served during this quarter, bringing the total to 4,155 households served to date with RGGI funding through December 31, 2015.

4.2.2.4 Green Residential Buildings Program

This program is now closed. Please refer to Appendix F for more information.

4.2.2.5 Home Performance with ENERGY STAR® (HPwES)

Home Performance with ENERGY STAR (HPwES) is a comprehensive energy efficiency services program for existing one- to four-family homes and low-rise[4] residential buildings. The program uses a network of Building Performance Institute (BPI) GoldStar contractors to perform diagnostic testing on the home, recommend improvements, determine the payback period for those improvements, and install improvements selected by the homeowner. As of December 31, 2015, 213 contractors are participating in HPwES. The program uses RGGI funds for cost-effective oil and propane efficiency measures, such as

[4] HPwES low-rise buildings encompass buildings with three stories or less, with eight units or less, and are constructed using building techniques common to one- to four-family homes. They must be served by residential-scale heating equipment with a maximum rating of 300,000 Btu. Taller residential buildings that fit these criteria are also eligible. Examples include brownstones, row housing, and other urban-style buildings.

replacing inefficient oil and propane heating equipment and other measures that have a direct impact on reducing GHG emissions from oil and propane consumption. Income-qualified homeowners are eligible for higher incentive rates to make energy improvements. HPwES applicants may also qualify for GJGNY assessment and financing programs.

Key accomplishments as of this quarter:

- 577 energy efficiency projects were completed during this quarter at a contracted value of $5.5 million, bringing the total to 7,510 energy efficiency projects completed at a contracted value of $72.6 million.
- 37 percent of these projects were Assisted Home Performance with ENERGY STAR, which serves homeowners with incomes between 60-80 percent of State or Area median income, whichever is greater.
- 27% of all HPwES projects in Q4 2015 were RGGI funded.

4.2.2.6 Solar Hot Water (Thermal) Program

NYSERDA's Solar Hot Water (Thermal) Incentive Program incentivizes the installation of solar thermal technologies for the production of hot water that displaces electrically heated hot water systems. Nearly 100 contractors participate in this program. Accounting for funding from the Renewable Portfolio Standard (RPS) program to displace electrically heated domestic hot water, RGGI support for the Solar Hot Water (Thermal) Program is used to displace heating fuels other than electricity. GJGNY financing is also available for these projects.

The revised program was released on March 20, 2015. The program provides cash incentives for the installation, by an eligible installer or contractor, of new solar thermal (hot water) systems that displace electrically and fossil fuel-heated domestic hot water. Incentives are available on a first-come, first-served basis. Incentives are applied to the total project cost based on displaced kilowatt-hours. Combination systems (systems that provide domestic hot water [DHW] and space heating) are allowed in the program; however, incentives are only provided on the portion of the solar thermal system output that offsets DHW production.

Key accomplishments as of this quarter:

- 17 new RGGI-funded solar thermal hot water systems were installed during this quarter, bringing the total to 141 system installations.
- 458,754 kWh (1565.3 MMBtu) saved in "Calculated Solar Hot Water Annual Savings."

4.2.2.7 Low-rise Residential New Construction Program

NYSERDA's Low-rise Residential New Construction Program[5] (LRNCP) includes the New York ENERGY STAR® Certified Homes Program and the New York Energy $mart designation for certain low-rise, multi-unit buildings and gut rehabilitation projects. Funded primarily through the Energy Efficiency Portfolio Standard, this program is designed and intended to encourage the construction of new single-family homes and low-rise residential dwelling units that operate more energy efficiently and reduce long-term GHG emissions, are more durable, and provide a healthier environment for their occupants than would otherwise be achieved. Starting in July 2013, RGGI funds have been used to pay the MMBtu-savings component of the LRNCP incentive for projects using propane or oil as the primary heating fuel. Although more than 165 builders participate in this program statewide, 16 builders have constructed homes eligible for RGGI incentives so far.

Key accomplishments as of this quarter:

- 42 new dwelling units were constructed, bringing the cumulative total of new dwelling units constructed to date to 170.
- $ 187,476 in private sector funds were leveraged, bringing the program total to date to $773,610.
- RGGI funds for the LRNCP were fully committed in Q3 2015.
- An Affordable Housing complex in Suffolk County was completed in Quarter 4 of 2015 and awarded $65,000 in RGGI funds for 39 of those units.

4.2.2.8 Emerging Technology/Accelerated Commercialization Program

NYSERDA's Emerging Technology/Accelerated Commercialization (ETAC) initiative seeks to accelerate market uptake of commercially available, but underused building technologies and strategies in the residential sector that will deliver significant and measurable energy savings and greenhouse gas (GHG) emissions reductions for homes and residential buildings. Funded primarily through the Technology and Market Development (T&MD) portfolio, ETAC seeks to identify and overcome barriers to full market adoption of new and/or underutilized technologies.

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[5] Low-rise residential new construction is defined as the ground-up new construction of dwelling unit(s) contained within residential buildings of not more than three (3) stories in height. Additionally, residential buildings which are more than three (3) stories in height and determined to be eligible to participate in the EPA's ENERGY STAR® Certified Homes program will be considered for eligibility on a case-by-case basis. Dwelling units which will be "gut-rehabbed" or fully rehabilitated will also be considered by NYSERDA for eligibility on a case-by-case basis.

Key accomplishments as of this quarter:

- Up to $500,000 in RGGI funds were made available to add to T&MD funding for Program Opportunity Notice 3127, Emerging Technologies Demonstration Projects – Residential HVAC. The RGGI funding serves to make demonstrations sites statewide eligible to participate in this PON. RGGI funds are available for successful proposals where demonstration sites are located in PSEG-LI service territory, or in areas served by municipal electric systems or rural electric cooperatives, as administered by NYPA. It is anticipated that these funds may be contracted by mid-2016.

4.2.3 Municipal Water and Wastewater Program

This program is now closed. Please refer to Appendix F for more information.

4.3 Innovative Greenhouse Gas Abatement Strategies

4.3.1 Industrial Innovations Program

The Industrial Innovations program is a longer-term program that supports development and demonstration of technologies with substantial GHG reduction potential and technologies that are relevant to New York State manufacturing industries and building systems. Funded projects will focus mainly on innovations that reduce the use of fossil fuels, have high replication potential for New York State's manufacturing base, and are likely to be cost-effective. Projects will focus on technical innovations, including thermal-efficiency improvements for fossil-fuel based processes and alternative processes that eliminate the use of fossil fuels directly and indirectly for technologies that bring about thermal destruction of byproducts. Projects also may include changes in material input and development of advanced controls, provided that they directly bring about GHG reductions.

In 2014, two Manufacturing Innovations solicitations were issued, namely, PON 2858 (Ultraviolet Light and Electron Beam Process Innovation and Market Transformation [UV/EB]) and PON 2927 (Transformative Technologies for Energy-Efficient Manufacturing [TTEEM]). These solicitations sought to advance the materials, methods, and machine tools used to mass-produce cleantech products, and thus reduce the GHG footprint of factories producing cleantech products, as well as reduce the cost of goods

Key accomplishments as of this quarter:

- Projects that were in progress from previous quarters continued to make advancements during this quarter.

4.3.2 Climate Research and Analysis Program

The Climate Research and Analysis Program supports research studies, demonstrations, policy research and analyses, and outreach and education efforts. Through these activities, the program addresses critical climate change related problems facing the State and the region, including the needs of environmental justice communities.

Key accomplishments as of this quarter:

- Work has continued on the climate change adaptation research projects. Kickoff meetings were held for four new projects. Several older projects will be wrapping up in next several months.
- The beta version of the New York Climate Change Science Clearinghouse website was released, and the team is continuing beta testing with stakeholders. The full site is scheduled to be ready for release in early 2016. NESCAUM and the team have demonstrated the website to New England states. They are discussing ways to create a self-sustaining website among themselves or with help from foundations and other interested supporters.
- NYSERDA staff continued to participate in an interagency working group to coordinate efforts on the Community Risk and Resiliency Act (CRRA). NYSERDA will continue to engage with this group and offer suggestions and support when appropriate. The updated, NYSERDA-supported ClimAID projections for New York State have been put forth by NYSDEC as the proposed sea level rise projections through the CRRA process. Comments have been received on the proposed rulemaking and are now under review by NYSDEC.
- NYSERDA staff attended meetings of the Interagency Climate Change Adaptation Workgroup. This group shares climate adaptation information and helps coordinate efforts between agencies.

4.3.3 Clean Energy Business Development

The Clean Energy Business Development program seeks to support emerging business opportunities in clean energy and environmental technologies while maintaining the goal of carbon mitigation. Key elements of the program include providing financial support to leverage private investment in early-stage and expansion-stage clean-energy companies in New York State and accelerate the market introduction of innovative energy efficiency, renewable energy, or carbon abatement technologies; advancing the transition of clean-energy technologies or technologies that improve the energy efficiency of industrial processes from the development/demonstration stage to the launch of commercial-scale manufacturing or application; and developing and supporting a portfolio of programs designed to translate clean energy technology research into commercially viable business enterprises.

As part of the effort to bring private investment to New York State cleantech startups, NYSERDA is working with the impact investment group, Investors' Circle New York (IC NY). The group held monthly meetings/events to bring together the impact/social investing community in the New York metropolitan area, introduce cleantech investment opportunities to IC NY members, and provide feedback to the cleantech startup companies on how to successfully pitch to the impact/social investing community. IC NY is working to form and grow an effective and sustainable local network that will foster early-stage and growth-stage impact/social investments in cleantech companies in New York State. Additionally, IC NY worked to create stronger ties to key segments of the impact/social investor community, including foundations, family offices, sovereign wealth funds, and high-net-worth individuals.

Energy storage is an enabling technology that is important to the market penetration and value of intermittent renewable energy resources (for example solar and wind). Financial support for the New York Battery and Energy Storage Technology Consortium (NY-BEST) Test and Commercialization Center in Rochester is provided, in part, by RGGI. The Center is a wholly-owned subsidiary of NY-BEST and operated by DNV GL. The lab's grand opening occurred on April 30, 2014 and the first test was conducted on May 28, 2014. In addition, in March 2015, the BTCC received American Association for Laboratory Accreditation for International Organization for Standardization (ISO) 17025 Lab Quality.

76West was a new component of the CEBD program. It is an initiative focused on clean energy business development in the Southern Tier. As outlined in the 2015 State of the State address, this $20 million investment in clean energy technology and business development will catalyze a clean energy business cluster that builds on the local strengths and assets of the Southern Tier. Going forward, the program will be discussed in the Southern Tier Business Competition section of the report. The Photovoltaic Manufacturing Consortium (PVMC) is a $5 million effort with more than 40 industrial collaborators as members or affiliates. Its goal is to accelerate the development, commercialization, manufacturing, field testing and deployment of next-generation solar electric and lightweight photovoltaic systems.

Key accomplishments as of this quarter:

- PVMC collaborated with the SunShot Initiative team and SEIA to host the third event of the C&I series: The Green Building Solar Summit. The workshop was held in Washington, DC, on November 16 in conjunction with the Greenbuild Conference and Expo. It was an important event for both increasing PVMC visibility in the downstream side of the supply chain and market research for needs and gaps in commercial solar deployment. PVMC is pursuing collaborative projects with several companies, including The Weidt Group, an energy software company with an office in Albany.

- PVMC partners Solar Raceway and MiaSole partnered to begin commercial installations of a wire management system that was developed in part by PVMC. Sal Anselmo, President of Solar Raceway, said “to have an organization like PVMC helping companies like us test their products and to also receive expert evaluation was extremely valuable. The feedback that we have received from [the] technical team made all the difference in the world in our product development".

4.3.4 ChargeNY

With RGGI funding for ChargeNY, NYSERDA will pursue two main strategies to promote plug-in electric vehicle (PEV) adoption. First, NYSERDA will implement an outreach and education campaign to build interest in PEVs among key audiences, such as employers, car dealers, and the general public. Forging connections between these groups and aligning their incentives is a critical element of greater PEV adoption that has been lacking in New York State and one that is essential to spur more private investment in PEV purchases and PEV charging stations. Second, NYSERDA will support the installation of PEV charging stations throughout the State by establishing a purchasing collaborative to help bring down the costs of charging stations through bulk purchasing. RGGI funds will be used for additional incentives for charging stations at targeted location types, such as workplaces, municipal lots, and multifamily buildings, that have been seen to be effective drivers for PEV adoption based on usage data reported from previous installations. RGGI funds may also be used to initiate the deployment of a network of DC fast charge stations across the State.

Key accomplishments as of this quarter:

- NYSERDA received proposals for projects that focus on a wide range of consumer acceptance topics for the PEV market, including car dealer engagement, workplace charging promotion, and utility engagement. Awards are expected in early 2016.
- NYSERDA’s charging station deployment program is under development, with a release date expected in mid-2016.

4.3.5 Transportation Research

The goal of the Transportation Research Program is to commercialize technologies, products, systems, and services that provide superior GHG reduction. Activities include product development, performance validation, field testing, policy development, and business assistance to help emerging technologies achieve successful commercialization.

Key accomplishments as of this quarter:

- HEVO Inc. continued its development of its wireless electric vehicle charging technology. The company completed a beta prototype of its 3.3 kW charger and has been working with suppliers, manufacturing partners, and distribution partners to bring the unit fully to commercialization.
- Ruby Mountain Inc. is completing an economic feasibility study for using biogas for transportation fuel. They have completed a wide range of site visits and interviews and are developing case studies for how four different digester gas facilities could economically provide cleaned biogas for use in vehicles that run on compressed natural gas.
- Weeels Inc., which operates the Bandwagon taxi-sharing service, has signed contracts with Creative Mobile Technologies and Verifone that enable customers to pay directly into the New York City, national, and international taxi systems. In New York City, the Javits Center has given approval to manage lines for their new taxi stand, which is scheduled to be completed in August 2016. They are also in discussion with a number of other major airports around the United States about providing their service at additional locations.
- Projects that were part of the Locomotive Idle Reduction Program (partially RGGI-funded), which installed U.S. Environmental Protection Agency (EPA) SmartWay-verified idle reduction equipment on locomotives, completed installations on short-line railroads around the State in time to use the auxiliary powered units (APUs) during the cold weather months. Six APUs were in operation all winter, reducing fuel use and emissions from these locomotives while saving the short line railroads money.

4.3.6 Carbon Capture, Recycling, and Sequestration

This program area aims to build New York State's capacity for long-term GHG emissions reduction by researching strategies to prevent emissions from being released into the atmosphere. The program focuses on assessing and demonstrating carbon capture, reuse, compression, and transport technologies; characterizing and testing the State's geological sequestration potential; and supporting the development of carbon capture and sequestration demonstration projects in New York State. Currently, the program's largest supported project is TriCarb, which is located in Rockland County, NY. TriCarb is leveraging NYSERDA funding with more than $8 million of U.S. Department of Energy funds to investigate the potential for geological sequestration in the Newark Basin.

Key accomplishments as of this quarter:

- All lab work and analysis for the TriCarb project has been completed. The project is continuing with the reporting phase.

4.3.7 Advanced Buildings

GHG emissions associated with the building electric and fossil fuel use are a major contributor of GHG emissions. Eighty percent of the existing buildings in New York State were built before energy codes were established. Improving the envelope performance of these existing buildings offer significant GHG reduction potential. The goal of the Advanced Buildings Program is to drive technology development and commercialization of innovative building technologies for existing buildings and new construction that offer greater energy efficiency, accelerate the integration of renewables into buildings, offer resiliency, and enable net zero energy building.

Key accomplishments as of this quarter:

- Research is underway about cost-effective deep energy retrofit technologies and approaches for existing buildings. Information from this research is expected to guide future Advanced Buildings program activity.

4.3.8 Competitive Greenhouse Gas Reduction Pilot

This pilot program is designed to support market-ready projects that reduce GHG emissions at electric generating facilities in New York State. Projects will be selected based on a combination of requested dollar-per-ton GHG emission reduction, expected level of GHG emission reduction, and the technical merit/replication of the project across the power plant fleet in New York State. It is anticipated that projects could include, but will not be limited to, supply-side energy efficiency, and advanced controls that will result in cost-effective GHG emissions reductions.

Key accomplishments as of this quarter:

- NYSERDA executed contracts with the two projects awarded under RFP 2857.
- Competitive Greenhouse Gas Reduction Pilot Program (RFP 3172) was released on December 28, 2015. A total of $13.5 million was made available for this program offering with proposals due on March 31, 2016.

Success Story 2: New York State helps reduce greenhouse gas emissions

RGGI funds are helping Con Edison reduce its greenhouse gas emissions by 4,421 tons, the equivalent to taking 844 cars off the road. The project will install advanced Hot-Gas-path hardware and improve energy efficiency at Con Edison's East River Generating Station Unit 2 Combustion Turbine Generator. The advanced materials used in this project will allow the turbine to operate for longer periods of time between maintenance inspections, delivering reliable electricity with reduced greenhouse gas emissions.

4.4 Community Clean Energy

4.4.1 Climate Smart Communities

Established in 2009, the Climate Smart Communities (CSC) Program is comprised of a network of local governments across the State that have committed, by adopting the Climate Smart Communities Pledge, to reduce greenhouse gas (GHG) emissions and better prepare for unavoidable changes in climate. In addition to NYSERDA, the CSC program works in partnership with five other New York State agencies: the Department of Environmental Conservation (DEC), the Department of State (DOS), the Public Service Commission (PSC), the Department of Transportation (DOT), and the Department of Health (DOH).

In March 2011, NYSERDA issued a competitive solicitation to select contractors for a three-year CSC Regional Coordinators Pilot Program. The goal of this pilot program is to create and implement a strategic plan for engaging local governments in the CSC program, producing measurable results for climate protection and adaptation within each region, and developing important elements of guidance for local governments. The three-year pilot program ended in November of 2015. NYSERDA will continue to offer similar outreach and technical assistance to communities through the new Clean Energy Communities program starting in the spring of 2016.

Key accomplishments as of this quarter:

- 6 new communities were recruited, bringing the number of Climate Smart Communities to 172 across the State.
- All contractors completed end-of-pilot reports summarizing accomplishments and lessons learned over the course of the three-year pilot program.

4.4.2 Economic Development Growth Extension Program (EDGE)

The Economic Development Growth Extension (EDGE) Program facilitated by Regional Outreach Contractors (ROCs) performs on-the-ground outreach, education, and marketing of NYSERDA program opportunities to residents, businesses, institutions, and local governments across the State to promote the value of energy efficiency, sustainable growth practices, clean energy technologies, and innovations using carefully constructed public-private partnerships. The program is aligned with Governor Cuomo's Regional Economic Development Council (REDC) initiative and provides direct support to advance the strategic priorities and regionally significant projects identified in each region. NYSERDA is providing a greater level of education and adoption of energy efficiency and renewable energy practices at the community level.

Key accomplishments as of this quarter:

- 166 new partnerships that may help to identify and assist in customer engagement were developed, bringing the total to 1,075 partnerships.
- 427 public outreach activities, such as events, presentations, or other speaking engagements were conducted, bringing the total to 1,402 public outreach activities.
- 417 projects were referred to various NYSERDA programs, bringing the total number of referrals to 3,749.
- 550 project referrals from partners were received, bringing the total to 3,159 project referrals.
- Outreach and program support was provided to the REDCs on 16 projects, bringing the total to 240.

4.4.3 Cleaner, Greener Communities

The Cleaner, Greener Communities (CGC) program was announced by Governor Cuomo in his 2011 State of the State address. In coordination with the Climate Smart Communities program, this program provides support for development and implementation of a variety of sustainability strategies to help ensure that the State's ongoing investments in infrastructure aid in moving communities and New York State as a whole toward a self-sustaining, more environmentally sound future. The program encourages communities to use public-private partnerships and develop regional sustainable growth strategies in areas such as energy efficiency, renewable energy, low-carbon transportation, and other carbon reductions.

The program emphasizes activities associated with smart growth, creation of green jobs, building green infrastructure, investing in environmental justice communities, and strengthening environmental protection.

Key accomplishments as of this quarter:

- NYSERDA executed 2 additional contract for CGC Round 1 awarded projects for a total of 43 executed contracts, which include comprehensive planning activities and large-scale sustainability projects.
- NYSERDA executed 28 contracts for CGC Round 2 awarded projects for a total of 38 executed contracts, which include comprehensive planning activities and large-scale sustainability projects.
- NYSERDA received 12 new applications for incentives to 12 municipalities for adoption of streamlined permitting processes for solar electric systems or electric vehicle supply equipment (EVSE).
- NYSERDA is negotiating contracts for the third round of funding ($27 million) for Phase II of the CGC program, which includes 17 projects. No contracts have been executed yet.

4.4.4 Regional Economic Development and Greenhouse Gas Reduction Program

The Regional Economic Development and Greenhouse Gas Reduction (REDGHG) Program supports projects that are identified as priority initiatives consistent with Governor Cuomo's Regional Economic Development Council (REDC) initiative, and which are not otherwise provided financial support by other NYSERDA programs or initiatives. REDGHG provides cost-share funding for energy efficiency, clean and renewable energy, and/or innovative carbon abatement projects that address the regional priorities of the REDCs, results in strategic investments, and builds the capacity within the region to participate in the State's clean energy economy. REDGHG focuses on several end uses, including transportation, manufacturing and industrial process, buildings, agriculture, municipal processes, renewable electric generation, and district energy.

Key accomplishments as of this quarter:

- 15 projects received awards from program inception through December 31, 2015.
- 10 projects are in progress.
- 5 projects have been completed.

4.4.5 Reforming the Energy Vision Campus Challenge Program

Governor Cuomo's Energy to Lead Competition is a competitive solicitation to be issued in January 2016 by NYSERDA that challenges colleges and student-led coalitions across the State to develop and implement plans to advance clean energy on their campuses or in their local communities in new ways. The three groups that propose the best solutions for an innovative clean energy project in energy efficiency, renewables or greenhouse gas emission reduction will win $1 million each to help implement their plans.

Teams are invited to submit plans for projects that will demonstrate innovations in one or more of the following:

- Business model: a new way of paying for a project, lowering costs, or creating new revenue streams.
- Community engagement: an approach to build on an on-campus project to advance clean energy in the surrounding community.
- Curriculum integration: a model for integrating project construction, implementation, or operations into student coursework, workforce training, or internships.

Proposals are due on April 4, 2016. Awardees will be announced by April 30, 2016.

4.5 Green Jobs - Green New York

GJGNY provides funding for energy assessments, low-cost financing for energy upgrades, and technical and financial support to develop a clean energy workforce. GJGNY is a statewide effort to strengthen communities through energy efficiency and uses constituency-based organizations (CBOs) to support program outreach in underserved communities. GJGNY enables New Yorkers to make a significant difference in homes, businesses, and neighborhoods—making them more comfortable, sustainable, and economically sound. GJGNY is administered by NYSERDA, and made available by the Green Jobs - Green New York Act of 2009. The GJGNY 2014 Annual Report was issued in September 2014. The report presents financial data for the approved GJGNY programs through June 30, 2014.

Although NYSERDA had announced in December 2014 an intention to transition out of certain aspects of the GJGNY financing program, the enacted 2015-16 State Budget directs NYSERDA to continue providing such financing through March 31, 2016 to all customers that were eligible for the program at the end of 2014. As of March 31, 2015, the GJGNY program (originally funded with $112 million of RGGI funds as directed in the GJGNY Act, plus accumulated interest earnings and additional funding allocated from the March 2015 auction) had very limited uncommitted funds. Based on current loan applications and loan origination volume, NYSERDA estimates that additional funding of $80 million will be required to continue GJGNY financing through March 31, 2016 (approximately $32 million for residential energy efficiency loans and $48 million for residential solar loans). NYSERDA will allocate $80 million from the 2015 anticipated revenues to fund these loans. NYSERDA anticipates that financing a pool of energy efficiency loans during 2015 through bonds to be issued by the NYS Environmental Facilities Corporation through the Clean Water State Revolving Fund, and estimates that bond proceeds of approximately $19 million will be available (after paying a $30 million Short-Term Financing Note issued to EFC in 2014) to replenish the RGGI fund. NYSERDA is exploring a bond or note financing for residential solar loans and anticipates that proceeds of approximately $34 million will be available to replenish the RGGI fund.

4.5.1 Assessments

One- to Four-Family Residential Buildings Program Assessments

Home Performance with ENERGY STAR® (HPwES) is a comprehensive energy efficiency services program for existing one- to four-family homes. Participating Building Performance Institute (BPI) GoldStar contractors conduct comprehensive home energy assessments and upgrades. Free and reduced-cost home energy assessments have been made available to homeowners in New York State through GJGNY funding, which drives increased participation in this program and cuts additional GHG emissions.

Key accomplishments as of this quarter:

- 5,624 assessments were completed this quarter, bringing the total to 86,030 residential GJGNY assessments completed; 79,725 (93 percent) were provided at no cost to the customer.
- Of the program cumulative 24,754 completed residential units served through HPwES resulting from a GJGNY assessment and/or GJGNY financing, 8,158 (33 percent) units are associated with income-qualified Assisted HPwES customers.
- CBOs assisted with the completion of 1,890 units, or 8 percent of all completed GJGNY residential retrofits.

Multifamily Performance Program Assessments

Through GJGNY, the Multifamily Performance Program provides financing and co-funding for comprehensive energy assessments and the development of an Energy Reduction Plan (ERP), serving market-rate and low- to moderate-income residential buildings with five or more units to increase adoption of clean energy in New York State. The needs of the multifamily sector are addressed by working with developers, building owners, and their representatives to improve the energy efficiency, health, safety, and security of multifamily residential buildings, targeting potential participants who are committed to the implementation of energy-related improvements. NYSERDA offers incentives to install eligible measures outlined within the ERP. Each incentive is subject to funding availability from the Energy Efficiency Portfolio Standard (EEPS) or RGGI. Per-unit incentives are available for projects predicted to achieve the 15 percent energy reduction threshold. Additional performance payments apply to eligible projects that predict and achieve savings of more than 20 percent.

Key accomplishments as of this quarter:

- A total of 324 assessments were completed through December 31, 2015; of these, 56 percent are associated with affordable housing.
- Of the program cumulative 37,587 residential units served with installed measures, 20,933 (55 percent) units are associated with affordable housing.
- A total of 324 projects are contracted to have measures installed, and 58 percent of which are associated with affordable housing.

Small Commercial Energy Efficiency Program Assessments

The GJGNY Small Commercial Energy Efficiency Program offers energy assessments and technical assistance to help small businesses and not-for-profit organizations improve their energy efficiency and reduce their energy costs in support of the goal to increase adoption of clean energy projects in New York State. The program offers free energy assessments, along with technical assistance, to help identify economically viable improvements that may yield substantial annual energy savings. GJGNY energy assessments are offered to small businesses and nonprofits with an average electric demand of 100 kW or less and 10 employees or fewer. Assessments and technical assistance are provided by regional firms competitively selected by NYSERDA.

Key accomplishments as of this quarter:

- 177 new energy assessments were completed during this quarter, bringing the total number of completed assessment to 2,829.

- NYSERDA conservatively estimates that 20 percent of energy efficiency improvements recommended on energy assessments are implemented by small business and not-for-profit customers, resulting in an estimated total of 566 completed projects through December 31, 2015.

4.5.2 Financing

One- to Four-Family Residential Buildings Program Financing

GJGNY financing is available to participants in Home Performance with ENERGY STAR® (HPwES) to finance the installation of recommended energy efficiency improvements that may be repaid through energy savings. Net-metered technologies, including solar electric systems, and solar thermal systems are also eligible for GJGNY financing. The Smart Energy Loan and the innovative On-Bill Recovery (OBR) Loan are the two low-interest rate financing options available through GJGNY, which enable more projects resulting in greater reductions of GHG emissions than might otherwise have been achieved.

Key accomplishments as of this quarter:

- A total of 12,312 loans have been issued with a total loan value of $142.59 million.
- 29.4 percent of the Home Performance loans issued are associated with Assisted HPwES customers, representing 22 percent of the total loan funds.
- Through December 31, 2015, a total of 4,257 energy efficiency OBR Loans have closed, valued at approximately $56.27 million.
- Through December 31, 2015, of the total 12,312 total loans closed, 2,603 solar electric loans have closed and are valued at $45.13 million.

Multifamily Performance Program Financing

Launched in 2011, financing through the Multifamily Performance Program under GJGNY includes programs and incentives for owners, facility managers, developers, and condo/co-op boards of multifamily buildings with five or more units in support of the goal to increase adoption of clean energy in New York State. These programs make it easier to assess, fund, implement, and measure energy efficiency upgrades that improve building performance and reduce costs. The program makes participation loans available in which a participating lender issues a loan to a multifamily building owner for a qualifying energy efficiency project, with NYSERDA participating in the funding of 50 percent of the loan (up to a maximum of $5,000 per unit or $500,000 per building) at 2 percent interest, and the lender setting the interest rate on its share of the loan.

Key accomplishments as of this quarter:

- 22 loans have closed with a total value of $12.1 million through December 31, 2015. NYSERDA's share of the total loan value is $3.8 million.

Small Commercial Energy Efficiency Program Financing

The GJGNY Small Commercial Energy Efficiency Program offers low-interest financing to help small businesses and not-for-profit organizations improve their energy efficiency and reduce their energy costs in support of the goal to increase adoption of clean energy in New York State. In June 2011, NYSERDA launched the Participation Loan product to small business and not-for-profit customers, in which NYSERDA provides 50 percent of the loan principal, up to $50,000, at 2 percent interest and the participating lender provides the remaining loan principal at its market interest rate. In June 2012, NYSERDA launched the On-Bill Recovery (OBR) Loan for small business and not-for-profit customers, making available a NYSERDA loan of up to $50,000 at 2.5 percent interest to finance recommended energy efficiency improvements. Customers can then repay their loan through a charge on their utility bill. Fourteen lenders have agreed to offer either Participation Loans or OBR loans.

Key accomplishments as of this quarter:

- A total of 14 OBR Loans have been closed with a total value of $344,852, which represents 82 per cent of the total financing value of $421,869.
- A total of 25 Participation Loans have been closed with a total value of $1,751,444. NYSERDA's share of the total value is $836,012.

4.5.3 Workforce Development, Outreach, and Marketing

Workforce Development

The GJGNY Workforce Training and Development (WFD) initiative complements other NYSERDA and New York State Department of Labor (NYSDOL) programs targeted at preparing individuals for energy efficiency, solar thermal, and solar electric careers in New York State. WFD programs also help to build New York State's capacity for long-term carbon reduction and facilitate energy education programs that will help build the State's clean energy future. Specifically, WFD efforts under GJGNY seek to expand energy-specific content in New York State Registered Apprenticeship and third-party accredited building trades programs, to increase access to technical training workshops for skills enhancement and certification, and to bridge the gap between training and employment through on-the-job training incentives for businesses seeking to hire and train new workers while reaching out to low-income neighborhoods to expand training opportunities to these communities.

Key accomplishments as of this quarter:

- Through December 2015, NYSERDA's GJGNY training partners have trained over 3,800 individuals in courses including solar thermal installation, introductory photovoltaic training, advanced air sealing, pressure diagnostics, BPI Basic Air Sealing and Insulation, oil-heat technology, and thermography. Training partnerships include public and private educators, professional associations, and not-for-profits.
- The vast majority of NYSERDA's GJGNY-funded training partnership agreements concluded by December 31, 2015 with just two training contracts still open in 2016 as highlighted below.
    - SUNY Ulster's Agreement was extended through December 2016. They continue to offer a suite of Building Performance Institute courses as well as ASHRAE 62.2-13; Manual J, D, S &T training; Certified Green Product Technician; Electrical Basics for HVAC Contractors; and Confined Spaces for Contractors for as long as funds remain available or through the end of December.
    - The 32 BJ Training Fund Agreement was extended through June 2016 to allow the Contractor to complete a series of videos on "building systems from an analyst's perspective." The 32BJ Training Fund is a joint labor-management partnership that offers training to eligible participants at no cost. Under this agreement, 32 BJ has developed a hands-on Building Performance Institute (BPI) Multifamily Building Analyst (MFBA) curriculum and delivered training to NYC building workers. At the conclusion of the training, workers are able to sit for the BPI MFBA exam and implement energy conservation measures typically recommended through the NYSERDA Multifamily Performance Program such as air sealing and weatherization, roof fan maintenance, and boiler operation and maintenance to increase building performance. The curriculum package developed by the contractor includes an instructor guide, a student workbook and classroom materials (Powerpoint slides and equipment specifications). Over 200 union members participated in MFBA classes and 32 BJ used feedback from instructors and students in developing the curriculum.
- PON 2397, an open enrollment solicitation providing BPI exam fee reimbursement to individuals across New York, will remain open through February 2016.

Outreach and Marketing

GJGNY provides for community-based outreach, enabling one-to-one assistance with the process of participating in the program to deliver services in underserved communities. GJGNY provides outreach services in targeted communities through CBOs, which locate residents, businesses, not-for-profits, multifamily building owners, and potential workforce candidates to participate in the program. This community-based approach, combined with statewide marketing, is expected to increase the reach of the program, particularly among disadvantaged populations and those not traditionally participating in energy efficiency programs. Participating in the programs empowers these communities in their transition toward sustainability, while producing lower carbon emissions.

Key accomplishments as of this quarter:

- Through December 2015, CBOs are responsible for 6,289 completed assessments resulting in 1,890 completed units in 1664 buildings. Approximately 50 percent of those retrofits were for Assisted HPwES customers who have a household income of up to 80 percent of the county median income, which is the target market for CBOs. The remaining 50 percent of customers reached by CBOs are higher income households.
- As part of NYSERDA's reorganization efforts, the GJGNY CBO program moved from the Marketing Team to the newly created Communities and Local Government Team. At the same time, the Project Manager retired and was replaced with another PM from the new team.
- NYSERDA's GJGNY outreach staff continues to collaborate with various Solarize groups throughout the State, particularly as the Solarize model aligns with aggregation.
- In Q4, the Technical and Implementation Contractor (TIC) presented the CBO webinar *Understanding the Audit Report*, which was developed with additional guidance from NYSERDA's Home Performance with ENERGY STAR team. With the advent of the new modeling software, this webinar gave CBO staff an overview of the approved modeling software comprehensive home assessment reports and how to interpret the information presented to homeowners. CBOs from across the State were able to walk through the audit information and ask questions in a group setting.
- One on-site meeting was held on December 15 with El Puente of Brooklyn to monitor and supplement the on-board training for new El Puente staff. During the meeting, general program overview was covered along with information directly relevant to staff's outreach roles at El Puente, along with tracking and questions about the SharePoint site. The meeting was also helpful as a refresher and "train-the-trainer" discussion with existing El Puente staff that will need to continue coaching new employees.
- In Q4, NYSERDA and the TIC conducted an on-site visit with Jennifer Mitchell, The HOPE Program's Executive Director. The main topic of discussion for the meeting was the recent announcement that effective October 1, Sustainable South Bronx became a division of The HOPE Program (HOPE), a workforce development organization that provides training, jobs and career advancement to New York City residents. During the meeting, Mrs. Mitchell outlined the strategy to the formal strategic partnership which was strongly supported by both organizations' Boards of Directors. SSBx will continue to remain a 501(c)(3) organization with all contracts and agreements continue to be in effect. NYSERDA and the TIC discussed the need for replacing two key staff that recently left SSBx, remaining funding, and the strategic need for a dedicated full time staff person to oversee the Shorehaven project and focus on contractual deliverables. Mrs. Mitchell agreed to hire a full-time staff person and finalized the job posting with the assistance of the TIC.
- On October 29, NYSERDA and the TIC conducted an on-site visit with the Neighborhood Housing Services of Jamaica (NHSJ) to discuss outreach capability and plans, program metrics, contractual deliverables, and barriers within the New York City market.

- In Q4, RUPCO held a Community Lunch in Kingston, New York. RUPCO's Community Lunch 2015 was a conference to discuss housing opportunities, challenges and impacts facing working families, people with disabilities, and individuals of modest means throughout the Hudson Valley. This year RUPCO's Community Lunch focused on energy efficiency, its impact on households, and future energy solutions making housing affordable. The keynote speaker for the event was Karen Hamilton, director of residential energy services at NYSERDA, who shared her perspective on energy efficiency for low- and moderate-income New Yorkers.
- PUSH Buffalo's small commercial outreach is gaining momentum with 74 small commercial audits completed, 19 small commercial retrofits completed, and 6 projects in the pipeline scheduled for completion in December. PUSH credits their success in small business outreach to the availability of NYSERDA's Small Commercial On-Bill Recovery loan offered through PathStone Enterprise Center Inc. By partnering with NYSERDA, PathStone Enterprise Center can offer small businesses and non-profits with energy efficiency financing at half the cost of market rate for projects up to $100,000.

Success Story 3: New York State helps provide energy efficiency training in oilheat field

RGGI funds were used to support Community Power Network (CPN) in the development of curriculum that incorporated building science principles into existing National Oilheat Research Alliance curriculum and certification. Through 2015, CPN provided training to 784 technicians in New York State on topics such as combustion efficiency, advanced oil tank installation, and combustion air and venting. CPN used a portable NYSERDA-funded equipment trailer to provide an advanced class in oil burner and electrical module installation and troubleshooting with hands-on practice for technicians. The training provided will help empower New York communities to transition to cleaner energy.

4.6 NY Green Bank

NY Green Bank, a division of NYSERDA, is a $1 billion initiative that was proposed by Governor Cuomo in his 2013 State of the State address. NY Green Bank is a central component of Governor Cuomo's strategic statewide vision to scale up clean energy markets, enhance New York State's competitiveness for clean energy businesses, and make the State's energy systems more resilient. NY Green Bank operates in the wholesale financing markets in partnership with private sector sources of capital. It fosters greater private sector investment in projects deploying proven energy, renewable energy, efficiency, and other clean technologies.

Key accomplishments as of this quarter:

- Executed and closed two transactions totaling $9.0 million contributing to NY Green Bank's total portfolio of $54.5 million across various technologies and financing arrangements.
- Held NY Green Bank Advisory Committee meeting on October 27, 2015.
- Filed quarterly Metrics Report with the PSC on November 12, 2015.
- First Global Green Bank Network, founded by NY Green Bank and five other green banks, announced by Governor Cuomo on December 7, 2015.

4.7 Program Evaluation

Several RGGI evaluation studies are underway or in the planning stages as of the fourth quarter of 2015. The study objectives and timing are discussed in the following sections. Other study plans are also in development and will be detailed in future quarterly reports. The following types of evaluation activities are being performed:

- **Impact Evaluation** measures the outcomes and benefits of a program, calculates the cost-effectiveness of the program, and compares the outcomes to the program goals.
- **Market Evaluation** develops an understanding of markets and market actors, provides information to support program design and delivery, and tracks changes in markets over time.
- **Process Evaluation** reviews oversight and operations, gauges customer satisfaction, and recommends process and efficiency improvements.
- **Logic Model Reports** inform evaluation work by documenting the relationships between program activities; activity outputs; and the short, medium, and long-term outcomes that the program intends to induce.

- **Evaluation Readiness Reviews**[6] help identify whether a program has various factors or, when these will be in place, that will ensure an evaluation is justified, feasible, and likely to provide useful information.

In addition, two major baseline evaluation studies received support from RGGI funds. These studies are described in the following sections. Evaluation of Energy Efficiency and Other Deployment Programs

Cleaner, Greener Communities (CGC) Program: A process evaluation of NYSERDA's Cleaner, Greener Communities (CGC) program is currently underway. Wave One of this evaluation research was completed revealing a number of opportunities for NYSERDA to help regions implement their Phase I plans and achieve their sustainability goals. Wave Two revealed opportunities for communities to overcome common barriers to engaging in efficiency and sustainability activity and to encourage further investment in sustainability across the state's diverse regions. Wave Three of the evaluation will focus on the new Communities initiative, which is similar to Category Two of the CGC Program. Given the CGC Program is ending, Wave Three will aim to talk to the hard to reach, resource constrained, smaller communities to discuss their needs and drivers for sustainability investment. Results from all three waves of the evaluation will be presented in the third quarter of 2016.

GJGNY Small Commercial Energy Efficiency Program: NYSERDA conducted an Impact Evaluation to quantify the measure adoption rate over time and the degree to which the audit program influenced participants' decision-making regarding recommended measures that they have installed. The study was finalized in December 2015. The results of this evaluation will be posted on the NYSERDA website in the first quarter of 2016.

Multifamily Carbon Emission Reduction Program: NYSERDA is conducting an Impact Evaluation to measure and verify the energy and emission effects attributable to the program. This evaluation was completed in the fourth quarter of 2015. The final report is available on NYSERDA's website.[7]

Home Performance with ENERGY STAR Program: An impact evaluation of the Green Jobs - Green New York "assessment only" participants is nearing completion. This evaluation seeks to identify those who may have received a GJGNY-funded audit and installed measures on their own in the absence of

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6 Formerly known as Evaluability Assessment.

7 RGGI Multifamily Carbon Emissions Reduction Program Impact Evaluation (2011-2012); http://www.nyserda.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2015ContractorReports/MCERP_IMPT_RP_FINAL.pdf.

incentives. NYSERDA is also undertaking an Impact Evaluation to measure and verify effects attributable to RGGI fuel incentives. These studies will leverage major, in-progress evaluation of the SBC/EEPS-funded HPwES program. The completion date for the Impact Evaluation work is planned for the first quarter of 2016. A Process/Market Evaluation of the SBC/EEPS-funded HPwES is also being used to assess the RGGI fuel efficiency incentive activity and GJGNY assessment/loan activity. The Process/Market Evaluation study is also expected to be completed in the first quarter of 2016. With the impact and process evaluations occurring at the same time, the evaluation teams are collaborating to use survey efforts to gain efficiencies and reduce survey fatigue.

GJGNY Constituency-Based Organization (CBO) Program: The assessment of CBO-related activities is in the final stages of completion. This assessment was coordinated with HPwES process evaluation and includes surveys with CBO-affiliated HPwES participants, partial participants (GJGNY audit recipients), and contractors. The draft report is complete and currently under review. The completion date for this evaluation effort is planned for the second quarter of 2016.

Residential Non-Energy Impact Study: A study was conducted identify and begin to quantify measurable non-energy effects from residential programs, including possibly HPwES and the Green Residential Building Program. This study was jointly supported with RGGI and other NYSERDA funds. The study report is expected to be finalized in early of 2016 and is expected to help inform future non-energy impact analysis and reporting for RGGI programs.

Green Jobs - Green New York Jobs Quantification Study: An update to the 2013 study on this topic is underway. This study will quantify direct, indirect, and induced jobs created/retained from the GJGNY program, including those in disadvantaged communities. The study will also examine changes in worker skill level and wages resulting from GJGNY. The study is expected to be completed in late 2016.

4.7.1 Evaluation of Technology/Business Development and Research Programs

Advanced Transportation Research: A Logic Model for this program was completed in Q3 2015 and published on the NYSERDA website.[8] A Market Characterization of the transportation market in New York State and several Impact/Market Impact case studies for a select group of program supported technologies are planned to be started in quarter one of 2016.

Industrial Innovations: Evaluation plans for this program may be considered in the future.

Clean Energy Business Development (CEBD): Per the work plan for the Market Characterization of this program, survey and interview questions for each group are being refined, interview request letters are being finalized, and data collection for the various survey and interview efforts will begin in the second quarter of 2016.

Community Solar NY: A Logic Model report for this program was finalized in Q3 2015 and published on the NYSERDA website.[9] A work plan for a Solar Balance of System Baseline Cost Study is in development with work expected to begin in early 2016.

Power Systems Program: A work plan for an Impact Evaluation is in development with work expected to begin in early 2016.

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8 NYSERDA Transportation Program Logic Model Report, nyserda.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2015ContractorReports/2015-Transportation-LM-Report.pdf

9. Community Solar NY Program: Final Initiative-Level Logic Model Report, nyserda.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2015ContractorReports/2015-Community-Solar-NY-Final-Initiative-Level-Logic-Model-Report.pdf

4.7.2 Baseline Studies

NYSERDA is also conducting two major baseline studies to assess residential and commercial markets across a broad range of customer segments and energy measures. The goals of these studies are: 1) to better understand building stock and associated energy use, including saturations of energy-consuming measures, penetrations of energy-efficient equipment, building characteristics and energy management practices; and 2) use this information to estimate the technical, economic and achievable energy efficiency opportunities in New York State in the next three and five years. Although these large studies are being supported by SBC funding, RGGI funds are supplementing the budget to allow for robust data collection on fuel measures.

The Residential Baseline study was completed in the fourth quarter of 2014. The final report is posted to NYSERDA's website and the data set is available on Open NY.[10] The Commercial Baseline study is underway and projected to be completed in Q2 2017.

[10] Residential Statewide Baseline Study of New York State, nyserda.ny.gov/Residential-Statewide-Baseline-Study-of-New-York-State.aspx) and the associated data on Open NY (https://data.ny.gov/en/browse?q=RSBS)

Appendix A: Savings Calculations Methodology

This appendix describes the general methods and assumptions that are used to calculate the energy savings, emission reductions, bill savings, and cost-effectiveness metrics presented in the New York's Regional Greenhouse Gas Initiative Investment Plan (2013 Operating Plan).

A.1 Energy Savings

Annual energy savings values are based on the past performance of publicly funded energy efficiency programs and information obtained from various sources of technical literature.

A.2 CO_2 Reductions

Emissions factors are used to translate the energy savings data into annual GHG emissions reduction values. The GHGs evaluated in the report include carbon dioxide, methane, and nitrous oxide. Because each of these gases has a different global warming potential,[11] emissions for gases other than carbon dioxide are converted into carbon dioxide equivalent units (CO_2e) through multiplication with their appropriate Intergovernmental Panel on Climate Change (IPCC) global warming potential value,[12] shown in Table A-1.

Table A-1. Global Warming Potentials

These values represent a 100-year time horizon.

Source: Intergovernmental Panel on Climate Change. 1995. Second Assessment: Climate Change.

Gas	Global Warming Potential
Carbon dioxide (CO_2)	1
Methane (CH_4)	21
Nitrous Oxide (N_2O)	310

11 A global warming potential is a measure that estimates how much a given mass of a GHG contributes to global warming. It is calculated over a specific time interval, which is 100 years for the IPCC Second Assessment Report values.

12 Intergovernmental Panel on Climate Change. 1995. Second Assessment: Climate Change 1995. According to EPA guidance, this inventory uses potentials from the IPCC Second Assessment report, rather than values from the more current Third Assessment: Climate Change 2001 report. New York DEC regulation Part 242 1.2 (49) uses the Third Assessment values. Reconciliation between these two methodologies will be investigated as part of the program implementation and evaluation process.

NYSERDA uses the emission factors shown in Table A-2 to calculate emissions from on-site fuel combustion, which are derived from U.S. Environmental Protection Agency (EPA) emission coefficients. The CO_2e values represent aggregate CO_2, CH_4, and N_2O emissions. If a program covers more than one sector, then the estimated reduction is based on a calculated average emission factor for the affected sectors.

Table A-2. Fuel Combustion Emission Factors by Sector

Sources: U.S. EPA State Climate Energy Program's State Inventory Tool (SIT) Modules, February 2013 release. City of New York, Inventory of New York City Greenhouse Gas Emissions, November 2014, by Cathy Pasion, Mikael Amar and Michael Delaney. Mayor's Office of Long-Term Planning and Sustainability, New York, 2014.

	Transport (lb CO_2e/MMBtu)	Residential (lb CO_2e/MMBtu)	Commercial (lb CO_2e/MMBtu)	Industrial (lb CO_2e/MMBtu)
Coal	N/A	224.8	211.4	203.7
Natural Gas	117.4	117.4	117.4	114.7
#2 Oil/Distillate/ Diesel	163.0	163.8	163.8	162.2
#6 Oil/Residual	N/A	N/A	166.3	166.0
Kerosene	N/A	162.1	162.1	161.8
Propane	136.1	136.9	136.9	136.9
Gasoline	155.0	N/A	N/A	N/A
Aviation Fuel	159.3	N/A	N/A	N/A
Wood	N/A	15.8	15.8	3.9
Steam	N/A	132.2	132.2	N/A

An average emission factor of 625 pounds of CO_2e/MWh is used to estimate emission reductions associated with electricity use reductions for all sectors. This value includes emissions from in-state electricity generation as well as emissions associated with net imports of electricity.[13] Although electricity savings may not lead to near-term emission reductions under the RGGI CO_2 cap, savings will potentially reduce imports of electricity to New York State; the demand for CO_2 allowances, leading to a possible future reduction in the cap; and the carbon-footprint of end-users, as they will be responsible for a smaller percent of the emissions associated with electricity production.

13 The emission factor for electricity is based on data from *Patterns & Trends - New York State Energy Profiles: 1997 – 2011* (NYSERDA 2013) and methodology from the *GHG Inventory and Forecast* prepared for the 2014 Draft New York State Energy Plan (April 2014).

A.3 Bill Savings

Annual bill savings values for each program are estimated by multiplying the energy savings by sector-specific fuel price data.

Table A-3 shows fuel prices by sector. Electricity and natural gas prices represent average values for six service territories weighted by the percentage of RGGI projects located in each utility area. Basic service charges have been excluded.

Table A-3. Fuel Prices by Sector[a]

Sector	Electricity ($/kWh)	Natural Gas ($/MMBtu)	Fuel Oil / Distillate ($/MMBtu)	Propane ($/MMBtu)
Residential	0.18	8.57	25.59	34.21
Commercial	0.16	5.09	24.51	26.04
Industrial	0.12	5.09	23.39	30.32
Transportation	0.05	N/A	27.58	N/A
C&I	0.14	5.09	23.95	28.18

Sector	Residual ($/MMBtu)	Kerosene ($/MMBtu)	Wood ($/Cord)	Coal ($/Ton)
Residential	N/A	28.13	7.83	N/A
Commercial	17.41	28.13	N/A	5.78
Industrial	17.41	24.56	N/A	4.74
Transportation	N/A	N/A	N/A	N/A
C&I	17.41	26.35	N/A	5.26

[a] For electricity and natural gas, prices are an average of July 2012 and January 2013 prices as reported by the NYS Department of Public Service billing data http://www3.dps.ny.gov/W/PSCWeb.nsf/All/C56A606DB183531F852576A50069A75D?OpenDocument For all other fuel types, prices reflect 2011 retail prices as reported in NYSERDA's *Patterns and Trends- New York State Energy Profiles: 1997-2011* (NYSERDA 2013)

Table A-4. Program Measure Life Assumptions

Average savings-weighted measure life, shown by program, is used to calculate expected lifetime benefits.

Program	Electricity Measure Life	Fuels Measure Life
GJGNY - Single-Family Residential Assessment Component	18	24
GJGNY - Single-Family Residential Loan Component	19	23
GJGNY - Multifamily Residential Assessment Component	13	15
GJGNY - Small Commercial Loan Component	13	21
RGGI - Multifamily Performance Program	13	15
RGGI - Multifamily Carbon Emissions Reduction Program	N/A	13
RGGI - EmPower New York	N/A	24
RGGI - Home Performance with ENERGY STAR®	18	24
RGGI - Green Residential Building Program	18	24
RGGI - Solar Hot Water (Thermal) Program	N/A	20
RGGI - Low-rise Residential New Construction Program	18	24
RGGI - NYSERDA Solar Photovoltaic Initiative	25	N/A
RHNY - Boilers	20	20
RHNY - Pellet Stoves	20	20
LIPA Efficiency	18	NA
LIPA Photovoltaic and Efficiency Initiative	25	N/A
Regional Economic Development and GHG Reduction	18	18

Appendix B: Former Program Names

Table B-1. Former Program Names

Current Program Name	Formerly Known As
Residential Efficiency Services	Residential Space and Water Heating
Municipal Water and Wastewater	Water and Wastewater Efficiency; Water and Wastewater Energy Efficiency
Industrial Innovations	Industrial Process Improvements; Advanced Building Systems and Industrial Process Improvements
Transportation Research	Advanced Transportation Development
Clean Energy Business Development	Clean Technology and Industrial Development
Power Systems	Advanced Power Technology Program (APTP)
Advanced Renewable Energy Program and Transportation Research	Power Systems
Solar Hot Water (Thermal) Program	Solar Thermal Incentive Program

Appendix C: Summary of Portfolio Benefits

Table C-1. Summary of Portfolio Benefits

Quarter End Date	Quarter	Cumulative Annual Installed MMBtu	Cumulative Annual Installed MWh Saved	Cumulative Annual Installed MWh Generated	Cumulative Annual Tons of CO_2e Mitigated	Cumulative Annual Bill Savings Realized by Participating Customers ($)
6/30/2010	Qrt 2	3,409	4,371	-	2,100	700,000
9/30/2010	Qrt 3	47,332	4,371	-	5,630	1,200,000
12/31/2010	Qrt 4	91,471	838	4,316	9,310	2,900,000
3/31/2011	Qrt 1	115,763	1,213	3,903	10,950	2,700,000
6/30/2011	Qrt 2	152,501	5,233	3,992	15,553	4,000,000
9/30/2011	Qrt 3	197,622	6,473	4,205	17,874	4,600,000
12/31/2011	Qrt 4	256,980	8,126	4,218	23,805	6,000,000
3/31/2012	Qrt 1	318,273	13,363	4,218	31,194	7,800,000
6/30/2012	Qrt 2	411,462	13,702	4,248	40,368	9,400,000
9/30/2012	Qrt 3	519,144	15,023	4,278	51,353	10,700,000
12/31/2012	Qrt 4	577,025	16,895	4,345	56,764	12,000,000
3/31/2013	Qrt 1	651,564	18,206	4,305	60,349	16,300,000
6/30/2013	Qrt 2	770,186	20,038	4,386	69,068	18,100,000
9/30/2013	Qrt 3	889,027	24,385	16,710	96,916	21,200,000
12/31/2013	Qrt 4	985,379	26,545	16,752	100,934	23,100,000
3/31/2014	Qrt 1	1,089,306	28,206	16,752	108,844	25,500,000
6/30/2014	Qrt 2	1,174,186	28,697	20,331	115,852	27,700,000
9/30/2014	Qrt 3	1,301,751	32,481	20,331	127,880	31,600,000
12/31/2014	Qrt 4	1,503,898	115,024	44,470	178,048	53,400,000
3/31/2015	Qrt 1	1,614,354	120,453	54,642	191,322	58,500,000
6/30/2015	Qrt 2	1,726,165	165,092	78,093	216,657	75,105,825
9/30/2015	Qrt 3	1,894,278	207,154	97,314	245,176	89,706,416
12/31/2015	Qrt 4	2,025,159	236,298	120,506	277,276	102,222,096

Table C-2. Summary of Fuel Savings by Type

Quarter End Date	Quarter	Fuel Type	Cumulative Annual (MMBtu)	Cumulative Annualized Pipeline (MMBtu)[a]
6/30/2010	Qrt 2	Diesel	-	
6/30/2010	Qrt 2	Gasoline	-	
6/30/2010	Qrt 2	Natural Gas	-	
6/30/2010	Qrt 2	Oil	3,409	
6/30/2010	Qrt 2	Propane	-	
9/30/2010	Qrt 3	Diesel	-	
9/30/2010	Qrt 3	Gasoline	-	
9/30/2010	Qrt 3	Natural Gas	-	
9/30/2010	Qrt 3	Oil	47,332	
9/30/2010	Qrt 3	Propane	-	
12/31/2010	Qrt 4	Diesel	-	
12/31/2010	Qrt 4	Gasoline	-	
12/31/2010	Qrt 4	Natural Gas	3,926	
12/31/2010	Qrt 4	Oil	74,691	
12/31/2010	Qrt 4	Propane	301	
12/31/2010	Qrt 4	Steam	12,553	
3/31/2011	Qrt 1	Diesel	-	
3/31/2011	Qrt 1	Gasoline	-	
3/31/2011	Qrt 1	Natural Gas	18,206	
3/31/2011	Qrt 1	Oil	85,998	
3/31/2011	Qrt 1	Propane	1,280	
3/31/2011	Qrt 1	Steam	10157	
3/31/2011	Qrt 1	Wood	122	
6/30/2011	Qrt 2	Diesel	-	
6/30/2011	Qrt 2	Gasoline	-	
6/30/2011	Qrt 2	Kerosene	27	
6/30/2011	Qrt 2	Natural Gas	20481	
6/30/2011	Qrt 2	Oil	118,963	
6/30/2011	Qrt 2	Propane	2,272	
6/30/2011	Qrt 2	Steam	10,557	
6/30/2011	Qrt 2	Wood	201	
9/30/2011	Qrt 3	Diesel	-	
9/30/2011	Qrt 3	Gasoline	-	
9/30/2011	Qrt 3	Kerosene	208	
9/30/2011	Qrt 3	Natural Gas	40,683	
9/30/2011	Qrt 3	Oil	140,917	
9/30/2011	Qrt 3	Propane	4,818	
9/30/2011	Qrt 3	Steam	10,557	
9/30/2011	Qrt 3	Wood	439	
12/31/2011	Qrt 4	Diesel	-	

Quarter End Date	Quarter	Fuel Type	Cumulative Annual (MMBtu)	Cumulative Annualized Pipeline (MMBtu)[a]
12/31/2011	Qrt 4	Gasoline	-	
12/31/2011	Qrt 4	Kerosene	285	
12/31/2011	Qrt 4	Natural Gas	88,439	
12/31/2011	Qrt 4	Oil	150,163	
12/31/2011	Qrt 4	Propane	7,344	
12/31/2011	Qrt 4	Steam	10,157	
12/31/2011	Qrt 4	Wood	592	
3/31/2012	Qrt 1	Diesel	-	
3/31/2012	Qrt 1	Gasoline	-	
3/31/2012	Qrt 1	Kerosene	285	
3/31/2012	Qrt 1	Natural Gas	108635	
3/31/2012	Qrt 1	Oil	186,637	
3/31/2012	Qrt 1	Propane	11,810	
3/31/2012	Qrt 1	Steam	10,157	
3/31/2012	Qrt 1	Wood	749	
6/30/2012	Qrt 2	Diesel	-	
6/30/2012	Qrt 2	Gasoline	-	
6/30/2012	Qrt 2	Kerosene	285	
6/30/2012	Qrt 2	Natural Gas	140,597	
6/30/2012	Qrt 2	Oil	246,477	
6/30/2012	Qrt 2	Propane	12,798	
6/30/2012	Qrt 2	Steam	10,157	
6/30/2012	Qrt 2	Wood	1,000	
6/30/2012	Qrt 2	Residual Oil	144	
9/30/2012	Qrt 3	Diesel	-	
9/30/2012	Qrt 3	Gasoline	-	
9/30/2012	Qrt 3	Kerosene	285	
9/30/2012	Qrt 3	Natural Gas	183,379	
9/30/2012	Qrt 3	Oil	303,649	
9/30/2012	Qrt 3	Propane	14,187	
9/30/2012	Qrt 3	Residual Oil	144	
9/30/2012	Qrt 3	Steam	15,901	
9/30/2012	Qrt 3	Wood	1,599	
12/31/2012	Qrt 4	Diesel	-	
12/31/2012	Qrt 4	Gasoline	-	
12/31/2012	Qrt 4	Kerosene	1,026	
12/31/2012	Qrt 4	Natural Gas	203,118	
12/31/2012	Qrt 4	Oil	337,096	
12/31/2012	Qrt 4	Propane	16,593	
12/31/2012	Qrt 4	Residual Oil	144	
12/31/2012	Qrt 4	Steam	15,969	

Quarter End Date	Quarter	Fuel Type	Cumulative Annual (MMBtu)	Cumulative Annualized Pipeline (MMBtu)[a]
12/31/2012	Qrt 4	Wood	3,079	
3/31/2013	Qrt 1	Diesel	-	-
3/31/2013	Qrt 1	Gasoline	-	-
3/31/2013	Qrt 1	Kerosene	1,359	353
3/31/2013	Qrt 1	Natural Gas	231,225	90,488
3/31/2013	Qrt 1	Oil	378,533	317,149
3/31/2013	Qrt 1	Propane	18,848	7,747
3/31/2013	Qrt 1	Steam	15,969	37,123
3/31/2013	Qrt 1	Wood	5,129	1,338
3/31/2013	Qrt 1	Residual Oil	144	27
3/31/2013	Qrt 1	Coal	357	-
6/30/2013	Qrt 2	Diesel	-	-
6/30/2013	Qrt 2	Gasoline	-	-
6/30/2013	Qrt 2	Kerosene	1,270	138
6/30/2013	Qrt 2	Natural Gas	313,287	76,148
6/30/2013	Qrt 2	Oil	411,518	262,809
6/30/2013	Qrt 2	Propane	21,051	7,341
6/30/2013	Qrt 2	Steam	15,969	30,232
6/30/2013	Qrt 2	Wood	6,550	935
6/30/2013	Qrt 2	Residual Oil	144	20
6/30/2013	Qrt 2	Coal	397	-
9/30/2013	Qrt 3	Diesel	-	-
9/30/2013	Qrt 3	Gasoline	-	-
9/30/2013	Qrt 3	Kerosene	1,365	356
9/30/2013	Qrt 3	Natural Gas	415,512	182,146
9/30/2013	Qrt 3	Oil	424,549	239,750
9/30/2013	Qrt 3	Propane	23,656	24,099
9/30/2013	Qrt 3	Steam	15,969	13,112
9/30/2013	Qrt 3	Wood	7,497	2,203
9/30/2013	Qrt 3	Residual Oil	144	-
9/30/2013	Qrt 3	Coal	335	-
12/31/2013	Qrt 4	Diesel	-	-
12/31/2013	Qrt 4	Gasoline	-	-
12/31/2013	Qrt 4	Kerosene	1,490	203
12/31/2013	Qrt 4	Natural Gas	466,754	128,549
12/31/2013	Qrt 4	Oil	466,125	236,933
12/31/2013	Qrt 4	Propane	25,403	5,491
12/31/2013	Qrt 4	Steam	15,969	15,977
12/31/2013	Qrt 4	Wood	8,981	1,111
12/31/2013	Qrt 4	Residual Oil	144	-
12/31/2013	Qrt 1	Coal	514	-
3/31/2014	Qrt 1	Diesel	-	-

Quarter End Date	Quarter	Fuel Type	Cumulative Annual (MMBtu)	Cumulative Annualized Pipeline (MMBtu)[a]
3/31/2014	Qrt 1	Gasoline	-	-
3/31/2014	Qrt 1	Kerosene	1,594	80
3/31/2014	Qrt 1	Natural Gas	509,205	130,012
3/31/2014	Qrt 1	Oil	523,876	228,057
3/31/2014	Qrt 1	Propane	27,788	5,869
3/31/2014	Qrt 1	Steam	15,969	14,733
3/31/2014	Qrt 1	Wood	10,270	580
3/31/2014	Qrt 1	Residual Oil	144	-
3/31/2014	Qrt 1	Coal	458	-
6/30/2014	Qrt 2	Diesel	-	-
6/30/2014	Qrt 2	Gasoline	-	-
6/30/2014	Qrt 2	Kerosene	1,715	56
6/30/2014	Qrt 2	Natural Gas	545,195	126,749
6/30/2014	Qrt 2	Oil	569,438	225,510
6/30/2014	Qrt 2	Propane	28,521	4,969
6/30/2014	Qrt 2	Steam	15,969	14,733
6/30/2014	Qrt 2	Wood	12,322	654
6/30/2014	Qrt 2	Residual Oil	144	-
6/30/2014	Qrt 2	Coal	882	-
9/30/2014	Qrt 3	Diesel	-	-
9/30/2014	Qrt 3	Gasoline	-	-
9/30/2014	Qrt 3	Kerosene	2,494	706
9/30/2014	Qrt 3	Natural Gas	526,170	184,391
9/30/2014	Qrt 3	Oil	723,190	381,324
9/30/2014	Qrt 3	Propane	17,860	28,153
9/30/2014	Qrt 3	Steam	15,969	18,269
9/30/2014	Qrt 3	Wood	14,952	4,079
9/30/2014	Qrt 3	Residual Oil	-	-
9/30/2014	Qrt 3	Coal	1,115	86
12/31/2014	Qrt 4	Diesel	-	-
12/31/2014	Qrt 4	Gasoline	-	-
12/31/2014	Qrt 4	Kerosene	2,602	669
12/31/2014	Qrt 4	Natural Gas	644,280	219,296
12/31/2014	Qrt 4	Oil	804,029	433,001
12/31/2014	Qrt 4	Propane	17,967	8,699
12/31/2014	Qrt 4	Steam	15,969	18,269
12/31/2014	Qrt 4	Wood	17,801	4,351
12/31/2014	Qrt 4	Residual Oil	-	-
12/31/2014	Qrt 4	Coal	1,249	313
3/31/2015	Qrt 1	Diesel	-	-
3/31/2015	Qrt 1	Gasoline	-	-
3/31/2015	Qrt 1	Kerosene	3,104	792
3/31/2015	Qrt 1	Natural Gas	671,315	301,729

Quarter End Date	Quarter	Fuel Type	Cumulative Annual (MMBtu)	Cumulative Annualized Pipeline (MMBtu)[a]
3/31/2015	Qrt 1	Oil	885,524	498,536
3/31/2015	Qrt 1	Propane	19,357	17,177
3/31/2015	Qrt 1	Steam	15,969	19,056
3/31/2015	Qrt 1	Wood	17,781	4,380
3/31/2015	Qrt 1	Residual Oil	-	-
3/31/2015	Qrt 1	Coal	1,305	315
6/30/2015	Qrt 2	Diesel	-	-
6/30/2015	Qrt 2	Gasoline	-	-
6/30/2015	Qrt 2	Kerosene	3,763	770
6/30/2015	Qrt 2	Natural Gas	694,322	220,988
6/30/2015	Qrt 2	Oil	955,804	501,564
6/30/2015	Qrt 2	Propane	22,091	67,535
6/30/2015	Qrt 2	Steam	15,969	16,372
6/30/2015	Qrt 2	Wood	20,558	20,411
6/30/2015	Qrt 2	Residual Oil	-	-
6/30/2015	Qrt 2	Coal	1,442	285
9/30/2015	Qrt 3	Diesel	-	-
9/30/2015	Qrt 3	Gasoline	-	-
9/30/2015	Qrt 3	Kerosene	4,063	875
9/30/2015	Qrt 3	Natural Gas	786,147	224,883
9/30/2015	Qrt 3	Oil	1,019,266	404,798
9/30/2015	Qrt 3	Propane	24,464	51,936
9/30/2015	Qrt 3	Steam	15,969	11,899
9/30/2015	Qrt 3	Wood	23,371	21,323
9/30/2015	Qrt 3	Residual Oil	-	-
9/30/2015	Qrt 3	Coal	1,627	326
12/31/2015	Qrt 4	Diesel	-	-
12/31/2015	Qrt 4	Gasoline	-	-
12/31/2015	Qrt 4	Kerosene	4,581	783
12/31/2015	Qrt 4	Natural Gas	829,928	202,156
12/31/2015	Qrt 4	Oil	1,116,994	376,191
12/31/2015	Qrt 4	Propane	28,612	10,054
12/31/2015	Qrt 4	Steam	15,969	12,272
12/31/2015	Qrt 4	Wood	26,889	4,736
12/31/2015	Qrt 4	Residual Oil	-	-
12/31/2015	Qrt 4	Coal	2,186	319

[a] Tracked beginning first quarter of 2013

Appendix D: NYS RGGI Auction Proceeds

Table D-1. NYS RGGI Auction Proceeds[a]

Auction Date	Control Period	Clearing Price	New York State Allowances Sold	New York State Auction Proceeds
12/17/2008	First	$3.38	12,422,161	$41,986,904
3/18/2009	First	$3.51	12,422,161	$43,601,785
3/18/2009	Second	$3.05	776,385	$2,367,974
6/17/2009	First	$3.23	11,861,849	$38,313,772
6/17/2009	Second	$2.06	776,385	$1,599,353
9/9/2009	First	$2.19	11,861,849	$25,977,449
9/9/2009	Second	$1.87	776,385	$1,451,840
12/2/2009	First	$2.05	11,861,850	$24,316,793
12/2/2009	Second	$1.86	571,423	$1,062,847
3/10/2010	First	$2.07	15,136,022	$31,331,566
3/10/2010	Second	$1.86	740,167	$1,376,711
6/9/2010	First	$1.88	15,136,022	$28,455,721
6/9/2010	Second	$1.86	756,801	$1,407,650
9/8/2010	First	$1.86	11,421,736	$21,244,429
9/8/2010	Second	$1.86	464,418	$863,817
12/1/2010	First	$1.86	8,678,724	$16,142,427
12/1/2010	Second	$1.86	41,863	$771,645
3/9/2011	First	$1.89	15,153,524	$28,640,160
3/9/2011	Second	$1.89	757,676	$1,432,008
6/8/2011	First	$1.89	4,519,648	$8,542,135
6/8/2011	Second	$1.89	383,114	$724,085
9/7/2011	First	$1.89	2,689,151	$5,082,495
12/7/2011	First	$1.89	9,621,954	$18,185,493
3/14/2012	Second	$1.93	8,895,733	$17,168,765
6/6/2012	Second	$1.93	8,265,426	$15,952,272
9/5/2012	Second	$1.93	9,315,659	$17,979,222
12/5/2012	Second	$1.93	7,568,550	$14,607,302
3/13/2013	Second	$2.80	14,252,818	$39,907,890
6/5/2013	First	$3.21	750,000	$2,407,500
6/5/2013	Second	$3.20	14,252,818	$45,751,546
9/4/2013	First	$3.21	769,253	$2,053,906
9/4/2013	Second	$3.20	14,578,296	$38,924,050
12/4/2013	Second	$3.00	14,578,295	$43,734,885
3/5/2014	Second	$4.00	9,119,837	$36,479,348
6/4/2014	Second	$5.02	7,173,198	$36,009,454
9/3/2014	Second	$4.88	7,173,198	$35,005,206
12/3/2014	Second	$5.21	7,173,198	$37,372,362
3/11/2015	Third	$5.41	5,906,447	$31,953,878
6/3/2015	Third	$5.50	5,906,446	$32,485,453
9/9/2015	Third	$6.02	9,799,723	$58,994,332
12/2/2015	Third	$7.50	5,906,446	$44,298,345
First Control Period Total			**144,305,904**	**$336,282,535**
Second Control Period Total			**128,764,643**	**$391,950,232**
Third Control Period Total			**27,519,062**	**$167,732,009**
TOTAL			**300,589,609**	**$895,964,775**

Table notes on the next page

[a] New York did not offer allowances for sale in the RGGI auction held on December 25, 2008, where the clearing price for 2009 vintage allowances was $3.07. The first control period for fossil-fuel fired electric generators took effect on January 1, 2009 and concluded on December 31, 2011. The second control period took effect on January 1, 2012 and concluded on December 31, 2014. The third control period took effect on January 1, 2015 and extends through December 31, 2018.

Appendix E: Total NYS RGGI Funds

Table E-1. NYS RGGI Funds

Quarter End Date	Quarter	Fund Category	Cumulative Funds ($)
9/30/2010	Qrt 3	Interest Allocated to the RGGI Portfolio	$940,276
9/30/2010	Qrt 3	RGGI Auction Proceeds	$265,358,611
12/31/2010	Qrt 4	Interest Allocated to the RGGI Portfolio	$940,276
12/31/2010	Qrt 4	RGGI Auction Proceeds	$282,272,683
3/31/2011	Qrt 1	Interest Allocated to the RGGI Portfolio	$940,276
3/31/2011	Qrt 1	RGGI Auction Proceeds	$312,344,851
6/30/2011	Qrt 2	Interest Allocated to the RGGI Portfolio	$1,034,063
6/30/2011	Qrt 2	RGGI Auction Proceeds	$321,611,071
9/30/2011	Qrt 3	Interest Allocated to the RGGI Portfolio	$1,034,063
9/30/2011	Qrt 3	RGGI Auction Proceeds	$326,693,566
12/31/2011	Qrt 4	Interest Allocated to the RGGI Portfolio	$1,034,063
12/31/2011	Qrt 4	RGGI Auction Proceeds	$344,879,060
3/31/2012	Qrt 1	Interest Allocated to the RGGI Portfolio	$1,998,557
3/31/2012	Qrt 1	RGGI Auction Proceeds	$362,047,824
6/30/2012	Qrt 2	Interest Allocated to the RGGI Portfolio	$1,998,557
6/30/2012	Qrt 2	RGGI Auction Proceeds	$378,000,097
9/30/2012	Qrt 3	Interest Allocated to the RGGI Portfolio	$1,998,557
9/30/2012	Qrt 3	RGGI Auction Proceeds	$395,979,318
12/31/2012	Qrt 4	Interest Allocated to the RGGI Portfolio	$3,026,525
12/31/2012	Qrt 4	Interest Allocated to the GJGNY Program	$770,000
12/31/2012	Qrt 4	RGGI Auction Proceeds	$410,586,620
3/31/2013	Qrt 1	Interest Allocated to the RGGI Portfolio	$3,026,525
3/31/2013	Qrt 1	Interest Allocated to the GJGNY Program	$770,000
3/31/2013	Qrt 1	RGGI Auction Proceeds	$450,494,510
6/30/2013	Qrt 2	Interest Allocated to the RGGI Portfolio	$3,026,525
6/30/2013	Qrt 2	Interest Allocated to the GJGNY Program	$770,000
6/30/2013	Qrt 2	RGGI Auction Proceeds	$498,653,556
9/30/2013	Qrt 3	Interest Allocated to the RGGI Portfolio	$3,026,525
9/30/2013	Qrt 3	Interest Allocated to the GJGNY Program	$770,000
9/30/2013	Qrt 3	RGGI Auction Proceeds	$539,631,512
12/31/2013	Qrt 4	Interest Allocated to the RGGI Portfolio	$3,026,525
12/31/2013	Qrt 4	Interest Allocated to the GJGNY Program	$770,000
12/31/2013	Qrt 4	RGGI Auction Proceeds	$587,162,922
3/31/2014	Qrt 1	Interest Allocated to the RGGI Portfolio	$4,400,174

Table E-1 continued

Quarter End Date	Quarter	Fund Category	Cumulative Funds ($)
3/31/2014	Qrt 1	Interest Allocated to the GJGNY Program	$770,000
3/31/2014	Qrt 1	RGGI Auction Proceeds	$619,845,745
6/30/2014	Qrt 2	Interest Allocated to the RGGI Portfolio	$4,400,174
6/30/2014	Qrt 2	Interest Allocated to the GJGNY Program	$770,000
6/30/2014	Qrt 2	RGGI Auction Proceeds	$655,855,199
9/30/2014	Qrt 3	Interest Allocated to the RGGI Portfolio	$4,400,174
9/30/2014	Qrt 3	Interest Allocated to the GJGNY Program	$770,000
9/30/2014	Qrt 3	RGGI Auction Proceeds	$690,860,405
12/31/2014	Qrt 4	Interest Allocated to the RGGI Portfolio	$4,400,174
12/31/2014	Qrt 4	Interest Allocated to the GJGNY Program	$770,000
12/31/2014	Qrt 4	RGGI Auction Proceeds	$728,232,767
3/31/2015	Qrt 1	Interest Allocated to the RGGI Portfolio	$5,900,174
3/31/2015	Qrt 1	Interest Allocated to the GJGNY Program	$1,779,747
3/31/2015	Qrt 1	RGGI Auction Proceeds	$760,186,645
6/30/2015	Qrt 2	Interest Allocated to the RGGI Portfolio	$5,900,174
6/30/2015	Qrt 2	Interest Allocated to the GJGNY Program	$1,779,747
6/30/2015	Qrt 2	RGGI Auction Proceeds	$792,672,098
9/30/2015	Qrt 3	Interest Allocated to the RGGI Portfolio	$5,900,174
9/30/2015	Qrt 3	Interest Allocated to the GJGNY Program	$1,779,747
9/30/2015	Qrt 3	RGGI Auction Proceeds	$851,666,430
12/31/2015	Qrt 4	Interest Allocated to the RGGI Portfolio	$5,900,174
12/31/2015	Qrt 4	Interest Allocated to the GJGNY Program	$1,779,747
12/31/2015	Qrt 4	RGGI Auction Proceeds	$895,964,775

Appendix F: Closed RGGI-Funded Programs and Completed Evaluations

F.1 Closed Programs

F.1.1 Green Residential Buildings Program (GRBP)

The Green Residential Building Program (GRBP), established under Public Authorities Law 1872, was a market transformation initiative designed to change the building practices of the residential construction industry for single-family homes and multifamily homes with up to 11 dwelling units. The GRBP offered incentives to building owners who build and obtain certification that their newly constructed residences meet or exceed Leadership in Energy and Environmental Design (LEED®) or National Green Building Standard guidelines, as well as other GRBP program-specific energy efficiency and health and safety requirements. Buildings meeting GRBP requirements will help to reduce energy use and greenhouse gas emissions, save water and other natural resources, use sustainable building materials, reduce waste, and improve indoor air quality. Sixty-nine contractors participated in this program. Per the enabling law, applications had to be received by October 31, 2013; therefore, the program is now closed to new applications. The following data represent only those projects where the incentive was funded by RGGI, which represents 82 percent of the program activity.

Key accomplishments:

- 440 RGGI-funded projects were completed.

F.1.2 Municipal Water and Wastewater Program

The Municipal Water and Wastewater Program provided a unique opportunity to coordinate RGGI climate change goals and funding with American Recovery and Reinvestment Act (ARRA) and U.S. Environmental Protection Agency (EPA) goals and funding while installing infrastructure that will improve the environment and keep New York State waters clean and healthy. This program was co-managed by the New York State Environmental Facilities Corporation (EFC) and NYSERDA. EFC secured ARRA and Green Project Reserve Funds from EPA to bolster efforts to finance water and wastewater infrastructure via the Clean Water State Revolving Fund Program. Wastewater plants installed through the program are constructed energy efficiently, thus minimizing carbon emissions and improving their economic and environmental performance.

Selected projects received RGGI-funded technical analyses to identify costs and savings associated with energy efficiency, process improvement, and carbon abatement opportunities in support of EPA-funded grants and financing for plant upgrades. The program was selected as one of five national recipients of the States Stepping Forward Program Award for excellence by the American Council for an Energy-Efficient Economy.

Key accomplishments:

- Technical energy analyses were completed for projects in 59 communities.
- Projected annual savings are 46,546 MWh and 56,447 MMBtu, after all project installations are complete.
- To date, communities have reported installing systems resulting in annual savings of 34,942 MWh and 50,098 MMBtu.

F.2 Completed Evaluations

F.2.1 Green Jobs - Green New York Jobs Quantification Study

This study quantified the direct, indirect, and induced jobs created/retained from the GJGNY program, including those in disadvantaged communities. The study also examined changes in worker skill level and wages resulting from GJGNY. NYSERDA issued the final reports for both phases of the study in November 2013. Both Phase 1 and Phase 2 reports are posted on NYSERDA's website.[14]

F.2.2. Multifamily Performance Program Process/Market Evaluation

A major Process/Market Evaluation of the SBC/EEPS-funded MPP was undertaken to assess the RGGI fuel efficiency incentive activity and GJGNY assessment/loan activity. This study was finalized in the third quarter of 2014 and published on the NYSERDA website.[15]

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[14] The GJGNY jobs quantification studies, Phase 1 and Phase 2, are on NYSERDA's website: nyserda.ny.gov/Publications/Program-Planning-Status-and-Evaluation-Reports/NYE$-Evaluation-Contractor-Reports/2013-Reports/NMR-Group.aspx

[15] Multifamily Performance Program/Process Evaluation and Market Characterization, nyserda.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2014ContractorReports/2014-MPP-Process-Evaluation.pdf

F.2.3. Multifamily Performance Program Impact Evaluation

A major Impact Evaluation of the System Benefits Charge (SBC)/EEPS-funded MPP was conducted to assess the effects of RGGI fuel efficiency incentives. The work included measurement and verification of energy savings, and attribution analysis of projects completed from 2009 through 2011; and the finalized study is available on NYSERDA's website.[16]

F.2.4. Economic Development Growth Extension Process Evaluation

A Process Evaluation for this program was finalized in the third quarter of 2015 and published on the NYSERDA website.[17]

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16 Multifamily Performance Program Impact Evaluation (2009-2011), nyserda.ny.gov/About/Publications/Program-Planning-Status-and-Evaluation-Reports/Evaluation-Contractor-Reports/2015-Reports

17 Economic Development Growth Extension Process Evaluation, .nyserda.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2015ContractorReports/economic-development-growth-extension-process-evaluation.pdf

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