

New York State Energy Research and Development Authority

Green Jobs – Green New York Q2 2019 Quarterly Update

Quarter ending June 30, 2019

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Program Description

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 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, more sustainable, and more economically sound. GJGNY is administered by NYSERDA and made available by the [Green Jobs – Green New York Act of 2009](#).

1 Workforce Development

GJGNY supports a broad range of education and training programs aimed at creating an experienced green collar workforce. This workforce will have the relevant skills and credentials needed to support New York State's growing clean energy economy. The workforce training programs help meet the demand for energy efficiency and renewable energy measures and technologies. Through public-private partnerships, workforce development programs fund the development and delivery of cutting-edge training programs and provide financial support to those who wish to pursue new career training, professional certifications, and critical on-the-job training.

1.1 Clean Energy Technical Training

From the program's inception through December 31, 2017, over 3,900 New Yorkers were trained in a range of energy efficiency and renewable energy courses.

NYSERDA has concluded its training partnership agreement with Green City Force (GCF), a Brooklyn-based provider of training and job placement support to disadvantaged young adults. A total of 121 students have participated in GCF's training program.

NYSERDA issued an On-the-Job Training (OJT) for Energy Efficiency and Clean Technology Program Opportunity Notice, which includes approximately \$520,000 in GJGNY workforce training funds that will be made available to eligible New York State employers outside of the Systems Benefit Charge service territory. This program supports wages for new hires on a first-come, first-served basis for eligible clean energy businesses. The program includes higher wage subsidies for employers that hire workers with additional barriers to employment. To date, no GJGNY OJT incentives have been expended.

2 Outreach

2.1 Community Energy Engagement Program

The Community Energy Engagement Program (CEEP) incorporates and builds upon the success of previous engagement efforts including the Green Jobs, Green New York (GJGNY) Outreach Initiative. Historically, outreach and engagement were conducted as part of the CBO program funded by GJGNY. While the initial GJGNY funding allocated for outreach activities has been exhausted, NYSERDA continues locally-based outreach and engagement efforts through the CEEP program with funding provided via the Clean Energy Fund (CEF) and Regional Greenhouse Gas Initiative.

Through CEEP, NYSERDA awarded approximately \$5.5 million to deploy Community Energy Advisors to conduct engagement activities to New York State residents, small businesses, and multifamily building owners, with an emphasis on low-to-moderate income (LMI) households and communities. These Community Energy Advisors focus on improving energy affordability and increasing deployment of distributed energy resources for community members of all income levels.

Additionally, the program seeks to address energy affordability needs, reduce energy bills, and increase participation in energy efficiency and renewable energy solutions and programs for residential, multifamily and small business customers. The program also seeks to ensure residential, multifamily and small business customers' awareness of and access to financing options for energy efficiency and renewable energy projects while educating households and communities to achieve greater energy literacy, understand the value proposition of clean energy solutions, enable informed energy decisions, facilitate action in completing clean energy projects, and decrease energy consumption.

Key activities this quarter included:

- General outreach and engagement at a variety of public events where Community Energy Advisors exhibited and encouraged residential and small business customers to be better informed about available resources such as financing options for energy efficiency and renewable energy projects.
- Targeted program outreach focused on promoting the Solar for All Program for low-income residential customers and the GJGNY Energy Study Program for small commercial and nonprofit customers.
- Coordination efforts with other organizations in support of active Clean Heating and Cooling Community Campaigns.

- Programs such as Home Performance with ENERGY STAR®, Assisted Home Performance with ENERGY STAR® and EmPower New York continue to be a focus of customer engagement and outreach activities to residential customers.
- Establishing relationships with partners within their regions with groups including, but not limited to, weatherization assistance providers, utilities, local social service agencies, local Department of Health agencies, etc. to identify opportunities to leverage partners' networks and to drive further adoption of energy efficiency and renewable energy projects.
- Leveraging private investment from other sources such as the Green and Healthy Homes Initiative, local home repair dollars, etc. to support implementation of clean energy projects. One example of the leveraging funds occurring is PathStone's efforts to leverage Rochester Safe and Efficient Homes Initiative (RSEHI) funds to help city of Rochester homeowners live in safer, healthier, and more energy-efficient homes. Through RSEHI, grants or loans are made to qualified homeowners for improvements that include insulation, furnaces, hot water heaters, new windows and doors, removal of lead paint hazards, or emergency repairs.

3 One- to Four-Family Residential Buildings Program

GJGNY provides home assessments and financing to support energy efficiency and renewable energy improvements to one-to-four family homes.

NYSERDA's Home Performance with ENERGY STAR® (HPwES) program offers homeowners in New York State a comprehensive approach to improving energy efficiency and home comfort while saving money. Participating Building Performance Institute (BPI) Gold Star contractors conduct energy assessments and upgrades. Income-qualified homeowners are eligible for additional incentives to make energy improvements.

The GJGNY loan also supports deployment of solar photovoltaic (PV) through the NY-Sun program, solar thermal (hot water) systems, and certain wood and pellet stove replacements through Renewable Heat NY.

3.1 Home Performance with ENERGY STAR® Assessments

In the second quarter of 2019, 3,990 free/reduced-cost comprehensive home energy assessment applications were received. The program to date conversion rate from assessment to energy retrofit remains strong at 31%. The conversion rate for the period between June 2018 and June 2019 was 45%. The average cycle time between assessment completion to project completion for the period between June 2018 and June 2019 was 63 days.

Table 3-1. Home Performance with ENERGY STAR Assessments.

Timeframe	GJGNY Totals since 11/15/10 ^a	
Received Audit Applications		
Q2 2019	3,990	
Program to Date	185,105	
Average # of Applications Received per Month	1,843	
Approved Audit Applications		
Free		
Q2 2019	3,974	
Program to Date	165,094	
Reduced Cost		
Q2 2019	282	
Program to Date	13,523	
Total Approved Audit Applications	178,617	
Average # of Applications Approved Per Month	1,779	
Scheduled Audits		
Scheduled Audits as of End of Current Month	513	
Completed Audits^b		
Goal: (77,500-Audits)	Free	
	Q2 2019	2,853
	Program to Date	125,244
	Reduced Cost	
	Q2 2019	196
	Program to Date	9,706
Total Completed Audits	134,950	
Audit Funds Invoiced to Date	\$34,182,380	
^a GJGNY totals since 11/15/10 are inclusive of CBO initiated activities. ^b Reported data includes all audits offered through the Residential Free/Reduced-Cost Energy Audit Program. In mid-2016, NYSERDA began using CEF funds for audits in CEF electric utility territories.		

3.2 One- to Four-Family Residential Buildings Financing

New York residents can apply for a loan to finance energy efficiency work, including, but not limited to, upgrading insulation, air sealing, and replacing outdated appliances with ENERGY STAR® certified products that may render savings on their monthly utility bill. Green Jobs-Green New York (GJGNY) financing has also expanded to net-metered technologies, such as solar electric systems and solar thermal systems, that have attracted many customers statewide.

GJGNY provides two loan options for consumers: On-Bill Recovery (OBR) loans, which enable customers to make payments through their utility bills; and Smart Energy loans, unsecured loans that are paid back directly to NYSERDA’s loan servicing contractor. Both loans offer expanded credit qualification criteria (Tier 2) enabling some applicants who would not qualify for a loan based on more traditional criteria (Tier 1) to qualify for GJGNY loans.

Table 3-2. Green Jobs–Green New York Financing, Summary by Loan Purpose and Loan Type

EE= energy efficiency only. PV = PV only. EE & PV = a loan incorporating both energy efficiency and PV. RHNY = renewable heat (pellet or wood stoves). GSHP = ground source heat pump. ST = solar thermal.

GJGNY Loan Type	Applications Received (Number) ¹	Loans Issued (Number)	Loans Issued (Dollars)
EE Smart Energy Loan		13,140	\$116,522,978
EE On-Bill Recovery Loan		4,051	\$45,384,582
Total	37,448	17,191	\$161,907,560
PV Smart Energy Loan		3,674	\$60,219,650
PV On-Bill Recovery Loan		4,259	\$71,590,973
Total	12,914	7,933	\$131,810,623
EE & PV Smart Energy Loan		26	\$473,301
EE & PV On-Bill Recovery Loan		10	\$218,011
Total	403	36	\$691,313
RHNY Smart Energy Loan ²		47	\$417,833
RHNY On-Bill Recovery Loan		4	\$19,212
Total	178	51	\$437,045
GSHP Smart Energy Loan		6	\$121,610
GSHP On-Bill Recovery Loan		6	\$114,685
Total	40	12	\$236,295
ST Smart Energy Loan		9	\$64,039
ST On-Bill Recovery Loan		2	\$11,510
Total	19	11	\$75,549
Grand Total	51,002	25,234	\$295,158,385

1. Applicants are not required to choose loan type (Smart Energy vs On-Bill Loan) at time of application, therefore only total applications are shown.
 2. Includes an EE & RHNY loan.

Table 3-3. Green Jobs–Green New York Financing, Summary by Loan Type and Underwriting

Loan Type Summary							
	Smart Energy			On-Bill Recovery			Total
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total	
Loans Issued	13,452	3,450	16,902	7,033	1,299	8,332	25,234
Value (Dollars)	\$143,946,807	\$33,872,605	177,819,411	\$99,551,924	\$17,787,050	117,338,974	\$295,158,385
Average Loan	\$10,701	\$9,818	\$10,521	\$14,155	\$13,693	\$14,083	
Average Term (Years)	13.6	14.3	13.7	14.6	14.7	14.6	

Table 3-4. Green Jobs–Green New York Financing, Energy Efficiency Loans, by Market Indicator and Underwriting

Energy Efficiency Loans (Assisted vs. Market Rate)							
	Assisted			Market Rate			Grand Total
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total	
Loans Issued	4,640	2,250	6,890	9,049	1,252	10,301	17,191
Value (Dollars)	\$32,018,359	\$16,112,196	\$48,130,555	\$99,419,637	\$14,357,368	\$113,777,005	\$161,907,560
Tier % (Loan Count)	67%	33%	100%	88%	12%	100%	
% of Total Loans issued			40%			60%	100%
% of Total Funds Issued			30%			70%	100%
Average Loan Amount	\$6,986			\$11,046			\$9,418

Table 3-5. Green Jobs–Green New York Financing, Photovoltaic Loan Summary, by Market Indicator and Underwriting

Photovoltaic Loan Summary (Affordable Solar vs. Market Rate)							
	Affordable Solar			Market Rate			Grand Total
	Tier 1	Tier 2	Total	Tier 1	Tier 2	Total	
Loans Issued	167	58	225	6,577	1,163	7,740	7,965
Value (Dollars)	\$2,305,317	\$853,769	\$3,159,086	\$109,165,119	\$20,097,513	\$129,262,632	\$132,421,718
Tier % (Loan Count)	74%	26%	100%	85%	15%	100%	
% of Total Loans Issued			3%			97%	100%
% of Total Loans Issued			2%			98%	100%
Average Loan Amount	\$14,040			\$16,701			\$16,625

Figure 3-1. Green Jobs–Green New York Financing, Residential Applications Received and Denied, per Quarter, for the Past Three Years

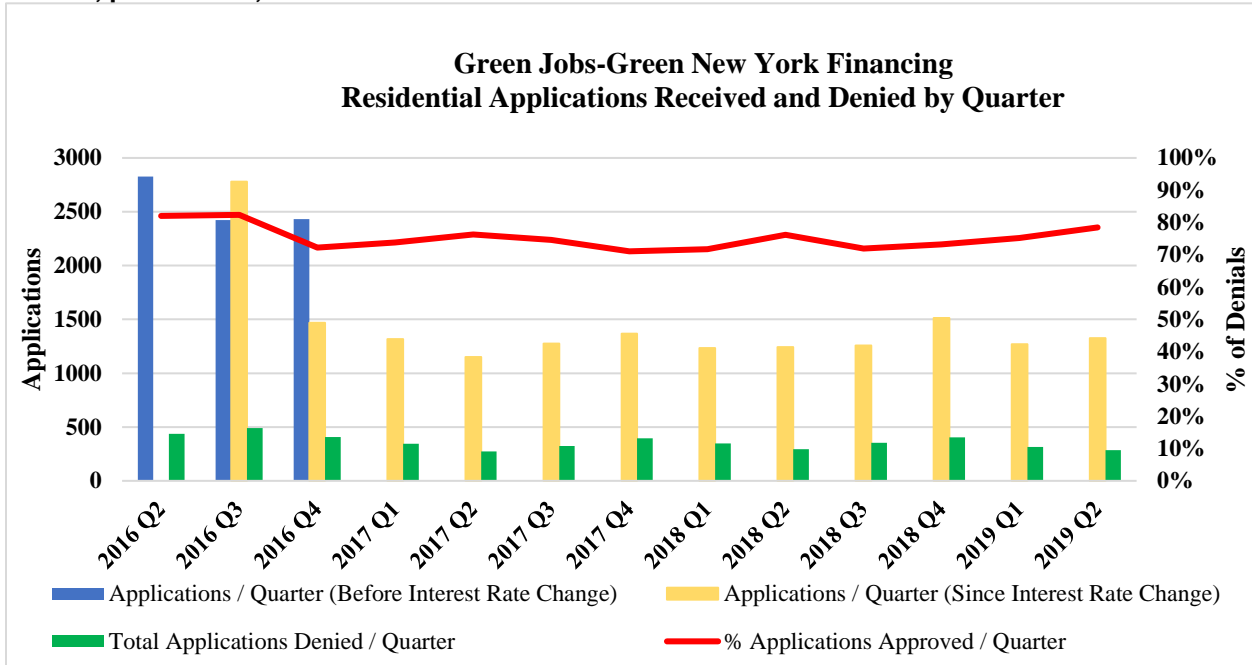


Figure 3-2. Green Jobs–Green New York Financing, Smart Energy and On-Bill Recovery Loans Issued per Quarter

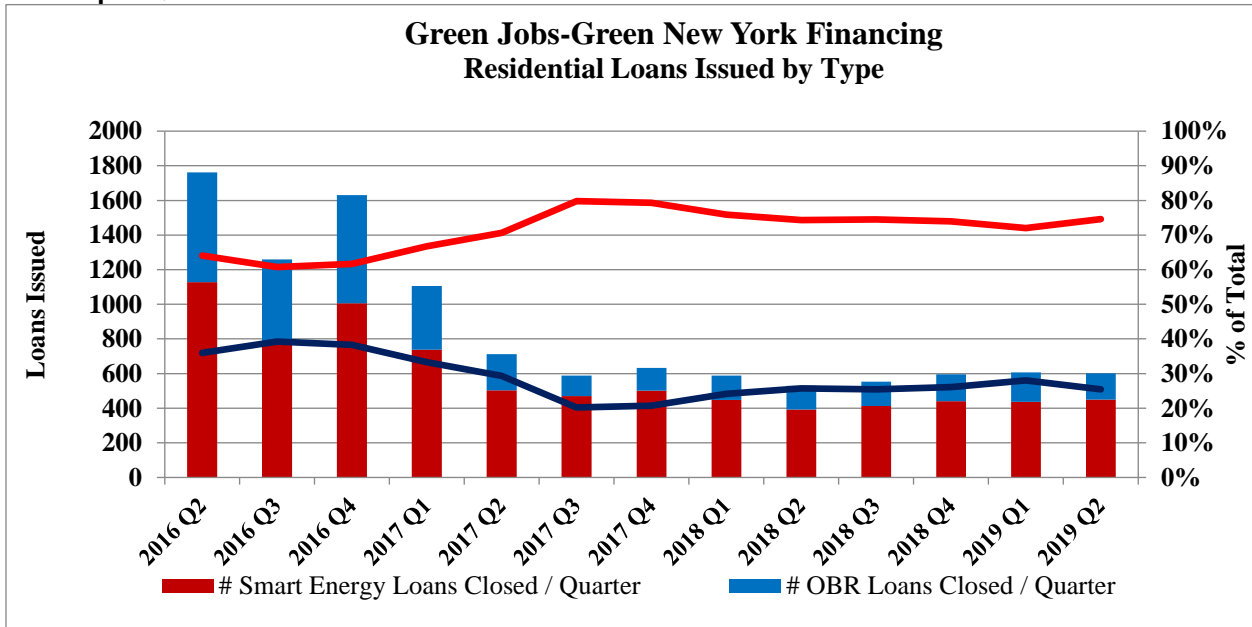


Figure 3-3. Green Jobs–Green New York Financing, Loans Issued by Tier, per Quarter

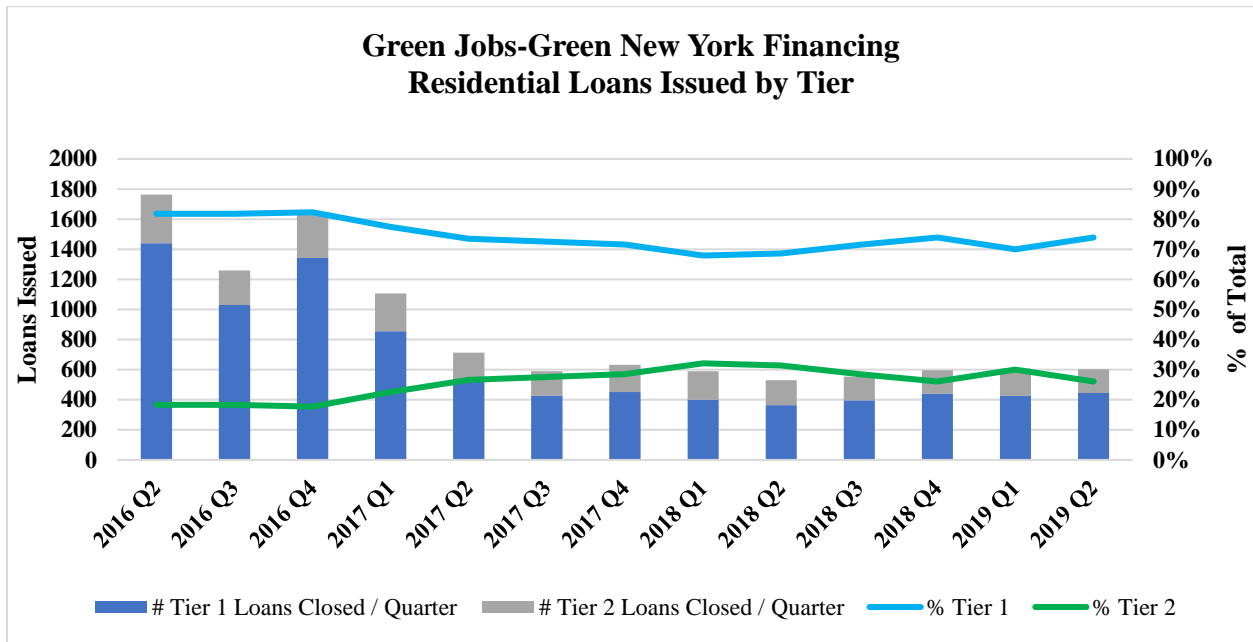


Table 3-6. Green Jobs–Green New York Financing, Residential Energy Efficiency Loans Issued for Applications Received on or after 9/01/16.

Green Jobs-Green New York Financing (Energy Efficiency Only) Residential Loans Issued for Applications Received on or after 9/01/16		
Income Category	# Loans	% of Loans
<80% AMI *	2,728	68%
80-120% AMI*	447	11%
>120% AMI* (Tier 1)	725	18%
>120% AMI* (Tier 2)	128	3%
Total Loans Issued	4,028	100%

* AMI = Area Median Income, which is the greater of the State or County Median Income. Households with incomes greater than 120% AMI are further grouped by underwriting Tier, with different interest rates applying to each group.

Table 3-7. Green Jobs–Green New York Financing, Residential Renewables and Combined Technologies Loans Issued for Applications Received on or after 9/01/16

Green Jobs-Green New York Financing (Renewables & Combined Technologies Only)		
Residential Loans Issued for Applications Received on or after 9/01/16		
Income Category	# Loans	% of Loans
<80% AMI*	330	24%
80-120% AMI*	312	22%
>120% AMI* (Tier 1)	653	47%
>120% AMI* (Tier 2)	106	8%
Total Loans Issued	1401	100%

* AMI = Area Median Income, which is the greater of the State or County Median Income. Households with incomes greater than 120% AMI are further grouped by underwriting Tier, with different interest rates applying to each group

4 Multifamily Energy Performance Portfolio

NYSERDA offers a portfolio of programs and incentives for owners, facility managers, developers, and condo/co-op boards of multifamily buildings with five or more units in New York State. NYSERDA’s programs make it easier to assess, fund, implement, and measure energy efficiency upgrades that improve building performance and save money. Given limited activity in this sector, NYSERDA staff are exploring opportunities for increasing adoption of clean energy improvements.

4.1 Multifamily Energy Performance Assessments

Through June 2019, from the 316 approved assessment applications, 316 (100 percent) assessments have been completed.

Table 4-1. Multifamily Energy Performance Assessments.

Metric	Q1 2019			Cumulative			
	Affordable Housing	Market Rate Housing	Monthly Total	Affordable Housing	Market Rate Housing	Program Total	Budget/ Goal
Received Assessment Applications	0	0	0	193	140	333	
Approved Assessment Applications	0	0	0	193	140	333	500
Assessment Funds Encumbered (\$)	0	0	0	2,342,960	1,120,987	3,463,947	
Assessment Funds Invoiced (\$)	0	0	0	2,221,324	\$1,006,639	3,227,964	3,000,000
Completed Assessments	0	0	0	186	130	316	400
Number of Projects Withdrawing from MPP after Assessment*	0	0	0	17	29	46	

*MPP Projects must achieve a minimum of 20 percent in energy savings. Projects may choose to proceed outside MPP. Some may choose smaller work scopes which will not achieve program standard and thus not be eligible for MPP and some may elect to access utility incentives. If energy efficiency projects are completed, building owners that have an authorized assessment would still be eligible to apply for GJGNY financing.

4.2 Multifamily Energy Performance Projects

Through June 2019, the Multifamily Energy Performance Program has completed 61,795 housing units with installed measures. Of those units with installed measures, 30,853 (50 percent) are associated with affordable housing.

Table 4-2. Multifamily Energy Performance Projects.

Metric	Q1 2019			Cumulative		
	Affordable Housing	Market Rate Housing	Monthly Total	Affordable Housing	Market Rate Housing	Program Total
Projects in Pipeline*	0	0	0	186	130	316
Projects Contracted to have Measures Installed	0	0	0	186	130	316
Households Associated with Projects Contracted	0	0	0	30,853	30,942	61,795
Projects with Installed Measures (units)	0	0	0	30,853	30,942	61,795
kWh Savings of Installed Measures	0	0	0	36,240,711	16,967,556	53,208,267
MMBtu Savings of Installed Measures	0	0	0	475,792	364,525	840,317
Dollar Savings of Installed Measures	0	0	0	\$115,597,850	\$45,182,257	\$160,780,106
*Projects that receive GJGNY-supported assessments and/or financing may also receive incentives through the System Benefits Charge (SBC), Energy Efficiency Portfolio Standard (EEPS), Regional Green House Gas Initiative (RGGI), and/or utility programs, such that the projects' energy savings may not all be attributable solely to GJGNY.						

4.3 Multifamily Energy Performance Financing

Through June 2019, the Multifamily Performance Program has closed 22 loans with a total value of \$12,099,798. NYSERDA’s share of that total loan value is \$3,834,685.

Table 4-3. Multifamily Energy Performance Financing.

Loan Status	Q12019			Cumulative		
	Number	NYSERDA Share of Total Loan Value	Total Loan Value	Number	NYSERDA Share of Total Loan Value	Total Loan Value
Participation Agreements Approved	0	\$0	\$0	22	\$3,834,685	\$12,099,798
Loans Closed	0	\$0	\$0	22	\$3,834,685	\$12,099,798

5 Small Commercial Energy Efficiency Program

NYSERDA’s Small Commercial Energy Efficiency Program offers financial assistance to help small businesses and not-for-profit organizations improve their energy efficiency and reduce their energy costs.¹ This program offers two low-interest loan options to finance energy efficiency projects. On-Bill Recovery Financing offers eligible small businesses and not-for-profit customers up to \$50,000 at 2.5% for a maximum 10 years. Borrowers use the savings on their energy bills to pay for their energy efficiency upgrades by repaying the loan through a monthly assessment on the organization’s electric utility bill. For the second loan option, a Participation Loan, NYSERDA partners with lenders across New York State to help small businesses and not-for-profit organizations access below-market financing. NYSERDA provides 50% of the loan principal, up to \$50,000, at a 2% rate of interest for not more than 10 years. The lender provides the remaining principal of the loan at market rate. In addition, eligible small business and not-for-profit customers participating in NYSERDA’s NY-Sun Solar PV Incentive Program can access low-interest GJGNY financing to install solar PV systems of up to 200 kW. Financing is also available for the purchase of solar thermal systems, pellet stoves, and advanced cord wood boilers as approved under NYSERDA’s Renewable Heat NY Program. Given limited activity in this sector, NYSERDA staff are exploring opportunities for increasing adoption of clean energy improvements.

5.1 Small Commercial Energy Efficiency Assessments

Through June 2019, the Small Commercial Energy Efficiency Program completed 4,222 assessments. The previous assessment program closed in December 2016, and in March 2019, NYSERDA began offering subsidized energy studies (assessments) for GJGNY-eligible small businesses and not-for-profit organizations².

Table 5-1. Small Commercial Energy Efficiency Assessments

Metric	Q2 2019	Program Cumulative		
	GJGNY	GJGNY	ARRA*	Program Total
Received Assessment Applications	35	3,574	934	4,543
Completed Assessments	6	3,367	849	4,222

¹ Visit <https://www.nyserdera.ny.gov/All-Programs/Programs/Small-Commercial-Energy-Assessments> for information about NYSERDA’s subsidized audits for Small Commercial/Not-For-Profits

5.2 Small Commercial Energy Efficiency Projects

Through June 2019, the Small Commercial Energy Efficiency Program estimates 1,855 project completions as a result of GJGNY funded assessments.

Table 5-2. Small Commercial Energy Efficiency Projects

Metric	Q2 2019	GJGNY Program Cumulative
Estimated Projects Completed*	0	1855
*The 2015 Small Commercial Energy Efficiency Program Impact Evaluation found that 44 percent of the energy savings recommended through program audits were reported to be implemented. Estimated projects completed are inclusive of those that used ARRA funds referenced in Table 5-1 above.		

5.3 Small Commercial Energy Efficiency Financing

Through June 2019, the Small Commercial Energy Efficiency Program has closed 75 loans with a total value of \$3,666,785. NYSERDA’s share of that total loan value is \$2,386,776.

Table 5-3. Small Commercial Energy Efficiency Financing.

Loan Status	Q2 2019			Program Cumulative		
	Number	NYSERDA Share of Total Loan Value	Total Loan Value**	Number	NYSERDA Share of Total Loan Value	Total Loan Value**
Applications Approved*						
Participation Loans	0	\$0	\$0	153	\$3,186,121	\$6,784,916
On-Bill Recovery	0	\$0	\$0	91	\$2,851,504	\$3,551,619
Loans Closed						
Participation Loans	0	\$0	\$0	32	\$1,024,325	\$2,304,334
On-Bill Recovery	0	\$0	\$0	43	\$1,362,451	\$1,362,451
Total	0	\$0	\$0	75	\$2,386,776	\$3,666,785
The Small Commercial Energy Efficiency Financing Program has 13 participating lenders.						
* Customer applications are assessed for both Participation Loan and On-Bill Recovery Loan eligibility prior to approval. Approved application values are inclusive of loans that have moved forward to closure.						
**The total loan value represents the total value of the loan issued by the lender to the borrower. The total loan value may include financing for non-energy efficiency projects. NYSERDA's share of the total loan value represents 50% of the total energy project cost or \$50,000, whichever is less.						

6 Evaluation

The overarching goals of Evaluation are to provide objective and credible information that supports optimum program operation and outcomes, as well as program accountability. Three major types of evaluation are implemented for the GJGNY program. Process evaluation provides information to support program operations by addressing program efficiency and effectiveness, satisfaction and barriers to participation, among other issues. Impact evaluation provides information to help understand actual program impact and improve energy impact estimates, including economic, environmental, and non-energy benefits; in doing so it supports program accountability. Market evaluation also provides information to support program operations and accountability by characterizing and assessing target markets for programs.

Evaluation Activities

In the third quarter of 2019, NYSERDA is planning to launch the evaluation of GJGNY-funded audit-only projects for studies completed between 2014 and 2017 to estimate these savings. In addition, a billing analysis of Home Performance with Energy Star on-bill recovery projects is underway. As appropriate, results will be summarized in future reports to the Advisory Council. [GJGNY evaluation reports](#) can be found on NYSERDA's website.