

# Green Jobs - Green New York 2020 Annual Report

Final Report | October 2020



## **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.

# **Green Jobs - Green New York 2020 Annual Report**

*Final Report*

Prepared by:

**New York State Energy Research and Development Authority**

Albany, NY

October 2020

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# 1 Introduction

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Increasing participation in energy projects across sectors can reduce energy costs, create local jobs, reduce greenhouse gas emissions, improve indoor air quality, and help achieve New York State's energy goals. Achieving these objectives is particularly important in economically distressed communities where many households have limited options for undertaking energy improvements.

On October 9, 2009, the Green Jobs - Green New York Act of 2009 (GJGNY Act) was signed into law. Pursuant to Title 9-A of New York State Public Authorities Law Section 1890, The Green Jobs - Green New York Program directs the New York State Energy and Research Development Authority (NYSERDA) to accomplish the following:

- Establish a revolving loan fund to finance the cost of approved qualified energy efficiency services for residential, multifamily, and nonresidential structures.
- Pursue the feasibility of innovative financing mechanisms.
- Issue one or more competitive opportunities to solicit applications from partnerships or consortia composed of constituency-based organizations (CBO) that can connect community members to Green Jobs - Green New York (GJGNY). Give preference to applicants that include significant participation by minority- and women-owned business enterprises and/or to applications intended to serve economically distressed communities.
- Target communities in areas where energy costs are particularly high in relation to median household income, as determined by NYSERDA, or those designated as a nonattainment area for one or more pollutants pursuant to Section 107 of the federal Clean Air Act.
- Establish standards for energy assessments based on building type and other relevant considerations.
- Establish a schedule of fees for energy assessments, including a sliding scale by which assessment fees shall be waived for residential applicants based on median county income.
- Enter into contracts to provide employment and training services to support GJGNY.
- Establish an Advisory Council.
- Provide annual reports to the Governor, Senate, and Assembly.

On August 4, 2011, Governor Andrew M. Cuomo signed the Power NY Act of 2011, which established an On-Bill Recovery Financing Program (OBR) for GJGNY project financing and increased the maximum loan limits for residential and small business/not-for-profit GJGNY loans, subject to certain project payback criteria. NYSERDA worked with the utilities and Department of Public Service staff to implement OBR Loans for residential consumers commencing January 30, 2012—four months earlier than required by the law. In April 2012, an amendment to the GJGNY law—Public Authorities Law § 1896(5)—made additional changes to improve the OBR financing mechanism.

An additional amendment to the GJGNY Act of 2009 was signed into law on October 22, 2013, which extended the availability of financing to net-metered technologies, enabling residential solar electric installations through GJGNY loans.

The 2015–2016 enacted New York State budget (A.3008-B/S.2008-B, Part SS), Chapter 58 of the laws of 2015, included requirements for NYSERDA related to GJGNY as follows:

- Provide a report to the Executive, Temporary President of the Senate, Speaker of the Assembly, Chair of the Senate Committee on Energy and Telecommunications, and Chair of the Assembly Committee on Energy regarding the financial status of the GJGNY program.
- Continue to offer financing through the GJGNY program for qualified energy efficiency services to all applicants who were eligible on January 1, 2015 through March 31, 2016.
- Develop standards and/or criteria that will encourage and increase participation of, and issuance of, loans to low- to moderate-income (LMI) households statewide for qualified energy efficiency services under the GJGNY program.
- Convene a working group to assist in developing these standards and/or criteria that includes individual representatives of CBOs.
- Consult with and solicit information and recommendations from the working group as to how to increase participation and issuance of loans to LMI households seeking qualified energy efficiency services.
- Report the results of consultations with and solicitations of the working group to the Governor, Senate Majority Leader, and Speaker of the Assembly within six months of the March 31, 2015 effective date of the legislation.

In April 2015, NYSERDA established the GJGNY LMI Working Group, which consisted of 19 members representing CBOs, LMI consumer advocates, advocates on utility and housing issues, and stakeholders (including contractors) of the solar electric and home energy services industries. The working group report was submitted to the Governor and members of the State Legislature on October 1, 2015 and posted on NYSERDA's web site.<sup>1</sup> Some working group members also brought forward additional barriers to participation or challenges related to aspects of the GJGNY program that were outside the mission of the GJGNY LMI Working Group. As a result, in January 2016, NYSERDA established two additional working groups. The report from the GJGNY Community Outreach Working Group was discussed in the 2017 Green Jobs - Green New York Annual Report and is posted on NYSERDA's web site.<sup>2</sup> The Green Jobs - Green New York Workforce Training Working Group Recommendations Report is discussed in Section 4.1 and posted on NYSERDA's web site.<sup>3</sup>

In December 2017, the GJGNY Act was amended to include the purchase and installation of geothermal systems as qualified energy efficiency services.



This eleventh Annual Report submitted for GJGNY was prepared pursuant to Section 1899 of the GJGNY Act and provides an update on the progress and achievements of the GJGNY initiative from July 1, 2019 through June 30, 2020.

## **1.1 Advisory Council**

The Advisory Council generally meets, at minimum, once per year but will hold additional special meetings as needed to discuss significant program changes or in response to Advisory Council requests on topics that should not wait for the next scheduled meeting. Advisory Council meetings are open to the public, and documentation of the meetings are posted on NYSERDA's website.<sup>4</sup> NYSERDA also issues quarterly reports documenting the status of the GJGNY program, which can also be found on NYSERDA's web site.<sup>5</sup>

The Advisory Council consists of nine ex-officio members and 20 appointed members who represent constituency-based community groups; consumer advocates on utility and housing issues; community-based workforce development groups; unions, including building trades and property services; home performance contractors; large-scale construction contractors; and investment market experts. Members of the Advisory Council are listed in Table 1-1. Due to the critical and timely nature of discussions taking place about the residential revolving loan fund over the past several years, no changes to membership were proposed, even though some members continue to serve with expired terms.

**Table 1-1. GJGNY Advisory Council Members**

Name	Organization
Doreen Harris	Acting President and CEO, NYSERDA (Chair)
Eric Gertler	President and CEO of Empire State Development
Michael P. Hein	Commissioner, New York State Office of Temporary and Disability Assistance
Thomas Falcone	Chief Executive Officer, Long Island Power Authority
Basil Seggos	Commissioner, New York State Department of Environmental Conservation
Rossana Rosado	Secretary of State
Gil C. Quiniones	President and CEO, New York State Power Authority
Roberta Reardon	Commissioner, Department of Labor
RuthAnne Visnauskas	Commissioner and CEO, New York State Homes and Community Renewal
James Barry	Service Employees International Union 32BJ
Chuck Bell	Consumers Union
Les Bluestone	Blue Sea Construction
Tria Case	City University of New York
Sammy Chu	Suffolk County Department of Labor
Stephen Edel	NY Renews
Kate Fish	Adirondack North Country Association
Clarke Gocker	People United for Sustainable Housing - Buffalo
Ross Gould	Workforce Development Institute
Dave Hepinstall	Association for Energy Affordability
Alan Hipps	Housing Assistance Program of Essex County
David Johnson	Laborers International Union of North America
Jennifer Keida	Standard Insulation Co. Inc.
Jason Kuflik	Green Street Power
Conrad Metcalf	Building Performance Contractors Assoc.
Jackson Morris	Natural Resource Defense Council
Ellen Redmond	International Brotherhood of Electrical Workers (retired)
Hal Smith	Home Energy Performance by Halco
Lisa Tyson	Long Island Progressive Coalition
Michael Weisberg	Hudson Valley Commercial Bank

In addition to meeting with the Advisory Council, NYSERDA works with utility representatives, Department of Public Service staff, and program implementation contractors to support the implementation of OBR financing and other programs. In addition, NYSERDA meets regularly with stakeholders in the residential energy efficiency sector by scheduling regular calls or meetings, and by engaging contractors through roundtable meetings to discuss program challenges and opportunities. Feedback provided by the group, as well as other stakeholders, is factored into program improvements.

## **1.2 Funding**

The GJGNY Act allocated \$112 million in funding from New York State's share of the Regional Greenhouse Gas Initiative (RGGI) to support GJGNY. In consultation with the GJGNY Advisory Council, NYSERDA sub-allocated the funding across the various program components prescribed by the GJGNY Act. Over time, NYSERDA further allocated interest earnings and additional RGGI funds. In addition to the RGGI funds, NYSERDA received a United States Department of Energy (DOE) Better Buildings grant in the amount of \$40 million, of which \$18.6 million was used to support GJGNY financing or outreach. NYSERDA supplemented the initial GJGNY program funding with \$107,025,275 in additional RGGI funds and \$1,779,747 in interest earnings to date to ensure continuity in program services where needed.

Table 1-2 provides a summary of the GJGNY budget, including interest earnings and subsequent additions of RGGI funds, as of June 30, 2020. To enable continued implementation of GJGNY activities, NYSERDA included elements of GJGNY in the planning and implementation of the Clean Energy Fund (CEF).<sup>6</sup> NYSERDA is working with stakeholders to incorporate lessons learned from GJGNY into the CEF and continue to deliver benefits from GJGNY initiatives, particularly for LMI households. During this reporting cycle, the CEF supported energy audits, community-based outreach, and workforce development initiatives. Additional details regarding GJGNY activities and contracts at the sector or program level can be found throughout this report.

**Table 1-2. GJGNY Budget Summary as of June 30, 2020**

Program Area	Budget	Expended	Encumbered	Committed	Balance
<b>Workforce Development</b>	\$7,339,532	\$6,907,470	\$84,526	\$347,536	\$0
<b>Community Engagement</b>	\$15,838,946	\$15,838,946	\$0	\$0	\$0
<b>Energy Audits and Implementation</b>					
One- to Four-Family Residential Buildings <sup>a</sup>	\$26,946,225	\$26,946,225	\$0	\$0	\$0
Multifamily Buildings	\$4,697,574	\$4,697,574	\$0	\$0	\$0
Small Commercial and Not-for-Profit	\$9,131,857	\$7,964,093	\$267,763	\$900,001	\$0
<b>Energy Audits and Implementation Total</b>	\$40,775,656	\$39,607,892	\$267,763	\$900,001	\$0
<b>Revolving Loan Fund</b>					
One- to Four-Family Residential	\$128,662,049	\$125,615,292	\$593,327	\$0	\$2,453,430
Multifamily	\$557,738	\$332,529	\$0	\$0	\$533,578
Small Commercial and Not-for-Profit	\$1,977,386	\$1,669,017	\$0	\$0	
<b>Revolving Loan Fund Total</b>	\$131,197,173	\$127,616,838	\$593,327	\$0	\$2,987,008
<b>Loan Loss Reserve Initiative</b>	\$10,000,000	\$0	\$0	\$0	\$10,000,000
<b>Pre-Development Financing</b>	\$3,900,000	\$0	\$0	\$900,000	\$3,000,000
<b>Program Evaluation</b>	\$5,600,000	\$3,766,703	\$9,820	\$0	\$1,823,477
<b>Program Administration</b>	\$13,574,730	\$13,008,384	\$288,023	\$0	\$278,323
<b>NYS Cost Recovery Fee</b>	\$2,578,985	\$2,533,785	\$0	\$0	\$45,200
<b>TOTAL</b>	\$230,805,022	\$209,280,018	\$1,243,459	\$2,147,537	\$18,134,008

<sup>a</sup> The table includes certain loans which were issued and subsequently pledged to bonds. The proceeds from bonds are used to finance the pledged loans.

*Expended:* Contractor Invoices and loans processed for payment by NYSERDA. Expended amount is net of loan repayments made through reporting period for program area sectors One- to Four-Family, Multifamily, and Small Commercial and Not-for-Profit, and includes bond proceeds, less bond issuance cost.

*Encumbered:* Remaining funding obligated under a contract, purchase order, incentive award, or loan.

*Committed:* Planned funding for contracts awarded and under negotiation.

By far the greatest demand for GJGNY funding has been from the residential revolving loan fund, which issued loans totaling its original allocation in less than three years. The residential revolving loan fund is now maintained primarily through proceeds from the sale of bonds:

- August 2013: \$24.3 million in Residential Energy Efficiency Financing Revenue Bonds sold as Qualified Energy Conservation Bonds (QECB)
- September 2015: \$46.23 million in Residential Energy Efficiency Financing Revenue Bonds to Environmental Facilities Corporation (EFC), in connection with AAA-rated SRF bonds issued by EFC
- October 2015: \$48.5 million in Residential Solar Loan Revenue Bonds issued to M&T Bank
- September 2016: \$23.2 million in Residential Energy Efficiency Financing Revenue Bonds to EFC, in connection with AAA-rated SRF bonds issued by EFC
- March 2018: \$18.5 million Residential Solar Financing Green Revenue Bonds
- March 2019: \$15.5 million Residential Solar and Energy Efficiency Financing Green Revenue Bonds

Section 3 provides more details regarding the bonds issued during the reporting period.

Even though NYSERDA has had success using bonds to support the residential revolving loan fund, because of the difference between the interest rate offered on GJGNY loans and the interest rate paid on bonds and the requirements to pledge excess revenues to cover expected loan losses, the program requires additional RGGI fund allocations to supply loans not funded through bond proceeds, which are recovered through excess pledged loan repayments collected after the bonds mature. NYSERDA has historically made changes to program loan interest rates in an effort to manage the annual amount of RGGI funds required and available to support the program. Section 3 further details interest rate change and its impact.

To enable continued implementation of GJGNY activities, NYSERDA included elements of GJGNY in the planning of the Clean Energy Fund (CEF).<sup>7</sup> Also, through a Memorandum of Understanding with the Long Island Power Authority (LIPA), certain aspects of GJGNY are delivered by PSEG Long Island, LIPA’s system operator. Table 1-3 outlines expenditures for individual components of GJGNY from all funding sources.

**Table 1-3. GJGNY Expenditures (Multiple Funding Sources) as of June 30, 2020**

<b>Program Area</b>	<b>Expended July 1, 2019–June 30, 2020</b>	<b>Expended Cumulative to Date</b>
Workforce Development	\$3,350,454	\$11,103,637
Community Engagement	\$1,270,223	\$18,820,939
One- to Four-Family Residential Buildings Audits	\$2,156,690	\$38,198,360
Multifamily Buildings Audits	\$0	\$4,697,574
Small Commercial and Not-for-Profit Audits	(\$473,847)	\$7,964,093
Combined Financing	\$17,384,111	\$127,616,838
Loan Loss Reserve Initiative	\$0	\$0
Pre-Development Financing	\$0	\$0
Program Evaluation	\$244,755	\$3,766,703
Program Administration	\$1,120,600	\$13,008,384
NYS Cost Recovery Fee	\$45,507	\$2,533,785
<b>TOTAL</b>	<b>\$25,098,493</b>	<b>\$227,710,313</b>

NOTE: Discrepancies between Table 1-2 GJGNY Budget Summary and Table 1-3 GJGNY Expenditures occur because the expenditures in Table 1-3 account for multiple funding sources—GJGNY, CEF and RGGI.

### **1.3 Overall Progress and Outcomes**

Table 1-4 provides a summary of program performance metrics. Although this table reports primarily on the assessments and projects completed, it is important to note there are many other indicators of program success not captured in the statistics regarding projects. Some of these additional indicators include the growth of participation in the programs active in underserved communities, the creation of quality jobs within those same communities, improved participation of LMI households in energy efficiency projects, and improved access to financing for households typically unable to qualify for financing. Other indicators of program success are seen in new, up-skilled, and higher-waged employment opportunities resulting from the GJGNY program. Some of these program characteristics are reported on in other sections of this report.

A priority for the coming year is the ongoing analysis of the residential loan fund to overcome barriers limiting participation by households who would have otherwise undertaken an energy efficiency or renewable energy project.

**Table 1-4. Summary of Performance Metrics—July 1, 2019 through June 30, 2020**

Metric	One- to Four-Family Residential Buildings	Multifamily <sup>8</sup>	Small Commercial and Not-for-Profit Energy Efficiency	Total
Assessment Applications Received (number)	10,304 <sup>1</sup>	0	123	22,123
Assessments Completed (number)	12,760 <sup>2</sup>	0	129	16,958
Projects completed (units)	5,741 <sup>3</sup>	0		6,111
1st Year Net KWh Savings from Projects Receiving Audits <sup>4</sup>	1,956,895 <sup>3</sup>	0	799528.892074	2,347,845
1st Year Net MMBtu Savings from Projects Receiving Audits <sup>4</sup>	103,576 <sup>3</sup>	0	13783.1012	108,170
Loan applicants (number)	9,042	0	3	
On-Bill Recovery Loans Issued (number)	584	0	2	
Smart Energy Loans Issued (number)	1,651		0	
Participation Loans Issued (number)		0	2	
Total Value of Loans	\$24,745,549	\$0	\$137,305	\$24,932,854
Participation Loans			\$1,140,325	\$1,140,325
Average Loan Amount	\$11,071	0	\$34,326	
Average Project Cost (Estimate) of Projects Receiving Loans <sup>5</sup>	\$20,774	0	\$50,826	
1st Year Net KWh Savings from Projects Receiving Loans <sup>4, 6</sup>	43,963,894	0	19,236	
1st Year Net MMBtu Savings from Projects Receiving Loans <sup>4, 6</sup>	34,256	0	2,172.5	
Number of loan defaults <sup>7</sup>	290	0	10	
Number of OBR loan recipients who are in arrears on their utility accounts for electric and/or gas service	510		1	
Number of OBR loan recipients who are in arrears in their OBR loan payment	1853		0	
Number of OBR loan recipients whose utility service has been terminated for non-payment	38		0	
Number of OBR loan recipients whose utility service have been reconnected	26		0	

<sup>1</sup> The column One- to Four-Family Residential Buildings and row Assessment Applications Received reflects Home Performance with ENERGY STAR® and Assisted Home Performance with ENERGY STAR programs only. Does not include the Residential Energy Audit Program, which launched January 1, 2020 as a replacement to the Home Performance with ENERGY STAR program and does not have an application component. It also does not include PSEG-Long Island.

<sup>2</sup> The column One- to Four-Family Residential Buildings and row Assessments Completed reflects Home Performance with ENERGY STAR, Assisted Home Performance with ENERGY STAR, the Residential Energy Audit Program, and PSEG-Long Island.

<sup>3</sup> Reflects Home Performance with ENERGY STAR, Assisted Home Performance with ENERGY STAR, and PSEG-Long Island.

<sup>4</sup> Energy and bill savings represents installed to date saving for the One- to Four-Family sector and the Multifamily sector, and an estimated 44% project installation rate, based on historical performance for the Small Commercial and Not-for-Profit sector.

<sup>5</sup> In cases where the total project cost is not known, the loan amount is used as a proxy.

<sup>6</sup> The savings from projects with loans are included in the savings from projects receiving audits.

<sup>7</sup> A loan default is defined as a loan that has been charged-off due to exceeding 120 days of delinquency, or in cases where the obligor has filed for bankruptcy, died, or reached a settlement due to hardship.

<sup>8</sup> As of 2018, the Multifamily GJGNY audits pipeline is complete. All GJGNY funds have been committed and spent. Technical assistance for multifamily buildings is available under the CEF.

Note: projects that receive GJGNY audits and/or financing may have also received incentives through Energy Efficiency Portfolio Standard (EEPS), Regional Green House Gas Initiative (RGGI), Clean Energy Fund (CEF), utility programs and/or other organizations such that projects' energy savings may not all be attributable solely to GJGNY.

## 1.4 Improvements to Program Offerings

NYSERDA is committed to the principle of continuous improvement, particularly focused on the customer's experience. Beginning in 2014, NYSERDA worked with stakeholders on a targeted effort to improve both customer and contractor experience with residential programs and GJGNY financing, resulting in process improvements and faster loan and project approvals. Process improvements continue to be a priority for NYSERDA, with additional improvements under development.

NYSERDA identified a program issue associated with recording GJGNY OBR loans that needs resolution. Under the current GJGNY statute, OBR loans require a property owner to provide written notice to a prospective buyer of the property regarding the OBR loan. In addition, the statute requires NYSERDA to record a declaration of the OBR loan in the municipal recording office and to record the loan's satisfaction when paid off. The declaration does not place a lien on the property. It is intended to notify a prospective buyer of the property that an OBR loan is associated with the building's utility meter and the outstanding balance of the loan will transfer to the new property owner unless satisfied prior to the sale or transfer of the property. To accomplish this, NYSERDA pays fees to a title company to perform a title search to verify the property owner and to record the declaration and its satisfaction in the municipal recording office, including municipal fees. Unfortunately, the loan transfer process is not working effectively. Based on the number of loans that have transferred to successor utility customers compared to OBR loans paid off early (assumed to have occurred through property sale/transfer), it appears that transfer of the loan is only successful about 20% of the time. The current recording process led to some confusion for mortgagees, title companies, and attorneys that sometimes disrupts the property transfer process. In some cases, property transfers have occurred without written notice by the seller or purchaser notification through the title search process.

The additional fees associated with issuing an OBR loan, including the required declarations and associated title search, are also costly (ranging from \$135 to \$1,695 per loan, depending on county) and are paid from RGGI funds. The GJGNY residential OBR loans currently offer consumers the same interest rate as the GJGNY residential Smart Energy Loan, despite the payment of these additional costs.

NYSERDA proposed a department bill (S6331/A8277) during the 2019–2020 Legislative session to amend the requirements for transferability and recording of OBR loans. The proposed change would allow the loan to either be voluntarily assumed by a subsequent purchaser of a property through a written agreement or for the loan to be satisfied by the existing owner through ongoing payments directly to the loan servicer (not through the utility bill), therefore eliminating the need for recording a declaration.



This amendment to the statute would eliminate the confusion and other issues that have arisen with property transfers. The legislative amendment passed the Senate, but not the Assembly. NYSERDA will work with the Legislature again in the 2021 session to consider passing and enacting this amendment.

On January 1, 2020, the residential loan program implemented geographic eligibility for the lower program interest rate as described in Section 3.24 and implemented a contractor advance program as described in Section 3.25.

In response to the COVID-19 health crisis, NYSERDA implemented several changes to address consumers who may be experiencing financial hardship due to the health crisis. These changes included suspending late payment charges and collection efforts and allowing two-month payment deferrals upon request for borrowers experiencing financial hardships due to COVID-19.

As discussed in Section 3.24, NYSERDA also launched a temporary 0% financing campaign to support contractors to restart business activities as the State began to reopen due to the COVID pandemic.

## **1.5 Acknowledgement of COVID-19 Impact**

The performance period of this report coincided with the COVID-19 pandemic, which resulted in the New York on PAUSE Executive Order. NYSERDA is committed to driving continued progress toward New York State's clean energy goals and examining ways that all programs can support those goals while also aiding in the State's economic recovery. As 2020 continues to unfold and the full impact of COVID-19 on New York State's residents and economy becomes clear, NYSERDA will continuously seek market and stakeholder input to refine programs to support residents, small businesses, and clean energy market partners.

## **2 Audits and Implementation**

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Consistent with the legislation, some GJGNY services are delivered through successful existing programs. For residential customers, free and reduced cost residential energy audits were provided by contractors participating in the Home Performance with ENERGY STAR<sup>®</sup> and the Assisted Home Performance with ENERGY STAR program through December 31, 2019.<sup>8</sup> Starting January 1, 2020, audits became free for all one- to four-family residential customers. If a customer is deemed to be income-eligible, that customer is offered additional services through NYSERDA's low- to moderate-income programs.

In addition, NYSERDA provides subsidized audits for small businesses and not-for-profit organizations via NYSERDA's Flexible Technical Assistance (FlexTech) program. Financing may also be available to small businesses or not-for-profit organizations that receive an assessment from a utility or other source, if the assessment meets NYSERDA's standards. In January 2020, the FlexTech program was expanded to serve multifamily buildings. For affordable multifamily buildings, NYSERDA continues to provide co-funding for comprehensive energy assessments through the Multifamily Performance Program.

### **2.1 Residential Sector**

#### **2.1.1 Target Audience**

The primary target audience for GJGNY residential audits are owners of one- to four-family residential buildings. Building owners whose incomes are equal to or less than 80% of the State or area median income, considered LMI households, are of particular interest in GJGNY and may be eligible for a discount of 50% of the cost of the eligible work, up to \$4,000, or up to \$8,000,<sup>9</sup> for buildings with two to four units through the assisted component of the Home Performance with ENERGY STAR program (HPwES). On December 31, 2019, the market-rate component of HPwES ended. Assisted HPwES remains active. Residents with annual income up to 60% of the State median income may be eligible for services (including audits) at no cost to the household.<sup>10</sup>

#### **2.1.2 Implementation Approach**

NYSERDA's programs prioritize building science and support a comprehensive approach for identifying energy efficiency improvements. Programs are designed to reduce the energy use in existing one- to four-family homes while also addressing indoor air quality and other energy-related health and safety

issues. Energy efficiency improvements through the NYSERDA's residential programs include building shell measures, high-efficiency heating and cooling measures, and ENERGY STAR appliances and lighting.

The programs are delivered through a statewide network of contracting firms who provide comprehensive energy audits and to install energy-efficient improvements. Participating contractors are required to meet accreditation and certification requirements, such as Building Performance Institute (BPI). The energy audits include (1) taking an inventory of the current home energy systems and energy-related health and safety conditions, (2) diagnostic testing of combustion appliances, blower-door testing for air-infiltration rates, and (3) developing a work scope and a cost and energy-savings estimate for proposed improvements. The energy audit report is provided to the homeowner and allows the contractor to recommend and discuss options for improvements that maximize energy savings and meet the household budget considerations. In addition to the energy savings offered, the program addresses residential health and safety issues pertaining to indoor air pollutants, focusing on carbon monoxide and other pollutants associated with combustion appliances, ventilation, and moisture control.

The contractor tests the house when work is complete to ensure a safe and healthy environment after installation of energy efficiency measures. Participating households typically reduce their total energy use by 15–20% after work on the home is complete. Quality assurance inspections are performed on an average of 10–15% of projects to ensure contractor work meets program and industry standards.

The Residential Energy Audit approach, launched January 1, 2020, offers a more streamlined approach, reducing administrative burden on contractors and expediting the energy audit and sales process. Auditors are qualified to participate using a variety of industry credentials. In addition, the audit process is customizable to fit the contractor's and customer's needs, while ensuring that the criteria set under GJGNY is met. In the coming period, NYSERDA will work closely with contractors to assess remote audit strategies to further streamline the process, reduce costs, and create broader access to energy audits for New York State homeowners as well as minimize the public health risks of COVID-19 associated with in-person contact.

### **2.1.3 Energy Audit Fees**

The fee for residential energy audits was waived for households with income at 200% of the median county household income or less. Through December 31, 2019, for households with income greater than 200% and up to 400% of the median county household income, the applicant paid a pro rata percentage

of the assessment fees. Only those households with a county median income above 400% paid the full fee. The building owner’s household income was used in determination of the audit fee amount, including multiunit buildings. The program makes payments directly to participating contractors.

Table 2-1 outlines the audit fee structure for residential buildings through December 31, 2019.

**Table 2-1. Residential Assessment Fees—Through December 31, 2019**

Household Income	Single unit under 3,500 square feet of above grade conditioned space		Two–four units or single units over 3,500 square feet of above-grade conditioned space	
	Cost to Customer	Program Payment to Contractor	Cost to Customer	Program Payment to Contractor
≤200% Area Median Income (AMI)	\$0	\$250	\$0	\$400
>200–250% AMI	\$50	\$200	\$80	\$320
>250–300% AMI	\$100	\$150	\$160	\$240
>300–350% AMI	\$150	\$100	\$240	\$160
>350–400% AMI	\$200	\$50	\$320	\$80
>400% AMI	Market Rate	\$0	Market Rate	\$0

On January 1, 2020, NYSERDA made audits free to all residential customers. These services are offered through a variety of NYSERDA residential programs. In addition, NYSERDA offers Residential GJGNY Financing for customers that receive a residential energy audit through a NYSERDA program. With the transition to a no-cost audit model for all residential customers, NYSERDA maintained a higher reimbursement rate for households with annual income at or below 80% of area median income who went forward with making energy efficiency upgrades through the Assisted Home Performance with ENERGY STAR program to help offset the costs associated with the diagnostic work necessary to develop the energy efficiency work scope. Table 2.2 provides the audit reimbursement rates, based on customer income thresholds.

**Table 2-2. Residential Assessment Fee—Beginning January 1, 2020**

Household Income	Single unit under 3,500 square feet of above grade conditioned space		Two–four units or single units over 3,500 square feet of above-grade conditioned space	
	Cost to Customer	Program Payment to Contractor	Cost to Customer	Program Payment to Contractor
≤80% Area Median Income-(AMI) AHPwES Audit	\$0	\$250	\$0	\$400
>80% AMI Residential-Energy Audit Program	\$0	\$150	\$0	\$ 150/unit

### 2.1.4 Residential Energy Audits—Beginning January 1, 2020

NYSERDA found that the conversion rate from audit to project through its program is approximately 32% since program inception; in the past 12 months, the audit to project conversion rate was approximately 45%. A 2012 NYSERDA evaluation indicated aspects of the recommended work proceeded outside the program, either with the benefit of utility rebates or by the homeowner on their own. Among individuals surveyed in the evaluation who had an audit application approved, or audit completed, but did not have work performed through HPwES, nearly 38% of respondents reported they installed program eligible energy-efficient measures outside of the program.<sup>11</sup> Applying these evaluation findings to the last 12 months, results in an overall conversion rate were greater than 70%.

Since the launch of GJGNY, Assisted HPwES has continually grown as a percentage of NYSERDA’s total project completions. In Q4 2010 (at the launch of the residential GJGNY audit program), Assisted HPwES customers accounted for 16% of all HPwES projects, increasing to 45% by 2019. While market-rate HPwES ended in December 2019, pipeline projects continue to be processed and completed. As the remaining market-rate projects become completed, the percentage of Assisted HPwES project will continue to increase until all completions are Assisted HPwES.

### 2.1.5 Implementation and Support Contracts

External contracts related to the implementation of the GJGNY Program in the residential sector during the reporting period are detailed in Table 2-3.

**Table 2-3. Implementation and Support Contracts—Residential**

<b>Identification Number</b>	<b>Contractor</b>	<b>Description</b>
106225	Kelliher Samets Volk	Marketing Support
107771	CLEAResult	Shared Services Provider
113501	Institute for Building Technology and Safety	Quality Assurance
113649	Honeywell International, Inc	Quality Assurance
116844	CLEAResult	Implementation/Technical Services
117927	EME Consulting Engineering Group LLC	Quality Assurance
121807	EnergySavvy/Uplight	HPwES Program Management Software
127558	Honeywell International, Inc	Quality Assurance
127604	Institute for Building Technology and Safety	Quality Assurance

In addition, NYSERDA has a Memorandum of Understanding with LIPA, through which PSEG Long Island, LIPA’s system operator, provides GJGNY free and reduced cost audits and services to their customers.

## **2.2 Multifamily Sector**

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 the State. NYSERDA’s programs facilitate assessments, funding, and implementation of energy efficiency upgrades that improve building performance and save money. Implementation of the GJGNY Multifamily Buildings initiative began in the third quarter of 2010. The GJGNY audit funds were fully expended in 2018 and the pipeline was closed. NYSERDA continues to support audits for the multifamily sector through its offerings under the Clean Energy Fund. These programs include the Multifamily Performance Program (MPP) and FlexTech. Description of the GJGNY audit implementation approach can be found in previous GJGNY annual reports.

### **2.2.1 Target Audience**

The needs of the multifamily residential sector are addressed by working with developers, building owners, and their representatives to improve the energy efficiency, health, safety, and security of multifamily buildings. The programs identify and target those potential participants who are committed to the implementation of energy-related improvements. As part of GJGNY marketing and outreach efforts, provisions have been made to encourage referrals through community-based outreach.

## **2.2.2 Coordination with Other Program Administrators**

NYSERDA coordinates with the federally funded Weatherization Assistance Program administered by NYS Homes and Community Renewal, NYC Housing Preservation and Development, U.S. Housing and Urban Development, and others to leverage additional funding, as appropriate.

NYSERDA continues to work with utility program administrators to address coordination issues and minimize confusion when multiple incentive opportunities are available to customers. If the multifamily building owner chooses not to participate in a NYSERDA program, the owner may elect to take part in a utility rebate program. In this case, the GJGNY loan may be used in coordination with the utility rebate(s), provided a building assessment has been completed that meets NYSERDA standards.<sup>12</sup> Although GJGNY loans may be combined with either NYSERDA or utility incentives, these incentives cannot be combined with each other to cover the same measure. The GJGNY loan amount is determined by netting out all applicable utility or NYSERDA incentives at the measure level from the total cost of the work.

## **2.3 Small Commercial and Not-for-Profit Sector**

NYSERDA's Small Commercial and Not-for-Profit Energy Efficiency Program provides access to audits and financing to help small businesses and not-for-profit organizations improve their efficiency and reduce energy costs.

### **2.3.1 Target Audience**

The target audiences for the program are small businesses and not-for-profit organizations within State boundaries. Consistent with the GJGNY Act, "small business" has the same meaning as that of Section 131 of the New York State Economic Development Law, which states "one which is resident in this State, independently owned and operated, not dominant in its field and employs one hundred or less persons; not-for-profit means a corporation defined in subdivision five of paragraph (a) of Section 102 of the New York State not-for-profit corporation law."

### **2.3.2 Implementation Approach**

Loans are provided for qualified energy efficiency services based on recommendations contained in Qualified Energy Assessment or other audit meeting NYSERDA's standards.<sup>13</sup>

Applicants may be eligible to receive a subsidized energy audit via NYSERDA's FlexTech program.<sup>14</sup> Additionally, NYSERDA is reviewing ways to provide recommended measure lists for specific building types that will include cost and payback information enabling customers to make informed decisions about common clean energy upgrades.

### **2.3.3 Implementation and Support Contracts**

Consultants competitively selected to provide services through the FlexTech Program are located on NYSERDA's web site.<sup>15</sup>



### 3 Financing

This section provides information related to various financing activities that enable owners of one- to four-family residential buildings, multifamily buildings, and buildings occupied by small businesses and not-for-profit organizations to invest in energy efficiency improvements.

#### 3.1 Revolving Loan Fund

NYSERDA established a Revolving Loan Fund to support energy efficiency financing for owners of one- to four-family residential buildings, multifamily buildings, and buildings occupied by small businesses or not-for-profit organizations. The GJGNY Act requires the initial balance of the residential account to be at least 50% of the total balance. Current allocation and funding status of the loan fund across sectors is represented in Table 3-1.

**Table 3-1. Revolving Loan Fund Status by Sector as of June 30, 2020**

Program Area	Funding Allocation	Loans Issued and Implementation Expenses	Loan Repayments and Bond Proceeds	Encumbered	Committed	Balance*
<b>One- to Four-Family Residential Buildings</b>	\$128,662,049	\$341,623,949	(\$216,008,656)	\$593,327	\$0	\$2,453,429
<b>Multifamily Performance</b>	\$557,738	\$4,011,038	(\$3,678,509)	\$0	\$0	\$225,209
<b>Small Commercial Energy Efficiency</b>	\$1,977,386	\$2,929,587	(\$1,260,569)	\$0	\$0	\$308,368
<b>TOTAL</b>	<b>\$131,197,173</b>	<b>\$348,564,574</b>	<b>(\$220,947,734)</b>	<b>\$593,327</b>	<b>\$0</b>	<b>\$2,987,006</b>

\* Balance is calculated as “Funding Allocation” less all other categories.

Pursuant to the GJGNY Act, loans were initially limited to \$13,000 per applicant for one- to four-family residential structures and \$26,000 per applicant for small business and not-for-profit structures. The Power NY Act of 2011 allows loans up to \$25,000 for residential structures and up to \$50,000 for small business and not-for-profit structures, provided that the project payback is 15 years or less. NYSERDA established programmatic limits for multifamily structures, not to exceed \$5,000 per unit and \$500,000 per building.

To pursue financing through the Revolving Loan Fund, a customer must have a qualified energy audit that identifies energy services to be undertaken. Subject to the loan caps, the amount eligible for financing will be the total project cost minus any NYSERDA, utility, or other available incentives, grants, or rebates. The total cost of the project may include the (1) removal of equipment or systems, (2) purchase and installation of new systems or equipment and any required ancillary equipment and related services, including necessary health and safety improvements, and (3) customer's expense for an energy audit.

## **3.2 Residential Financing**

GJGNY offers two types of loans for one- to four-family residential energy improvements. An unsecured consumer loan financing product was launched on November 15, 2010. This loan, referred to as the Smart Energy Loan, requires the consumer to make monthly loan payments directly to NYSERDA's loan servicer, Concord Servicing Corporation (Concord). On January 30, 2012, NYSERDA launched OBR Loans, as authorized by the Power NY Act of 2011. The OBR Loan allows consumers to repay through an installment charge on a bill from one of the involved electric or gas utilities (Central Hudson, Con Edison, Long Island Power Authority, National Grid—Upstate, New York State Electric and Gas Corporation, Rochester Gas and Electric Corporation, or Orange and Rockland Utilities). The utilities then remit repayments to Concord, who coordinates data communications with each utility.

The residential loans are originated statewide through Energy Finance Solutions (EFS), a not-for-profit energy efficiency lending organization competitively selected by NYSERDA to provide residential financing services. EFS reviews applications and originates loans on behalf of NYSERDA pursuant to underwriting criteria established by NYSERDA. EFS closes on the loan, disburses proceeds to the contractor from a cash advance pool provided by NYSERDA to EFS, and then submits the closed loan to Concord. NYSERDA then replenishes the cash advance pool for the loan disbursement on a weekly basis. Concord is responsible for all aspects of servicing the loan portfolio, including borrower billing, collections, and monitoring the origination processes on a sample basis to ensure conformance to standards.

To qualify for GJGNY financing, a project must meet cost-effectiveness requirements. For Smart Energy Loans, estimated energy savings over the anticipated life of the improvements must be at least 80% of the total loan payments. However, OBR loans must meet the bill neutrality rules established pursuant to the GJGNY Act. Pro forma tools (spreadsheets) have been developed to standardize the process of verifying cost-effectiveness of the projects seeking financing.

Projects seeking financing must also be based on recommendations contained in an energy audit. As described in Section 2.1 Residential Sector, a comprehensive energy audit can be provided through NYSERDA's residential energy efficiency program. The NY-Sun program requires an analysis of the site to ensure proper sizing and installation of the PV system, but also requires a clipboard energy efficiency audit to make consumers aware of opportunities to reduce their energy consumption and demand. Likewise, a site assessment (audit) is required for other renewable energy system to be financed through a GJGNY loan. Though not required, households seeking to install a renewable energy system are encouraged to have a home energy assessment done, as undertaking energy efficiency improvements prior to installing a renewable energy system may result in the installation of a smaller, lower cost renewable energy system. The reduction in energy bills associated with the energy efficiency project may offset some costs of the renewable energy system. Assuming the project meets the cost-effectiveness requirements and can be installed within the loan cap amount, loans may be made available for a combination of energy efficiency and renewable energy work.

### **3.2.1 Loan Eligibility Requirements**

#### **3.2.1.1 Energy Efficiency**

To be eligible for financing, resident energy efficiency projects must meet cost-effectiveness requirements as previously described. However, within certain defined parameters, many energy efficiency measures are prequalified for Smart Energy Loans,<sup>16</sup> meaning they have been found to generally meet the cost-effectiveness test and require no additional screening for the Smart Energy Loan. Loans for systems that do not meet the parameters for prequalification can be screened for cost-effectiveness on an individual basis. In addition, 15% of the project cost, up to \$2,000, related to associated health and safety measures and qualified accessories can be ignored in the cost-effectiveness screening for the Smart Energy Loans.

Provided the work performed to participate in a utility rebate program meets NYSERDA's residential program requirements and is completed by a participating contractor, the GJGNY loan may be used in coordination with the utility rebate, just as the GJGNY loan may be used in coordination with NYSERDA incentives.

### **3.2.1.2 Solar PV and Other Net Metered Technologies**

The amendment to the GJGNY Act of 2009, dated October 22, 2013, made the installation of energy technologies eligible for net energy metering pursuant to Section 66-j or 66-l of the Public Service Law eligible for GJGNY financing. The only such technology likely to be installed at a residence is solar electric.

To be eligible for a GJGNY loan, Solar PV systems must be installed by a participating contractor in good standing with the NY-Sun program. The contractor must submit the project package to the NY-Sun program for approval, even if there is no NY-Sun incentive available for the project. At a minimum, the project package must include a project application form signed by the customer with a certification statement that the clipboard energy efficiency audit has been performed; site plan; site photos; one or three-line drawing; shading report and estimate of annual output; and cost-effectiveness pro forma.

Consumers purchasing solar electric systems may use the loan in addition to receiving federal and State tax incentives and incentives offered through the NY-Sun program,<sup>17</sup> where available.<sup>18</sup> The loan may also be combined with NYSERDA's Affordable Solar incentive, which targets households with a total income of up to 80% of the State or county median income.<sup>19</sup>

### **3.2.1.3 Solar Thermal Systems**

To be eligible for a GJGNY loan, the solar thermal project must be installed by a participating contractor in good standing with NYSERDA's Solar Thermal Program, if available, or another NYSERDA program. The contractor is responsible for preparing and submitting the necessary project application to NYSERDA, even if there is no incentive available. Consumers purchasing a residential solar thermal system may use the loan in addition to receiving federal and State tax incentives and incentives offered through NYSERDA,<sup>20</sup> if available.

### **3.2.1.4 Wood and Wood Pellet Heating Systems**

Renewable Heat NY provides incentives toward the installed cost of high-efficiency, low-emission wood heating systems. In the residential sector, the program supports wood pellet stoves and boilers with thermal storage, and advanced cordwood boilers with thermal storage. To be eligible for a GJGNY loan, the system must be installed by a participating contractor in good standing with the Renewable Heat NY program.

Consumers purchasing eligible residential wood heating systems may use the loan in addition to receiving incentives offered through the Renewable Heat NY program,<sup>21</sup> where available. The loan may also be combined with NYSERDA's income-eligible pellet stove incentive, which targets households with a total income up to 80% of the State or county median income.<sup>22</sup>

### **3.2.1.5 Heat Pumps**

NYSERDA provides financing for residential ground source heat pumps and air source heat pumps on a standalone basis. Within certain defined parameters, these heat pumps are prequalified for Smart Energy Loans, meaning they have been found to meet the cost-effectiveness test. Loans for systems that do not meet the parameters for pre-qualification can be screened for cost-effectiveness on an individual basis. To be eligible for a GJGNY loan, the system must be installed by a participating contractor in good standing with the NYS Clean Heat Pump Statewide (NYS Clean Heat) Program. The participating contractor is responsible for submitting necessary supporting documentation to the loan originator for review and approval. The loan may be used in addition to receiving Federal tax incentives and/or incentives offered through the NYS Clean Heat Program.<sup>23</sup>

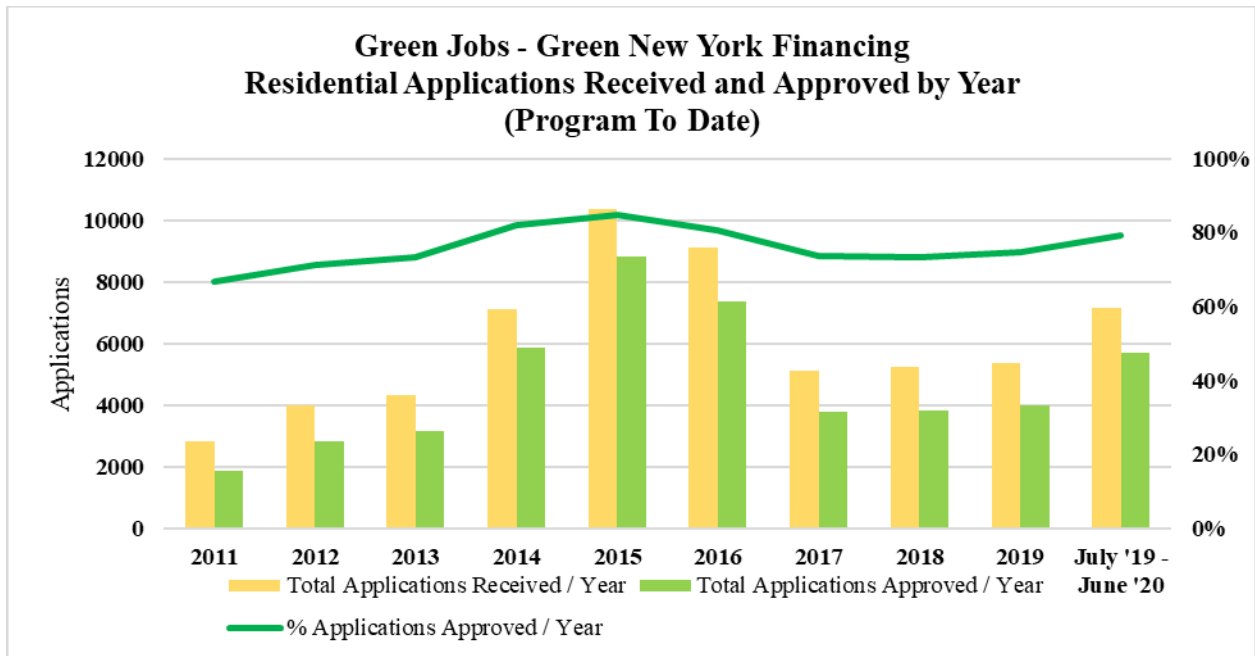
## **3.2.2 Residential Loan Fund Performance**

From October 2010 through June 2020, 18,542 energy efficiency loans closed valued at more than \$172 million—an additional 577 loans are pending, valued at more than \$4.6 million. Approximately 24% of HPwES projects completed in the 12 months ending on June 30, 2020 were financed through a GJGNY loan. From February 2014 through June 2020, 8,730 solar electric loans closed totaling more than \$144.5 million, with another 331 loans pending completion valued at approximately \$3 million. Approximately 6.5% of residential solar electric projects completed in the 12 months ending on June 30, 2020 were financed through a GJGNY loan. In addition, 196 loans closed for solar thermal, wood heating systems, and ground source and air source heat pump projects totaling over \$2.5 million, with an additional 37 loans pending valued at more than \$307,000.

The Smart Energy Loan consistently represents most loans closed on a monthly basis; over the last 12 months Smart Energy Loans represented 73.6% of loans closed.

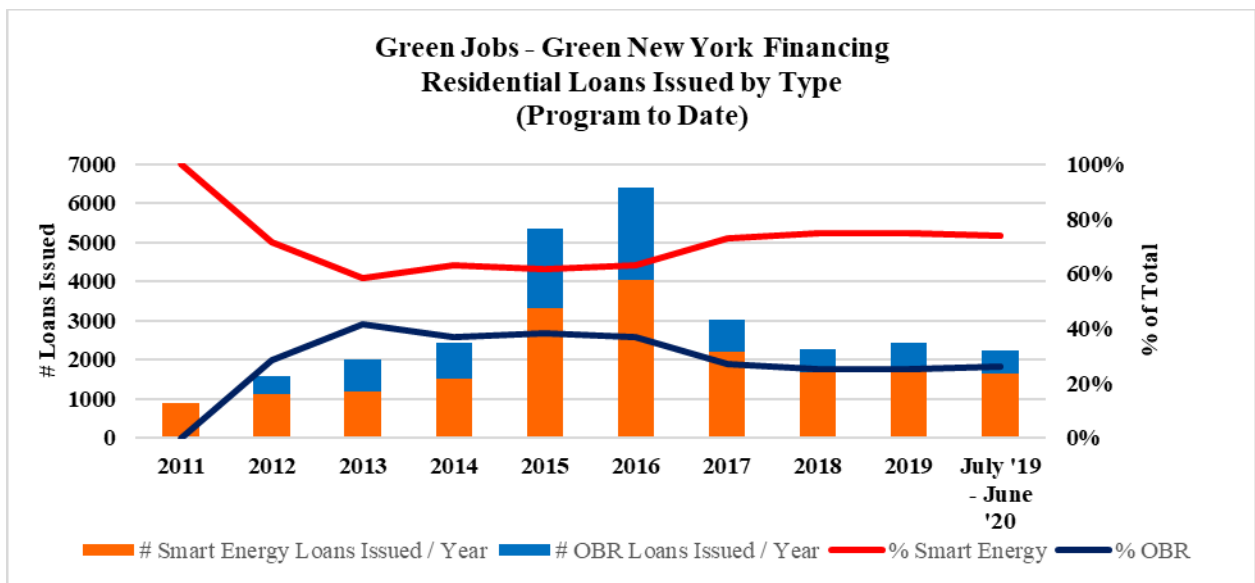
Figures 3-1 and 3-2 illustrate financing applications submitted and Smart Energy and OBR and loans issued since the launch of the program.

**Figure 3-1. Financing Applications Received and Approved per Year (Program to Date)**



NOTE: Columns on the far right represent the current reporting period and partially overlap with data from the previous calendar year.

**Figure 3-2. Smart Energy Loans and OBR Loans Issued by Financing Type (Program to Date)**



NOTE: Columns on the far right represent the current reporting period and partially overlap with data from the previous calendar year.

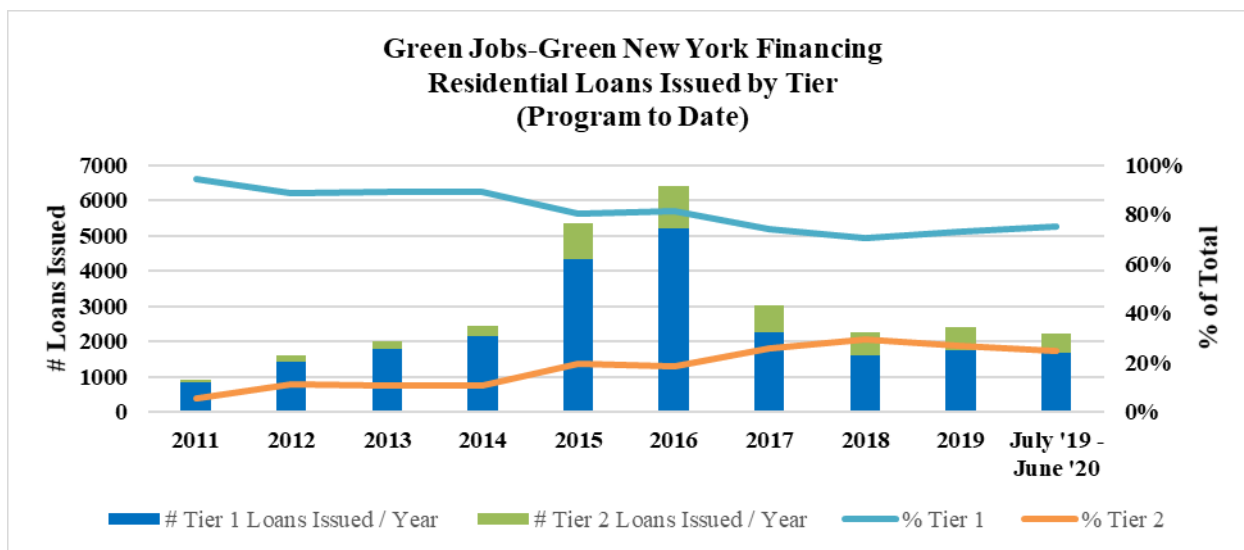
Table 3-2 summarizes loan underwriting standards used for both the Smart Energy and OBR Loans. NYSERDA modified loan underwriting standards eight times since the launch of the program in an effort to address loan application denials and responsibly improve the penetration of financing to consumers who would not qualify using traditional underwriting standards.

Tier 1 loans use standard underwriting criteria relying primarily on FICO scores and debt-to-income ratio. Tier 2 expands the number of people who can qualify by substituting mortgage payment history for the FICO score as a primary qualifier. In addition, Tier 2 provides alternative debt-to-income ratio requirements in recognition that the households energy costs are reduced, addressing what is currently the most common cause of loan denials. Figure 3-3 illustrates the impact of modifying the Tier 2 standards, enabling more individuals to qualify for financing. Tier 2 loans now consistently make up 25–35% of loans issued monthly.

**Table 3-2. GJGNY Residential Loan Underwriting Standards as of June 30, 2020**

<b>LOAN UNDERWRITING STANDARDS</b>		
<b>Standard</b>	<b>Tier 1 Loans</b>	<b>Tier 2 Loans</b>
Minimum FICO	640	540
Mortgage Payment History	None	If 640+ FICO and no other violation causes loan to be Tier 2, no mortgage payment history is needed.  Otherwise, current on all mortgage payments, if any (as reported on the credit report), for the past 12 months. No mortgage payments more than 60 days late during the past 24 months.
Max Debt-to-Income Ratio	No limit for FICO 780+ Up to 50% for FICO 640-779	Up to 70% for FICO 540-599
		Up to 75% for FICO 600-679
		Up to 80% for FICO 680+
		Up to 100% for applicants who are qualified as owner-occupants for Assisted Home Performance with ENERGY STAR® Subsidy for the subject property of the loan. (\$5000/50%)
Bankruptcy	No bankruptcy, foreclosure, or repossession within last seven years	No bankruptcy, foreclosure, or repossession within last two years
Judgments	No combined outstanding collections, judgments, charge-offs, or tax liens > \$2,500	

**Figure 3-3. GJGNY Loans Issued by Tier (Program to Date)**



NOTE: Columns on the far right represent the current reporting period and partially overlap with data from the previous calendar year.

### 3.2.3 Bond Financing

As previously noted, the program has issued six program bond issues to capitalize the GJGNY residential loan fund. NYSERDA planned to issue Residential Solar and Energy Efficiency Financing Green Revenue Bonds, Series 2020A, in March 2020, but the issue was postponed due to bond market disruptions caused by COVID-19, and the bonds are scheduled to be issued in September 2020.

Performance information about the GJGNY loan portfolio will be reported semi-annually through the Municipal Securities Rulemaking Board (MSRB) Electronic Municipal Market Access (EMMA) system, which provides information to municipal bond investors and to the public free of charge. Traditional asset-backed security bond issuers provide portfolio performance information to bond investors, but do not generally report the information to the public, or it requires users to have some kind of paid service to obtain access to this information.

### 3.2.4 Residential Loan Fund Subsidization

NYSERDA has been successful in using bonds to support the residential revolving loan fund; however, because of the difference between interest rates offered on GJGNY loans and the interest rate paid on bonds, excess revenues to cover expected loan losses are needed. The program requires additional RGGI



fund allocations to support the loan originations not funded through bond proceeds (which are recovered through excess pledged loan repayments collected after the bonds mature). NYSERDA has historically made changes to program loan interest rates in an effort to manage the annual amount of RGGI funds required and available to support the program.

On December 1, 2018, another interest rate change was implemented, which reduced the number of interest rate tiers from five to two. The new structure eliminated different rates based on technology pursuant to market recognition of the 2018A bond financing, merged the rates for Area Median Income (AMI) of 80 to 120% with the rates of AMI up to 80% and eliminated the separate rates for customers with AMI of greater than 120% but with lower credit scores. Interest rates are now solely based on the household income and loan type. The interest rates are shown in Table 3-3.

**Table 3-3. GJGNY Residential Loan Fund Interest Rates as of December 1, 2018**

Income as Percentage of Area Median Income	Loan Type		
	On-Bill Recovery	Smart Energy (Auto Pay)	Smart Energy (Direct Bill/Pay by Mail)
Less than or equal to 120%	3.49%	3.49%	3.99%
Greater than 120%	6.99%	6.99%	7.49%

On January 1, 2020, NYSERDA launched geographic eligibility for lower interest rates to streamline and simplify the loan application process. Traditionally, applicants had to provide documentation of household income to prove they had income of less than or equal to 120% of AMI to qualify for the lower interest rate. Using the Housing and Urban Development (HUD) Income Block Data, NYSERDA identified Census Block Groups where census data reports that 50% or more of the population of the Census Block Group have a household income less than or equal to 120% (designated areas). If an applicant's address is located within a designated area, the applicant is deemed eligible for the 3.49%/3.99% interest rate and does not have to provide documentation of household income. If the applicant's address is outside of a designated area, the applicant will have the opportunity to apply for the lower rate by documenting household income as less than or equal to 120% of the AMI.

On June 1, 2020, NYSERDA offered 0% financing for the term of NYSERDA's loan made in the Residential Financing program as a short-term, temporary effort to support contractors to restart business activities as the State began to reopen due to the COVID pandemic. The 0% financing was offered for a promotional period of 12 months or until the funding cap of \$20 million was

exhausted. Due to an unprecedented response to this financing offer, the funding cap was exceeded by June 15, 2020 and the temporary offer was terminated, after more than 2,100 applications were received for approximately \$30 million in financing.

Many contractors and installers have established relationships with third-party lenders and offer their products to customers with higher incomes and good credit ratings. Lower-income households and those without access to reasonable credit options continue to take advantage of the GJGNY loans. As a result, it is anticipated that with the occasional addition of limited RGGI funds, the residential loan fund can be sustained.

### **3.2.5 Residential Loan Fund Advance Payment Program**

The target population for the GJGNY Loan Fund is lower-income households and those without access to reasonable credit options, but the Loan Fund is underutilized by this target population. Many residential energy efficiency and renewable energy contractors in NYSERDA's programs offer third-party financing products (e.g., Enerbank, GreenSky), sometimes referred to as home improvement loans, that include a dealer fee the contractor pays to the financing company. These fees vary based on the amount and term of financing and the interest rate the contractor proposes to offer the consumer. However, these dealer fees are not included in the consumer's financing document in Truth in Lending disclosures as a financing charge (and shown as part of their APR).

One reason contractors are using these third-party funding sources is that these sources offer advance payments for cashflow purposes, unlike the GJGNY Loan Fund which pays the contractor when construction is complete. This is beneficial to the contractor but detrimental to the customer who ends up paying higher monthly payments because of the dealer fees. To encourage contractors to use the GJGNY Loan Fund for LMI customers, on January 1, 2020, NYSERDA launched the Contractor Advance Payment Program. This program is available to contractors that are in good standing in their NYSERDA or utility program(s) for projects where customers qualify for the 3.49%/3.99% interest rate. Contractors that participate in this program receive 50% of the customer's loan when the customer signs the loan documents and the remaining 50% at construction completion.

### **3.3 Multifamily Building Financing**

GJGNY Multifamily Financing is available to multifamily building owners with an approved assessment through a Participation Loan. Building owners may work with a commercial lender of their choice; NYSERDA contracts directly with the lender. NYSERDA provides 50% of the loan principal to support the improvements contained in the preapproval document at 2% interest, not to exceed \$5,000 per apartment or \$500,000 per building. The lender provides the remaining principal of the loan at market rate, collects all loan payments, and remits to NYSERDA its share of the loan. The participating lender is responsible for loan underwriting pursuant to its standards, and NYSERDA and the lender share in a pro-rata basis on any loan defaults. By participating in the program, State lenders are able to offer blended interest rates at below market rate.

To help stimulate the economy as the State was opening following the COVID 19 pandemic, on June 1, 2020, NYSERDA offered 0% financing for the term of NYSERDA's loan made in the Multifamily Building Financing program. The rate is available until allocated funds are encumbered or May 31, 2021, whichever comes first. After this time, the rate will change to the Wall Street Journal Prime Rate of Interest + 200 basis points, fixed at closing.

Eligible multifamily building owners are also allowed to finance the installation of the purchase of solar electric systems, as approved under NYSERDA's NY-Sun Incentive Program, the purchase of pellet stoves and advanced cord wood boilers as approved under NYSERDA's Renewable Heat NY program, and air source heat pumps and ground source heat pumps as approved under the NYS Clean Heat Program through lenders participating in the Participation Loan product.

### **3.4 Small Commercial and Not-for-Profit Financing**

GJGNY offers two types of loans for energy efficiency improvements in small business and not-for-profit structures: A Participation Loan and an OBR Loan. Eligible small business and not-for-profit customers are allowed to finance the installation of energy efficiency upgrades, such as the purchase of (1) solar electric systems under 200 kilowatts (kW), as approved under NYSERDA's NY-Sun Incentive Program, (2) pellet stoves and advanced cord wood boilers as approved under NYSERDA's Renewable Heat NY Program, and (3) air source heat pumps and ground source heat pumps as approved under the NYS Clean Heat Program.

### **3.4.1 Participation Loans**

Through Participation Loans, NYSERDA provides 50% of the loan principal, up to \$50,000 at an interest rate of the Wall Street Journal Prime Rate of Interest + 200 basis points, fixed at closing, for up to 10 years. The lender provides the remaining loan principal at market rate. Participating lenders collect loan payments from the customer and remit to NYSERDA its share of the loan. NYSERDA will use these funds to continue further lending activities. The Participation Loan Program is currently open to banks, credit unions, local development corporations, community development financial institutions, and unregulated not-for-profit investment funds and lenders. As of June 30, 2020, 35 Participation Loans have been closed with a total value of \$4,884,222, of which NYSERDA's loan value is \$1,140,325. These include 30 energy efficiency loans totaling \$4,660,222 and five solar electric loans totaling \$224,000.

### **3.4.2 On-Bill Recovery Loans**

Through its competitive process, NYSERDA selected Barrett Capital Corporation to originate OBR Loans on NYSERDA's behalf. Through this loan product, NYSERDA offers eligible small business and not-for-profit customers up to \$50,000 at an interest rate of the Wall Street Journal Prime Rate of Interest + 200 basis points, fixed at closing, for a maximum 10 years to finance the cost of their energy efficiency or solar electric system projects. Customers repay their OBR Loan through an installment charge on their utility bill. Barrett Capital Corporation earns a \$950 fee for each OBR Loan originated on NYSERDA's behalf. As of June 30, 2020, 45 OBR Loans have been closed with a total loan value of \$1,433,756. This consisted of 35 energy efficiency loans totaling \$1,101,208, and 10 solar electric loans totaling \$332,548. There was one \$50,000 OBR loan that financed both energy efficiency improvements (\$20,068) and a solar electric system (\$29,932).

## **3.5 Distribution of Loans Issued**

Figure 3-4 shows the distribution of GJGNY loans issued since program inception.



**Table 3-4. Expenditures for Financing Implementation and Administration**

<b>Purpose</b>	<b>Expenditures July 1, 2019–June 30, 2020</b>	<b>Expenditures Program to date</b>
Origination	\$466,381	\$8,482,452
Servicing	1,365,493	7,169,213
Title Searches, Declaration and Satisfaction Filing (contractor services), Filing Fees (counties)	442,359	4,097,007
Bond Issuance, Financial and Legal Advice and Support	17,629	4,903,370
Fees to Utilities	122,763	2,057,871
<b>TOTAL</b>	<b>\$2,414,624</b>	<b>\$26,709,913</b>

## 4 Workforce Training and Development

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The Workforce Training and Development (WFD) initiative was designed to build on existing NYSERDA and NYS Department of Labor (DOL) programs targeted at preparing individuals for energy efficiency and renewable energy careers in the State. Specifically, WFD efforts under GJGNY were designed to expand energy-specific content in New York State Registered Apprenticeship and third-party accredited building trades programs. The efforts are meant to increase access to technical training workshops for skill 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. Implementation of the GJGNY WFD initiative began in mid-2010; future contracts supporting GJGNY workforce development initiatives will be funded through the CEF.

From the program's inception, over 4,184 New Yorkers were trained in a range of energy efficiency and renewable energy courses.

NYSERDA issued the 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 System Benefits Charge (SBC) 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. NYSERDA added two OJT companies, bringing the total number of GJGNY businesses to ten for a total investment of approximately \$197,571.44 of GJGNY funds in the OJT program. To date, 29 people have been hired by these businesses under the OJT program.

Participants in the NYSERDA's OJT for Energy Efficiency and Clean Energy Program are listed by technology type and region in Table 4-1.

**Table 4-1. On-the-Job Training Program Participants by Technology Type and Region**

<b>Technology Type</b>	<b>Capital Region</b>	<b>Central NY</b>	<b>Finger Lakes</b>	<b>Long Island</b>	<b>Mid-Hudson</b>	<b>Mohawk Valley</b>	<b>New York City</b>	<b>North Country</b>	<b>Southern Tier</b>	<b>Western NY</b>	<b>Total</b>
High Efficiency HVAC	4	8	42	20	36	21	6	8	11	4	160
Energy Efficiency /Weatherization	2	7	1	6	17	3			2	5	43
Renewable Heating and Cooling	3	2	10		9	11	1		0		36
Lighting and Controls	7		1	1		8					17
Smart Grid	1				2		7		7		17
Energy Storage	6				8		1				15
Building Automation and Controls			1				6				7
Other							6				6
Solar Electric			1	1			1				3
<b>Total</b>	<b>23</b>	<b>17</b>	<b>56</b>	<b>28</b>	<b>72</b>	<b>43</b>	<b>28</b>	<b>8</b>	<b>20</b>	<b>9</b>	<b>304</b>



## 4.1 Workforce Training Working Group

As an outcome of the work of the LMI Working Group, a Workforce Training Working Group (Working Group) was established in January 2016 to provide recommendations on workforce training initiatives moving forward. The Working Group addressed the following workforce opportunities and needs:

- role of community-based organizations in future workforce training efforts
- opportunities to coordinate with the NYS Department of Labor (DOL)
- future directions for workforce training efforts, including career pathways, training consortia, apprenticeships, and direct entry
- incorporating lessons learned both from within GJGNY programs and other jurisdictions
- labor standards

Working group members included: Adele Ferranti (NYSERDA, Chair), Stephan Edel (Center for Working Families), Clarke Gocker (PUSH Buffalo), Ross Gould (Workforce Development Institute), Dave Hepinstall (Association for Energy Affordability), Tony Joseph (NYS Department of Labor), Jason Kuflik (Green Street Power), Marilyn Oppedisano (National Electrical Contractors Association), Ellen Redmond (International Brotherhood of Electrical Workers), Will Schweiger (Efficiency First New York), Paul Shatsoff (PS Consulting), and Hal Smith (Halco).

The group presented its initial recommendations to the GJGNY Advisory Council at its May 2017 meeting. The GJGNY Workforce Development Recommendations Report was further developed and posted on NYSEERDA's web site<sup>24</sup> on April 30, 2018. Recommendations include the following:

- Provide on-the-job training incentives to mitigate business risks associated with hiring new clean energy workers.
  - Working Group members suggest a focus on energy efficiency jobs such as air sealing, insulation, and weatherization because workers for these positions are more difficult to recruit and retain.
  - Classroom training should also be supported along with OJT funding to align with the apprenticeship model more closely.
  - Employers would like to have financial support for advancing incumbent workers.
- Support New York State registered apprenticeships in clean energy fields.
  - Link community-based hiring halls and workforce training programs to registered apprenticeships.
  - Expand pre-apprenticeship training programs with direct entry into registered apprenticeships.
  - Explore a model that encourages partnerships between communities.

- Explore innovative, employer-driven approaches to bridge the gaps between training and employment.
  - Consider nontraditional ways to support disadvantaged workers such as hiring halls, where skilled and vetted workers are employed and insured by a host and can be hired out as required by need.
  - This is one way to support “high-road standards” such as family-sustaining wages, fringe benefits, and overtime pay.
  - Work with locally based organizations who are uniquely positioned to bridge gaps between workers and clean energy businesses seeking to hire.

To the greatest extent practicable, NYSERDA included recommendations through the CEF from the report in workforce development training investments currently being implemented.

## **4.2 Workforce Training and Development Contracts**

Training organizations receiving funding from NYSERDA during the reporting period are listed in Table 4-2, which is provided as appendix B.

## **5 Community Engagement**

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GJGNY provided community-based outreach to deliver services in underserved communities, enabling one-to-one assistance with the process of participating in the program. GJGNY provided these outreach services in targeted communities delivered by constituency-based organizations (CBO), which located and encouraged residents, businesses, not-for-profits, multifamily building owners, and potential workforce candidates to participate in the program. Combined with statewide marketing, this approach increased the reach of the program in a more targeted manner. The Community Energy Engagement Program (CEEP) incorporates and builds upon the success of previous engagement efforts, including the 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 CEEP with funding provided via the Clean Energy Fund (CEF) and Regional Greenhouse Gas Initiative (RGGI).

Through CEEP, NYSERDA awarded approximately \$5.5 million to deploy Community Energy Advisors (CEA) to conduct engagement activities to New York State residents, small businesses, and multifamily building owners, with an emphasis on 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.

### **5.1 Outreach Services through Locally Based Organizations**

Locally based organizations encourage participation in energy efficiency programs and assist residential, multifamily, and small business customers with applications for clean energy solutions. These organizations also help customers identify and access financing options for energy efficiency and renewable energy projects, while educating households and communities to (1) achieve greater energy literacy, (2) understand the value proposition of clean energy solutions, (3) enable informed energy decisions, (4) facilitate action in completing clean energy projects, and (5) decrease energy consumption.

CEEP expanded the reach of NYSERDA programs throughout the entire State to incorporate a regional approach, thus providing geographic alignment with other State efforts and full statewide coverage. The 10 locally based and constituency-based organizations were deployed statewide. Finally, although

CEEP efforts primarily target LMI communities and households, locally based engagement services were expanded to include assistance to market-rate customers to assist with more effective outreach in mixed-income, neighborhood engagement settings.

Organizations providing outreach services as a CEEP contractor are listed in Table 5-1.

**Table 5-1. Organizations Under Contract to Provide CEEP Outreach Services—July 1, 2019 through June 30, 2020**

<b>Program Name</b>	<b>Target Region</b>	<b>Contractor Name</b>	<b>Contract Amount</b>
CEEP	Capital	Affordable Housing Partnership of the Capital Region Inc.	\$525,000.00
CEEP	Central New York	Home Headquarters	\$74,384.55*
CEEP	Central New York	Cornell Cooperative Extension Tompkins County	\$175,000
CEEP	Finger Lakes	PathStone	\$390,000.00
CEEP	Long Island	United Way of Long Island	\$420,000.00
CEEP	Mid-Hudson	Cornell Cooperative Extension Dutchess County	\$597,848.00
CEEP	Mohawk Valley	Mohawk Valley Economic Development District	\$390,000.00
CEEP	New York City	The Center for New York City Neighborhoods	\$824,970.00
CEEP	North Country	Adirondack North Country Association	\$176,304.74*
CEEP	North Country	Cornell Cooperative Extension Tompkins County	\$175,000.00
CEEP	Southern Tier	Cornell Cooperative Extension Tompkins County	\$390,000.00
CEEP	Western New York	People United for Sustainable Housing, Inc	\$600,000.00

NOTE: The Adirondack North Country Association (ANCA) contract term ended February 28, 2019. The Cornell Cooperative Extension Tompkins County (CCETC), with subcontractors from locally based Cornell Cooperative Extensions (St. Lawrence and Jefferson Counties) and ANCA support outreach in the North Country beginning June 2019.

Home Headquarters’ contract ended November 13, 2019. The Cornell Cooperative Extension Tompkins County (CCETC), with subcontractors from locally based Cornell Cooperative Extensions (Cortland, Madison, and Onondaga Counties) support outreach in the Central New York region beginning April 2020.

The following highlights activities that were undertaken during the reporting period, as self-reported by the new CEEP contractors:

- Funding in the amount of \$335,712 was awarded for four regionally specific initiatives to pilot different strategies to outreach and to expand the reach of CEEP.
- Outreach resulted in 2,763 clean energy opportunities, of which there were 1,485 unique individuals that expressed interest in applying for NYSERDA or non-NYSERDA programs.<sup>25</sup>
- Leveraging private investment from other sources to support implementation of clean energy projects continued through CEEP. For the period from July 1, 2019 through June 30, 2020, Community Energy Advisors reported a total of approximately \$2.9 million in non-NYSERDA private investment leveraged for projects. This includes but is not limited to funding from home repair dollars, weatherization, Heating Equipment Repair and Replacement (HERR) benefit funds, utility incentives, etc. to implement clean energy projects.
- Residential Existing homes programs continued to be a focus of customer engagement and outreach activities, with 352, 821 and 778 opportunities, respectively, for the project period.
- Targeted program outreach focused on promoting the Solar for All Program and the GJGNY Energy Study Programs, with 195 and 77 opportunities, respectively, for the project period.
- During Q1 and Q2 2020 many of the planned in-person outreach events were cancelled or postponed until further notice due to the COVID-19 pandemic. The Community Energy Advisors across the State are evaluating options for conducting outreach and engagement virtually in the future and have begun hosting different types of online events and testing other ways to engage the public.

## 6 Evaluation

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Since the introduction of GJGNY, NYSERDA engaged its third-party evaluation contractors to develop and implement evaluation plans for GJGNY programs. Each evaluation activity is designed to assess the effectiveness, progress, and outcomes related to each of the GJGNY program initiatives.

This section describes evaluation activities planned and provides an update on evaluation activities related to GJGNY-funded initiatives from July 1, 2019 through June 30, 2020. A comprehensive list of completed GJGNY evaluation activities and links to evaluation reports can be found in the 2019 Green Jobs-Green New York Annual Report posted on NYSERDA's web site.<sup>26</sup> Additionally, evaluation contractor reports are posted on NYSERDA's website for public use once completed.<sup>27</sup>

### 6.1 Evaluation Activities

The GJGNY audit program was started in 2010 to provide homeowners in the State free or reduced cost energy audits and encourage installation of energy efficiency measures through the HPwES Program. Customers who choose to install measures suggested in the audit can elect to either use a NYSERDA Home Performance contractor through HPwES or to install measures on their own. This second type of customer, a GJGNY audit-only recipient who installs measures outside of the HPwES Program, generates savings not captured or recorded as contributing toward the State's energy goals. To estimate these savings, a Measure Adoption Rate evaluation of the GJGNY-funded, audit-only projects for studies completed between 2014 and 2016 is underway. This evaluation commenced in the fourth quarter of 2019 and results are expected in the third quarter of 2020.

An impact analysis of Home Performance GJGNY On-Bill Recovery projects was completed in Q4 2019. An analysis of pre- and post-retrofit energy bills was conducted on projects completed between January 2014 and September 2016 and found that evaluated savings as a percent of pre-install use are high in comparison to evaluated savings from other similar programs, particularly for natural gas. This indicates that the program is achieving substantial savings. The report and comprehensive results of the evaluation are posted on the NYSERDA website.<sup>28</sup>

### 6.2 Evaluation Contracts

External contracts related to the evaluation of the GJGNY Program during the reporting period are detailed in Table 6-1.

**Table 6-1. Evaluation Contracts**

<b>Identification Number</b>	<b>Contractor</b>	<b>Description</b>
117481	West Hill Energy and Computing, Inc.	NYSERDA Home Performance with ENERGY STAR On-Bill Recovery Impact Evaluation
140428	Energy & Resource Solutions Inc.	GJGNY Audit Only Impact Study
141451	ICF Incorporated LLC	GJGNY Audit Only Impact Study

# **Appendix A: Prequalified Measures for Home Performance with ENERGY STAR®**

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## NY Home Performance with ENERGY STAR® Eligible Measures and Accessories

This is a general guide to eligible incentives and financing options available through NYSERDA’s Home Performance with ENERGY STAR (HPwES) Program. Eligibility may vary based on the energy efficiency requirements for each upgrade type, results of the comprehensive home assessment, fuel type, energy utility, and funding source availability.

Subject to the terms described on pages 2 and 3, the upgrades marked with an “✓” below on the “Prequalified List” are eligible for the 50% Assisted Subsidy for income-eligible households and contractor incentives for market rate and Assisted projects. NYSERDA also offers two financing options through NYSERDA’s Residential Loan Fund: a Smart Energy Loan and an On-Bill Recovery (OBR) Loan. A Smart Energy Loan project for up to \$13,000 that includes only the upgrades on the “Prequalified List” below requires no additional cost-effectiveness screening. If the project includes additional eligible upgrades below that are not on the Prequalified List, the loan is subject to cost-effectiveness standards as described on page 4. Items on this list without a checkmark are eligible for financing, subject to cost-effectiveness standards, but not eligible for the 50% Assisted Subsidy or contractor incentives.

**Table 1. Eligible Measures – Prequalified List**

	Eligible Measures	Minimum Efficiency Requirements	Prequalified
Primary Heating and Cooling System <sup>1,5,7</sup>	Furnace <sup>2</sup> – Natural Gas or LP	AFUE 95% (as long as not prohibited by local codes). Furnaces with ECM Motor allowed.	✓
	Furnace <sup>2</sup> – Fuel Oil	AFUE 85%	✓
	Boiler – Gas Condensing	AFUE 90%	✓
	Boiler – Oil Condensing	AFUE 87%	✓
	Boiler – Non-Condensing <sup>3</sup>	AFUE 85% (project must include boiler reset control)	✓
	Boiler – Steam	AFUE 82% (size must be matched to cumulative capacity of connected radiators, per Institute of Boilers & Radiator Mfrs (IBR) standards)	✓
	Boiler Reset Controls	Programmed properly per manufacturer’s specifications and site conditions. Maximum price of \$500.	✓
	Air Source Heat Pump (electric split systems) <sup>2,7</sup>	See <a href="#">Air Source Heat Pump Program manual</a> for requirements	
	Wood Stove <sup>4</sup>	EPA certified for particulate matter output of 4.5 grams per hour or less	
	Distribution Improvements in Natural Gas or Electrically Heated Homes <sup>5</sup>	Installed in accordance with all applicable state and local codes	
	Distribution Improvements in Oil or Propane Heated Homes <sup>5</sup>	Installed in accordance with all applicable state and local codes	✓
	Duct Sealing	UL 181B mastic or tape; use of “duct tape” is disallowed	✓
	Duct Insulation	Installed in accordance with all applicable state and local codes	✓
	Pipe Insulation	R-3	✓
	Building Shell	Central Air Conditioner (split system) <sup>6,9</sup>	AHRI Certificate Required. 14.5 SEER / 12 EER. Air Source Heat Pump (for Cooling). See <a href="#">Air Source Heat Pump Program manual</a> for requirements.
Programmable Thermostat		5+2 day programmable thermostat including smart thermostat. Limited to one thermostat installed per zone.	✓
Insulation (attic, wall, floor, band joist, basement, crawl space)		Refer to Insulation Program Policy for homes heated with natural gas or electricity. Must be accompanied by blower door assisted air sealing per BPI and program guidelines.	✓
Air Sealing		Supervised by professional; blower door assisted per BPI and program guidelines.	✓
Replacement Windows		ENERGY STAR for climate/region. May be subject to SHPO review.	
Storm Windows and Doors	No minimum efficiency requirement. May be subject to SHPO review.		
Movable Window Insulation	R-3		

	Eligible Measures	Minimum Efficiency Requirements		Prequalified	
Water Heater <sup>7,8</sup>	Natural Gas, Propane	Tank	ENERGY STAR Qualified. 40-100 gallons.	✓	
		On-Demand	ENERGY STAR Qualified. Must replace a conventional 40 or 50 gallon tank.	✓	
	Electric	Tank	ENERGY STAR Qualified		
	Oil	Tank	20-100 gallons, UEF ≥ 0.68	✓	
	Indirect-Fired Tank	UL Approved		✓	
	Heat Pump Water Heaters	Tank	≤ 55 gallon tank	>55 gallon tank	✓
			UEF > 2.0	UEF ≥ 2.2	
			ENERGY STAR Qualified, Must be installed in an unconditioned space.		
Pipe Insulation	R-3		✓		
Hot Water Tank Insulation - Electric	R-10				
Conservation	Faucet Aerator	No minimum efficiency requirement		✓	
	Low Flow Showerhead	Maximum flow rate of 1.5 gallons per minute. Aerating type showerheads not eligible.		✓	
Appliances & Lighting <sup>10</sup>	Refrigerator	CEE Tier 2 or 3		✓	
	Freezer	ENERGY STAR Qualified		✓	
	Dishwasher	ENERGY STAR Qualified			
	Clothes washer	ENERGY STAR Qualified			
	Dehumidifier	ENERGY STAR Qualified		✓	
	Room Air Conditioner	ENERGY STAR Qualified		✓	
	CFLs	ENERGY STAR Qualified. Refer to Lighting Guidelines in Contractor Resource Manual (CRM).		✓	
	LEDs	ENERGY STAR Qualified. Refer to Lighting Guidelines in CRM.		✓	
	Light Fixtures	ENERGY STAR Qualified for compact fluorescent, or electronic ballast for fluorescent tubes			

<sup>1</sup> Defined as the primary heating system for the space being conditioned. Addition/replacement of secondary heating systems is not eligible. The new unit must be the primary heat for the space being served.

<sup>2</sup> Specific requirements for ENERGY STAR Qualified products can be found by visiting: <https://www.energystar.gov/products>.

<sup>3</sup> In instances where venting conditions require the installation of a non-condensing boiler, boiler reset controls must be included in the project; tank-less coil DHW is not allowed.

<sup>4</sup> Wood stoves must supply a primary portion of heat. List of EPA Certified Wood Stoves: <https://www.epa.gov/compliance/list-epa-certified-wood-stoves>.

<sup>5</sup> In instances where an area of a home lacks adequate distribution, installation of new distribution to serve the area is eligible. The area lacking adequate distribution must be located within the pre-existing thermal boundary.

<sup>6</sup> Not eligible for the Assisted Home Performance subsidy.

<sup>7</sup> Refer to the Fuel Conversion Policy for eligibility of fuel switches.

<sup>8</sup> Use manufacturer's sizing guidelines or visit <https://www.energy.gov/energysaver/water-heating/sizing-new-water-heater>. For ENERGY STAR criteria, including UEF ratings and draw patterns, visit [energystar.gov/products/water\\_heaters/residential\\_water\\_heaters\\_key\\_product\\_criteria](https://energystar.gov/products/water_heaters/residential_water_heaters_key_product_criteria)

<sup>9</sup> Measure is only eligible for incentive when there is a replacement of an existing appliance or existing cooling system.

<sup>10</sup> Maximum Assisted Subsidy for each appliance is: \$300 for refrigerators and freezers; \$75 for dehumidifiers; and \$50 for room air conditioners. Only the base price of the appliance plus applicable tax is eligible; delivery, set-up, warranties or appliance accessories, and any associated taxes on these items are not eligible for incentives.

## **Eligible Health & Safety Measures and Accessories**

Non-qualified measures and Health and Safety Measures and Accessories are not eligible for the 50% Assisted Subsidy or contractor incentives.

### *Smart Energy Loan:*

Up to 15%, not to exceed \$2,000, in non-qualified measures listed in Table 1 and eligible Health & Safety Measures and Accessories in Table 2 may be included in a Smart Energy Loan without additional cost-effectiveness screening.

### *On-Bill Recovery:*

Up to 15%, not to exceed \$2,000, in eligible Health & Safety Measures and Accessories in Table 2 may be included in an On-Bill Recovery Loan subject to cost-effectiveness requirements.

**Table 2. Eligible Health & Safety Measures and Accessories**

<b>Health and Safety</b>	Asbestos abatement	Ventilation Fans (Whole house fans or similar attic exhaust fans are not eligible)
	Electrical service upgrade necessary when installing a new heating/cooling unit	Repairs/upgrades to heating and/or DHW systems (including power venting kits) to correct spillage, inadequate draft, carbon monoxide failures
	Upgrade of knob and tube wiring in order to install insulation	Measures to provide sufficient combustion air and prevent Combustion Appliance Zone (CAZ) depressurization, spillage or inadequate draft
	Radon and lead abatement work	Gas leak repair
	Cost of removing an oil tank or replacing a faulty oil tank when done in connection with a heating system replacement	Dryer vent repair
	Repairs to the home due to water damage, molds and mildew, ice dams or other symptoms of poor building performance, as long as the cause(s) of building performance-related damage are addressed	Heat/Energy Recovery Ventilator
<b>Qualified Accessories</b>	Attic soffit, gable, or ridge vents	Furnace humidifier
	Attic storage areas / mechanical access	Chimney liners and caps
	Attic pull-down stairs	Germicidal UV lights or HEPA filters
	Drywall as thermal barrier for spray foam or air sealing	AC coil when not installed with condenser
	Thermal barriers for spray foam	Fuel conversion accessory items
	Air Cleaners	Oil burner replacement
	Additional thermostats	Moisture barriers

All Health and Safety Measures and Accessories costs must be itemized for the purposes of determining incentive eligibility and loan cost effectiveness. These costs are eligible for incorporation into a Smart Energy Loan or On-Bill Recovery Loan, but are not eligible for the Assisted Subsidy or contractor incentives.

The costs associated with the installation of certain measures can be included in the related energy saving measure. Items such as high hat covers, kneewall wrap, weather stripping, and outlet gaskets can be included with air sealing. Baffles, insulation dams, and creating access to the attic can be included with attic insulation.

## **INCENTIVES**

The Assisted HPwES Program offers income-qualified customers a 50% work scope subsidy of up to \$4,000 for single-family homes and up to \$8,000 for 2 to 4-family homes. The balance of the project cost is eligible for financing through a Smart Energy or On-Bill Recovery Loan.

### **Incentive Eligibility**

The 50% Assisted Subsidy and contractor incentives are available for customers in the following electric utility territories: Central Hudson, Con Edison, National Grid (NYC and Upstate), NYSEG, Orange & Rockland, and Rochester Gas and Electric. Limited Regional Greenhouse Gas Initiative (RGGI) funds are available for eligible measures for customers of municipal electric utilities.

The 50% Assisted Subsidy may not be combined with any other utility incentive.

## **FINANCING OPTIONS**

Program Financing is available statewide for all eligible measures that meet the cost-effectiveness standards of the loan product.

The maximum loan amount for the Smart Energy and On-Bill Recovery Loans is \$13,000 per applicant; up to \$25,000 if the payback period is 15 years or less. The minimum loan is \$1,500.

The calculation of cost-effectiveness for the Smart Energy and On-Bill Recovery Loans is based on the amount borrowed by the consumer, net of any customer incentives, including the 50% Assisted Subsidy or utility incentives. Financing charges are included in the cost effectiveness calculation. Customers have the option to “buy down” the project cost so that the financed amount meets the cost effectiveness criteria. The loan terms are 5, 10, or 15 years, but the term may not exceed the average useful life of the financed measures.

### **Smart Energy Loan**

The Smart Energy Loan is available with automatic (ACH) payment, and is repaid in installments to NYSERDA’s loan servicer.

Up to 15%, not to exceed \$2,000, in non-prequalified upgrades listed in Table 1 and eligible Health and Safety Measures and Accessories in Table 2 may be included in a Smart Energy Loan without additional cost-effectiveness screening. For those projects where more than 15% of the cost is for items other than those on the Prequalified List, a Savings to Investment Ratio (SIR) greater than .8 is required.

### **On-Bill Recovery Loan**

The On-Bill Recovery Loan is repaid through an installment charge on the customer’s utility bill. Upgrades listed in Table 1 and Table 2 may be included in the loan, however the monthly loan installment payment may not exceed 1/12<sup>th</sup> of the estimated annual energy cost savings for the improvements over the loan term. Measures and accessories listed in Table 2 are capped at 15% of the total prequalified measure cost, not to exceed \$2,000.

## **Additional Energy Technologies**

Additional technologies may be included in a Smart Energy Loan or an On-Bill Recovery Loan through NYSERDA’s NY-Sun, Renewable Heat NY, and Ground Source Heat Pump Programs. Additional details are available at: <https://www.nyserda.ny.gov/All-Programs/Programs/Residential-Financing-Options>

To coordinate a loan that includes energy measures of more than one NYSERDA program, please contact [support.residential@nyserda.ny.gov](mailto:support.residential@nyserda.ny.gov).

\*Interest rates and loans terms are subject to change. Full details about all Program Financing are available at <http://www.nyserda.ny.gov/residential-financing> and in Section 4 of the Contractor Resource Manual.

## Appendix B: Table 4.1 Workforce Training and Development Contracts

Identification Number	Contractor	Description	Contract Amount
114387	Riseboro Community Partnership, Inc.	Building Operations and Maintenance Training	\$243,090
114689	FS Energy LLC	Building Operations and Maintenance Training	\$400,000
117764	Related Management Company LP	Building Operations and Maintenance Training	\$398,557
121174	Steven Winter Associates, Inc.	NYC Retrofit Demonstration	\$49,830
124464	Steven Winter Associates, Inc.	Building Operations and Maintenance Training	\$77,585
124465	Local 32BJ Thomas Shortman Training	Building Operations and Maintenance Training	\$199,607
128856	Interstate Renewable Energy Council, Inc	Building Operations and Maintenance Training	\$249,007
128857	Association for Energy Affordability, Inc	Building Operations and Maintenance Training	\$400,000
128858	Steven Winter Associates, Inc.	Building Operations and Maintenance Training	\$90,448
134553	Steven Winter Associates, Inc.	Building Operations and Maintenance Training	\$396,750
134566	Halcyon, Inc.	On the Job Training	\$8,640
134568	Halcyon, Inc.	On the Job Training	\$10,560
134571	Halcyon, Inc.	On the Job Training	\$10,560
134853	Halcyon, Inc.	On the Job Training	\$10,560
135476	Halcyon, Inc.	On the Job Training	\$10,560
136353	Apex Solar Power LLC	On the Job Training	\$5,760
136356	Wise Home Energy, LLC	On the Job Training	\$5,120
136534	Apex Solar Power LLC	On the Job Training	\$5,760
136535	Halcyon, Inc.	On the Job Training	\$8,640
136609	Potentia Management Group LLC	On the Job Training	\$5,760
136789	Halcyon, Inc.	On the Job Training	\$8,640
137040	The Radiant Store	On the Job Training	\$6,000
137127	Wayne County Action Program	On the Job Training	\$7,296
137241	Green City Force	Capacity Building	\$180,993
137347	Rensselaer Polytechnic Institute-LRC	Capacity Building	\$247,850
137348	Local 32BJ Thomas Shortman Training	Capacity Building	\$130,650
137408	Halcyon, Inc.	On the Job Training	\$8,640
137477	C&R Housing Inc.	On the Job Training	\$7,200
137753	Halcyon, Inc.	On the Job Training	\$12,000
137758	Healthy Home Energy & Consulting, Inc.	On the Job Training	\$4,800
137879	Healthy Home Energy & Consulting, Inc.	On the Job Training	\$4,800

<b>Identification Number</b>	<b>Contractor</b>	<b>Description</b>	<b>Contract Amount</b>
138097	Wayne County Action Program	On the Job Training	\$7,296
138099	True Energy Solutions	On the Job Training	\$6,400
138101	C&R Housing Inc.	On the Job Training	\$6,480
138133	Global Dwelling, LLC	On the Job Training	\$4,800
138136	Potentia Management Group LLC	On the Job Training	\$7,680
138354	US Ceiling CORP	On the Job Training	\$6,240
138356	NP Environmental LLC	On the Job Training	\$10,000
138723	Global Dwelling, LLC	On the Job Training	\$4,800
138725	Global Dwelling, LLC	On the Job Training	\$4,800
138958	Malcarne Contracting, Inc.	On the Job Training	\$8,640
139176	True Energy Solutions	On the Job Training	\$5,440
139215	Van Hee Mechanical	On the Job Training	\$5,760
139216	Van Hee Mechanical	On the Job Training	\$9,600
139252	All-State Air Control Sales & Service In	On the Job Training	\$7,680
139341	Heat Keepers, Inc.	On the Job Training	\$5,120
139618	Steven Winter Associates, Inc.	Building Operations and Maintenance Training	\$250,050
139716	Wayne County Action Program	On the Job Training	\$7,440
139898	Association for Energy Affordability, In	On the Job Training	\$7,920
139950	Association for Energy Affordability, In	On the Job Training	\$7,200
139953	Snug Planet, LLC	On the Job Training	\$8,640
140056	True Energy Solutions	On the Job Training	\$8,160
140059	Cornerstone Energy Services	On the Job Training	\$5,600
140060	True Energy Solutions	On the Job Training	\$5,760
140618	Steven Winter Associates, Inc.	Capacity Building	\$249,163
140619	CEC Stuyvesant Cove, Inc.	Capacity Building	\$104,962
140620	Sustainable South Bronx Inc.	On the Job Training	\$250,000
140748	North American Passive House Network, In	Capacity Building	\$248,579
140755	NP Environmental LLC	On the Job Training	\$4,000
140856	Hawn Heating & Energy Services LLC	On the Job Training	\$5,440
140960	Solar Village Company LLC	On the Job Training	\$6,118
140961	Potentia Management Group LLC	On the Job Training	\$5,946
141014	Heat Keepers, Inc.	On the Job Training	\$5,120
141318	NP Environmental LLC	On the Job Training	\$4,000
141570	Total Comfort Heating and Air Conditioni	On the Job Training	\$8,000
141738	Advanced Radiant Design, Inc.	On the Job Training	\$5,760
141739	Total Comfort Heating and Air Conditioni	On the Job Training	\$7,040
141742	Snug Planet, LLC	On the Job Training	\$8,640
141744	Wise Home Energy, LLC	On the Job Training	\$5,120
141865	Fred F. Collis & Sons, Inc.	On the Job Training	\$6,720

<b>Identification Number</b>	<b>Contractor</b>	<b>Description</b>	<b>Contract Amount</b>
141915	Green Team USA LLC	On the Job Training	\$5,120
141917	Green Team USA LLC	On the Job Training	\$5,120
142133	Malcarne Contracting, Inc.	On the Job Training	\$12,000
142284	Fred F. Collis & Sons, Inc.	On the Job Training	\$7,200
142285	Solar Village Company LLC	On the Job Training	\$5,904
142346	Halcyon, Inc.	On the Job Training	\$8,968
142352	Halcyon, Inc.	On the Job Training	\$8,968
142413	Green Team USA LLC	On the Job Training	\$5,760
142560	Green Team USA LLC	On the Job Training	\$6,080
142714	Advanced Radiant Design, Inc.	On the Job Training	\$5,760
142766	Fred F. Collis & Sons, Inc.	On the Job Training	\$6,240
142822	C&R Housing Inc.	On the Job Training	\$4,480
142870	Research Foundation of CUNY	Capacity Building	\$186,548
142876	Youth Action Programs and Homes, Inc.	Capacity Building	\$242,350
142923	North Park Innovations Group, Inc.	Capacity Building	\$250,000
142984	Urban Electric Power, LLC	On the Job Training	\$9,600
142990	Heat Keepers, Inc.	On the Job Training	\$5,120
143041	Foam It Insulation, LLC	On the Job Training	\$4,480
143067	Global Dwelling, LLC	On the Job Training	\$7,200
143069	Global Dwelling, LLC	On the Job Training	\$4,800
143216	Association for Energy Affordability, In	On the Job Training	\$7,200
143218	Association for Energy Affordability, In	On the Job Training	\$7,200
143220	Association for Energy Affordability, In	On the Job Training	\$7,200
143404	True Energy Solutions	On the Job Training	\$4,160
143412	Van Hee Mechanical	On the Job Training	\$4,480
143619	Green Team USA LLC	On the Job Training	\$5,120
143736	Buffalo Energy, Inc.	On the Job Training	\$7,200
143769	Green Team USA LLC	On the Job Training	\$7,040
143831	Potentia Management Group LLC	On the Job Training	\$5,843
143832	Potentia Management Group LLC	On the Job Training	\$5,690
143837	Fred F. Collis & Sons, Inc.	On the Job Training	\$9,600
144096	Urban Electric Power, LLC	On the Job Training	\$10,240
144097	Solar Village Company LLC	On the Job Training	\$4,762
144202	Solar Village Company LLC	On the Job Training	\$4,762
144302	Green Team USA LLC	On the Job Training	\$5,120
144319	Ruffalo Appliance	On the Job Training	\$6,080
144372	Hawn Heating & Energy Services LLC	On the Job Training	\$6,080
144373	True Building Performance LLC	On the Job Training	\$11,520
144445	Smarter Grid Solutions, Inc.	On the Job Training	\$15,360
144447	Tower Enterprises of NY & NJ LLC	On the Job Training	\$8,000

<b>Identification Number</b>	<b>Contractor</b>	<b>Description</b>	<b>Contract Amount</b>
144508	True Energy Solutions	On the Job Training	\$6,400
144555	NP Environmental LLC	On the Job Training	\$6,922
144629	True Building Performance LLC	On the Job Training	\$5,120
144666	Fred F. Collis & Sons, Inc.	On the Job Training	\$9,600
144896	Van Hee Mechanical	On the Job Training	\$4,480
144927	Green Team USA LLC	On the Job Training	\$5,120
145023	Smarter Grid Solutions, Inc.	On the Job Training	\$15,360
145106	Green Team USA LLC	On the Job Training	\$5,760
145206	EME Consulting Engineering Group, LLC	On the Job Training	\$10,000
145214	EME Consulting Engineering Group, LLC	On the Job Training	\$8,460
145216	EME Consulting Engineering Group, LLC	On the Job Training	\$10,000
145447	Smarter Grid Solutions, Inc.	On the Job Training	\$15,360
145590	Global Dwelling, LLC	On the Job Training	\$4,800
145645	Air Company Holdings, Inc.	On the Job Training	\$10,240
145805	True Energy Solutions	On the Job Training	\$4,800
145941	Poseidon Systems, LLC	On the Job Training	\$5,760
145943	Alternative Carbon Energy Systems Inc	On the Job Training	\$4,800
146146	Global Dwelling, LLC	On the Job Training	\$6,154
146149	Global Dwelling, LLC	On the Job Training	\$4,800
146276	Dandelion Energy Inc	On the Job Training	\$7,040
146441	SUNY Ulster	Capacity Building	\$249,700
146442	NYS Labor Management Cooperation Committ	Capacity Building	\$171,180
146443	Steven Winter Associates, Inc.	Capacity Building	\$239,725
146511	Snug Planet, LLC	On the Job Training	\$5,760
146556	Snug Planet, LLC	On the Job Training	\$5,760
146725	Snug Planet, LLC	On the Job Training	\$8,640
146804	Foam It Insulation, LLC	On the Job Training	\$4,480
146806	Foam It Insulation, LLC	On the Job Training	\$4,800
146816	Pvilion Technologies, LLC	On the Job Training	\$10,240
146885	Stacks and Joules Inc.	Capacity Building	\$249,955
147022	Plugin Stations Online, LLC	On the Job Training	\$6,400
147023	New York Homeowners Construction Co., LL	On the Job Training	\$4,480
147696	Dandelion Energy Inc	On the Job Training	\$7,040
147954	Advanced Radiant Design, Inc.	On the Job Training	\$5,760
148088	Smarter Grid Solutions, Inc.	On the Job Training	\$10,240
148099	Hawn Heating & Energy Services LLC	On the Job Training	\$4,160
148416	True Energy Solutions	On the Job Training	\$5,760
148424	True Energy Solutions	On the Job Training	\$5,440
148507	Sustainable Comfort, Inc	On the Job Training	\$6,154



<b>Identification Number</b>	<b>Contractor</b>	<b>Description</b>	<b>Contract Amount</b>
148520	NP Environmental LLC	On the Job Training	\$4,160
148521	New York Homeowners Construction Co., LL	On the Job Training	\$4,480
148737	NP Environmental LLC	On the Job Training	\$9,691
148873	NuWorld Lighting Solutions Inc	On the Job Training	\$8,000
148944	Integral Building & Design, Inc.	On the Job Training	\$9,230
149391	Green Team USA LLC	On the Job Training	\$5,120
149485	Green Team USA LLC	On the Job Training	\$5,120
149486	Solar Village Company LLC	On the Job Training	\$6,240
149488	Fred F. Collis & Sons, Inc.	On the Job Training	\$5,760
149782	Solar Village Company LLC	On the Job Training	\$5,712
149971	EME Consulting Engineering Group, LLC	On the Job Training	\$10,240
150068	Malcarne Contracting, Inc.	On the Job Training	\$9,230
150294	Healthy Home Energy & Consulting, Inc.	On the Job Training	\$5,760
150297	Healthy Home Energy & Consulting, Inc.	On the Job Training	\$5,120
150299	Green Team USA LLC	On the Job Training	\$5,920
150300	Green Team USA LLC	On the Job Training	\$7,680
150356	Urban Electric Power, LLC	On the Job Training	\$9,920
150440	Solar Village Company LLC	On the Job Training	\$4,762
150495	True Energy Solutions	On the Job Training	\$7,360
150569	Urban Electric Power, LLC	On the Job Training	\$9,600
150570	Green Team USA LLC	On the Job Training	\$6,400
150948	Van Hee Mechanical	On the Job Training	\$4,480
151003	Van Hee Mechanical	On the Job Training	\$4,160
151005	J Synergy Green Inc	On the Job Training	\$12,000
151055	Urban Electric Power, LLC	On the Job Training	\$6,400
151121	Malcarne Contracting, Inc.	On the Job Training	\$5,760
151284	Urban Electric Power, LLC	On the Job Training	\$6,400
151295	J Synergy Green Inc	On the Job Training	\$5,760
151353	Malcarne Contracting, Inc.	On the Job Training	\$10,240
151356	Ruffalo Appliance	On the Job Training	\$6,400
151401	New York Homeowners Construction Co., LL	On the Job Training	\$4,480
151418	Urban Electric Power, LLC	On the Job Training	\$10,240
151492	Dailey Electric Inc	On the Job Training	\$5,120
151557	Healthy Home Energy & Consulting, Inc.	On the Job Training	\$4,800
151628	NuWorld Lighting Solutions Inc	On the Job Training	\$5,120
151629	NuWorld Lighting Solutions Inc	On the Job Training	\$6,560
151630	NuWorld Lighting Solutions Inc	On the Job Training	\$5,760
152074	Energy Conservation & Supply, Inc.	On the Job Training	\$10,240
152134	Micatu, Inc.	On the Job Training	\$5,120

<b>Identification Number</b>	<b>Contractor</b>	<b>Description</b>	<b>Contract Amount</b>
152139	Micatu, Inc.	On the Job Training	\$5,120
152321	Solar Village Company LLC	On the Job Training	\$4,762
152322	Micatu, Inc.	On the Job Training	\$5,120
152558	Micatu, Inc.	On the Job Training	\$7,680
152603	Plugin Stations Online, LLC	On the Job Training	\$6,400
152809	Snug Planet, LLC	On the Job Training	\$5,760
153349	Eco Heating & Cooling Inc	On the Job Training	\$5,440
153364	Micatu, Inc.	On the Job Training	\$5,120
153453	Plugin Stations Online, LLC	On the Job Training	\$10,240
153489	E-Mobility Market Services, Inc.	On the Job Training	\$10,240
153677	Bonded Energy Solutions Corp	On the Job Training	\$15,360
153692	Micatu, Inc.	On the Job Training	\$5,120
153701	Steven Winter Associates, Inc.	Clean Energy Training Services	\$799,999
154003	Bonded Energy Solutions Corp	On the Job Training	\$10,240
154054	Interplay Learning Inc.	Capacity Building	\$100,000
154092	True Energy Solutions	On the Job Training	\$6,080
154160	True Energy Solutions	On the Job Training	\$8,800
154182	Snug Planet, LLC	On the Job Training	\$6,400
154395	Green Team USA LLC	On the Job Training	\$10,240
774405	Smarter Grid Solutions, Inc.	Internship Incentive	\$3,305
780197	Buffalo Solar Solutions Inc	Internship Incentive	\$2,205
780198	Healthy Home Energy & Consulting, Inc.	Internship Incentive	\$10,597
781096	Molecular Glasses, Inc.	Internship Incentive	\$8,450
781097	Centsible House, Inc	Internship Incentive	\$826
781564	Alternative Carbon Energy Systems Inc	Internship Incentive	\$5,659
781565	Enertiv Inc.	Internship Incentive	\$4,860
784414	The Levy Partnership, Inc.	Internship Incentive	\$5,324
784563	Eco-Carriage LLC	Internship Incentive	\$2,594
784564	North Park Innovations Group, Inc.	Internship Incentive	\$22,590
784565	Sustainable Westchester	Internship Incentive	\$10,080
785128	BlocPower LLC	Internship Incentive	\$31,032
786432	Enertiv Inc.	Internship Incentive	\$3,060
787856	Ecogy Solar LLC	Internship Incentive	\$4,640
788558	Lake Country Geothermal, Inc.	Internship Incentive	\$3,335
789655	Bright Building LLC	Internship Incentive	\$7,734
789693	Ecogy Solar LLC	Internship Incentive	\$6,002
789694	Phase Innovations LLC	Internship Incentive	\$10,859
789695	Energy Improvement Corporation	Internship Incentive	\$3,767
789696	Green Energy Technology Labs, Inc.	Internship Incentive	\$7,776
789697	Sunny Clean Water, LLC	Internship Incentive	\$17,921

<b>Identification Number</b>	<b>Contractor</b>	<b>Description</b>	<b>Contract Amount</b>
790254	Urban Electric Power, Inc.	Internship Incentive	\$3,490
790698	The Radiant Store	Internship Incentive	\$4,716
791385	Xallent LLC	Internship Incentive	\$22,401
791391	Edison Innovative Power, LLC	Internship Incentive	\$8,244
791392	Fund for the City of New York, Inc.	Internship Incentive	\$10,595
791393	Do-It-With Inc.	Internship Incentive	\$6,256
791394	Buffalo Solar Solutions Inc	Internship Incentive	\$4,276
791396	SANFILIPPO SOLUTIONS INC.	Internship Incentive	\$14,557
791400	AEF Ice Systems, Inc.	Internship Incentive	\$36,276
791402	Nuravine LLC	Internship Incentive	\$14,054
791403	ProjectEconomics, Inc.	Internship Incentive	\$12,722
792898	C&R Housing Inc.	Internship Incentive	\$5,414
792899	Maalka Inc	Internship Incentive	\$6,480
792900	Sustainable Comfort, Inc	Internship Incentive	\$4,640
795105	New York City Energy Efficiency Corp	Internship Incentive	\$3,443
795106	BEP Analytics LLC	Internship Incentive	\$17,633
795107	LC DRives	Internship Incentive	\$21,615
795216	RE-Nuble, Inc.	Internship Incentive	\$6,402
795309	Telos Energy, Inc.	Internship Incentive	\$3,932
796461	Workforce Development Institute, Inc.	Internship Incentive	\$2,390
798085	Smarter Grid Solutions, Inc.	Internship Incentive	\$22,032
798086	ecoLong LLC	Internship Incentive	\$9,432
798087	Sunny Clean Water, LLC	Internship Incentive	\$9,904
798088	4 Green Power Systems, LLC	Internship Incentive	\$10,464
798089	Dimien Inc.	Internship Incentive	\$4,475
798090	Sustainable Tompkins	Internship Incentive	\$6,125
798091	Kinetic Communities Consulting Corporati	Internship Incentive	\$3,899
798092	Hudson Valley Clean Energy Inc.	Internship Incentive	\$8,401
798493	Group-S LLC	Internship Incentive	\$14,107
798494	Centsible House, Inc	Internship Incentive	\$12,512
798545	Aerco International, Inc.	Internship Incentive	\$13,927
802428	Edison Innovative Power, LLC	Internship Incentive	\$13,146
802485	Wavelength Group, LLC	Internship Incentive	\$7,077
803767	Enertiv Inc.	Internship Incentive	\$6,480
803769	Aztech Geothermal, LLC	Internship Incentive	\$5,659
803773	Seed Renewables Inc.	Internship Incentive	\$5,898
803832	Solar Tompkins Inc.	Internship Incentive	\$1,335
803840	Dimien Inc.	Internship Incentive	\$4,557
804711	Empower Equity Inc	Internship Incentive	\$1,053
805508	Key Capture Energy, LLC	Internship Incentive	\$27,730

Identification Number	Contractor	Description	Contract Amount
805689	AMERESCO, Inc.	Internship Incentive	\$10,199
805916	Otsego County Conservation Association	Internship Incentive	\$2,425
805918	Pvillion Technologies, LLC	Internship Incentive	\$14,939
809000	Wavelength Group, LLC	Internship Incentive	\$9,703
811750	Ecogy Solar LLC	Internship Incentive	\$2,138
815179	Eisenbach & Ruhnke Engineering, P.C.	Internship Incentive	\$4,385
816818	ProjectEconomics, Inc.	Internship Incentive	\$3,305
816819	AEF Ice Systems, Inc.	Internship Incentive	\$6,610
816820	North Park Innovations Group, Inc.	Internship Incentive	\$1,534
817337	Maalka Inc	Internship Incentive	\$3,305
817338	Green Energy Technology Labs, Inc.	Internship Incentive	\$2,722
817344	ChromaNanoTech LLC	Internship Incentive	\$1,254
817968	Enertiv Inc.	Internship Incentive	\$5,832
818606	4 Green Power Systems, LLC	Internship Incentive	\$1,771
822333	Wavelength Group, LLC	Internship Incentive	\$1,235
824120	Antares Group, Inc.	Internship Incentive	\$5,659
827136	Alternative Carbon Energy Systems Inc	Internship Incentive	\$2,547
827658	Bright Building LLC	Internship Incentive	\$5,258
829175	Taitem Engineering, P.C.	Internship Incentive	\$1,396
832138	ProjectEconomics, Inc.	Internship Incentive	\$3,305
833429	Dandelion Energy Inc	Internship Incentive	\$9,295
834915	Energy Improvement Corporation	Internship Incentive	\$2,722
835588	Kinetic Communities Consulting Corporati	Internship Incentive	\$4,277
836047	New York City Energy Efficiency Corp	Internship Incentive	\$4,178
836738	BlocPower LLC	Internship Incentive	\$2,058
836749	ecoLong LLC	Internship Incentive	\$2,816
838451	Seed Renewables Inc.	Internship Incentive	\$424
839132	LC DRives	Internship Incentive	\$4,244
839133	Dimien Inc.	Internship Incentive	\$2,527
839488	SparkCharge, Inc.	Internship Incentive	\$2,514
840148	Wavelength Group, LLC	Internship Incentive	\$4,239
841131	Common Energy LLC	Internship Incentive	\$2,525
841591	DIBD NYC Inc.	Internship Incentive	\$2,180
842250	C2 Energy Capital LLC	Internship Incentive	\$2,540
842655	Ithaca Clean Energy, Ltd	Internship Incentive	\$460
842656	Fairstead Affordable LLC	Internship Incentive	\$6,636
842827	Smarter Grid Solutions, Inc.	Internship Incentive	\$8,058
842852	Bright Building LLC	Internship Incentive	\$5,328
843965	Potsdam Scensors LLC	Internship Incentive	\$8,910
843966	Energy Ally Enterprise LLC	Internship Incentive	\$5,832

<b>Identification Number</b>	<b>Contractor</b>	<b>Description</b>	<b>Contract Amount</b>
843983	Antares Group, Inc.	Internship Incentive	\$3,305
844689	ChromaNanoTech LLC	Internship Incentive	\$1,324
844690	Sustainable Tompkins	Internship Incentive	\$922
844691	Energy Ally Enterprise LLC	Internship Incentive	\$2,916
845675	Sustainable Comfort, Inc	Internship Incentive	\$4,223
845982	Heat Inverse LLC	Internship Incentive	\$28,465

# Endnotes

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- 1 Visit [nyserdera.ny.gov/Researchers-and-Policymakers/Green-Jobs-Green-New-York/GJGNY-LMI-Working-Group](http://nyserdera.ny.gov/Researchers-and-Policymakers/Green-Jobs-Green-New-York/GJGNY-LMI-Working-Group) for details on the GJGNY LMI Working Group and to view the associated Working Group Recommendations Report.
- 2 [nyserdera.ny.gov/-/media/Files/EDPPP/GJGNY/Advisory-Council-Updates/GJGNY-Community-Outreach-Working-Group-Recommendations.pdf](http://nyserdera.ny.gov/-/media/Files/EDPPP/GJGNY/Advisory-Council-Updates/GJGNY-Community-Outreach-Working-Group-Recommendations.pdf)
- 3 [nyserdera.ny.gov/-/media/Files/EDPPP/GJGNY/Advisory-Council-Updates/GJGNY-Workforce-Development-Recommendations.pdf](http://nyserdera.ny.gov/-/media/Files/EDPPP/GJGNY/Advisory-Council-Updates/GJGNY-Workforce-Development-Recommendations.pdf)
- 4 Visit [nyserdera.ny.gov/About/Green-Jobs-Green-New-York/Advisory-Council/Meetings](http://nyserdera.ny.gov/About/Green-Jobs-Green-New-York/Advisory-Council/Meetings) to view Advisory Council meeting documentation.
- 5 [nyserdera.ny.gov/About/Publications/GJGNY-Advisory-Council-Reports](http://nyserdera.ny.gov/About/Publications/GJGNY-Advisory-Council-Reports)
- 6 CEF, one of Reforming the Energy Vision's (REV) three strategic pillars, is designed to deliver on New York State's commitment to reduce ratepayer collections, drive economic development, and accelerate the use of clean energy and energy innovation. It will reshape the State's energy efficiency, clean energy, and energy innovation programs. Visit [nyserdera.ny.gov/About/Clean-Energy-Fund](http://nyserdera.ny.gov/About/Clean-Energy-Fund) for information regarding CEF initiatives and budgets.
- 7 CEF, one of Reforming the Energy Vision's (REV) three strategic pillars, is designed to deliver on New York State's commitment to reduce ratepayer collections, drive economic development, and accelerate the use of clean energy and energy innovation. It will reshape the State's energy efficiency, clean energy, and energy innovation programs. Visit [nyserdera.ny.gov/About/Clean-Energy-Fund](http://nyserdera.ny.gov/About/Clean-Energy-Fund) for more information about the CEF.
- 8 Residential audits were originally funded with an allocation of GJGNY funds. Effective March 1, 2016, audits in CEF territory have been funded with CEF funds. RGGI funds are used to fund audits in non-CEF territory. Beginning in January 2017, customers in PSEG Long Island electric utility service territory are served through PSEG Long Island's HPwES Program, funded in part by RGGI funds through a Memorandum of Understanding between NYSERDA and LIPA.
- 9 These incentives are provided through the Clean Energy Fund (CEF) or Regional Greenhouse Gas Initiative (RGGI).
- 10 Income-eligible households may receive services at no cost through NYSERDA's EmPower New York program, PSEG Long Island's low-income programs, or the federally funded Weatherization Assistance Program (WAP) administered by NYS Homes and Community Renewal (HCR).
- 11 NYSERDA. 2012. "Process Evaluation and Market Characterization and Assessment: Green Jobs - Green New York Residential Program," [nyserdera.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2012ContractorReports/2012-GJGNY-MCA-Report.pdf](http://nyserdera.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2012ContractorReports/2012-GJGNY-MCA-Report.pdf)
- 12 Example assessment (audit) standards are included in the Multifamily Performance Program Guidelines and can be found on NYSERDA's web site at [nyserdera.ny.gov/-/media/Files/Programs/MPP-Existing-Buildings/MPP-Comprehensive-Option-Program-Guidelines.pdf](http://nyserdera.ny.gov/-/media/Files/Programs/MPP-Existing-Buildings/MPP-Comprehensive-Option-Program-Guidelines.pdf)
- 13 Visit [nyserdera.ny.gov/-/media/Files/EERP/GJGNY/Small-Business/Energy-Assessment-Standards.pdf](http://nyserdera.ny.gov/-/media/Files/EERP/GJGNY/Small-Business/Energy-Assessment-Standards.pdf) to view NYSERDA's Standards for Small Commercial/Not-for-Profit Energy Assessments found in the NYSERDA Small Commercial/Not-for-Profit Energy Efficiency Program Energy Assessment and Request for Financing Package.
- 14 Visit [nyserdera.ny.gov/All-Programs/Programs/Small-Commercial-Energy-Assessments](http://nyserdera.ny.gov/All-Programs/Programs/Small-Commercial-Energy-Assessments) for information about NYSERDA's subsidized audits for Small Commercial/Not-For-Profits
- 15 [nyserdera.ny.gov/Contractors/Find-a-Contractor/FlexTech-Consultants](http://nyserdera.ny.gov/Contractors/Find-a-Contractor/FlexTech-Consultants)
- 16 A list of pre-qualified measures for HPwES can be found in Appendix A.
- 17 Incentives for NY-Sun are provided through the Renewable Portfolio Standard, Regional Greenhouse Gas Initiative and the Clean Energy Fund.
- 18 Visit [https://portal.nyserdera.ny.gov/CORE\\_Solicitation\\_Detail\\_Page?SolicitationId=a0rt0000000QnxFAAS](https://portal.nyserdera.ny.gov/CORE_Solicitation_Detail_Page?SolicitationId=a0rt0000000QnxFAAS) for details about Program Opportunity Notice 2112, NY-Sun Residential/Nonresidential Incentive Program.
- 19 Visit [nyserdera.ny.gov/All-Programs/Programs/NY-Sun](http://nyserdera.ny.gov/All-Programs/Programs/NY-Sun) for more information about NY-Sun.
- 20 Incentives for the Solar Thermal Incentive Program, when available, have been provided through the Renewable Portfolio Standard and Regional Greenhouse Gas Initiative.
- 21 Incentives for Renewable Heat NY are funded through the Regional Greenhouse Gas Initiative and the Clean Energy Fund.

- 22 Visit [nyserdera.ny.gov/All-Programs/Programs/Renewable-Heat-NY](http://nyserdera.ny.gov/All-Programs/Programs/Renewable-Heat-NY) to learn more about Renewable Heat NY.
- 23 Visit <https://saveenergyny.ny.gov/NYScleanheat/> or further information about the program.
- 24 [nyserdera.ny.gov/-/media/Files/EDPPP/GJGNY/Advisory-Council-Updates/GJGNY-Workforce-Development-Recommendations.pdf](http://nyserdera.ny.gov/-/media/Files/EDPPP/GJGNY/Advisory-Council-Updates/GJGNY-Workforce-Development-Recommendations.pdf)
- 25 Opportunities are customer referrals or leads to NYSERDA or non-NYSERDA programs that are self-reported by the Community Energy Advisors. Opportunities include customers assisted with clean energy applications.
- 26 [nyserdera.ny.gov/About/Publications/GJGNY-Advisory-Council-Reports](http://nyserdera.ny.gov/About/Publications/GJGNY-Advisory-Council-Reports)
- 27 Visit [nyserdera.ny.gov/About/Publications/Program-Planning-Status-and-Evaluation-Reports/Evaluation-Contractor-Reports](http://nyserdera.ny.gov/About/Publications/Program-Planning-Status-and-Evaluation-Reports/Evaluation-Contractor-Reports) to view completed evaluation reports.
- 28 <https://www.nyserdera.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/HPwES-On-Bill-Recovery-Evaluation-2014-2016.pdf>





NYSERDA, a public benefit corporation, offers objective information and analysis, innovative programs, technical expertise, and support to help New Yorkers increase energy efficiency, save money, use renewable energy, and reduce reliance on fossil fuels. NYSERDA professionals work to protect the environment and create clean-energy jobs. NYSERDA has been developing partnerships to advance innovative energy solutions in New York State since 1975.

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