

# Green Jobs - Green New York 2021 Annual Report

Final Report | October 2021

## **NYSERDA's Promise to New Yorkers:**

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

### **Our Vision:**

New York is a global climate leader building a healthier future with thriving communities; homes and businesses powered by clean energy; and economic opportunities accessible to all New Yorkers.

### **Our Mission:**

Advance clean energy innovation and investments to combat climate change, improving the health, resiliency, and prosperity of New Yorkers and delivering benefits equitably to all.

# **Green Jobs - Green New York 2021 Annual Report**

*Final Report*

Prepared by:

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

Albany, NY

October 2021

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# 1 Introduction

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Increasing access to and adoption of building efficiency and electrification upgrades across sectors will reduce energy costs, create local jobs, reduce greenhouse gas emissions, improve indoor air quality, and help achieve New York State's nation-leading greenhouse gas emissions reduction targets set forth in the Climate Leadership and Community Protection Act (Climate Act) of 2019. Prioritizing the achievement of these objectives and delivering the associated benefits in disadvantaged communities and to energy burdened households is imperative.

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 will 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.

The Power NY Act of 2011 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.

In July 2019, the Climate Leadership and Community Protection Act (Climate Act) was signed into law. The Climate Act establishes nation-leading climate action targets for New York State which include reducing emissions economy-wide at least 85% below 1990 levels by 2050. In the coming year, NYSERDA will assess how long GJGNY programs should continue to incentivize and/or finance high-efficiency fossil fuel heating equipment and expects to make program changes to better align with and deliver the environmental and equity outcomes set forth in the Climate Act.

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, 2020 through June 30, 2021.

## **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 publishes GJGNY-related data sets including NYSERDA's low-to-moderate income projects and the Residential Loan Portfolio on Open NY on a periodic basis.<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. NYSERDA may pursue changes and additions to the Advisory Council to include expertise and knowledge to expand the stakeholder involvement and effectiveness of GJGNY programs.

**Table 1. GJGNY Advisory Council Members**

Name	Organization
Doreen Harris	President and CEO, NYSERDA (Chair)
Patrick Foye	Acting 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 (retired)
Clarke Gocker	People United for Sustainable Housing—Buffalo
Ross Gould	Business Network for Offshore Wind
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 Metcalfe	Building Performance Contractors Assoc. (retired)
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. NYSERDA also meets regularly with stakeholders in the residential energy efficiency sector through its Residential Market Advisory Group meetings, and by engaging contractors through roundtable meetings to discuss program challenges and opportunities.<sup>6</sup> Feedback provided by the group, as well as other stakeholders, informs the continuous improvement of programs and the development of new initiatives.

## **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 2 provides a summary of the GJGNY budget, including interest earnings and subsequent additions of RGGI funds, as of June 30, 2021. To enable continued implementation of GJGNY activities, NYSERDA included elements of GJGNY in the planning and implementation of the Clean Energy Fund (CEF).<sup>7</sup> NYSERDA worked 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 LMI programs, 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 2. GJGNY Budget Summary as of June 30, 2021**

<b>Program Area</b>	<b>Budget</b>	<b>Expended</b>	<b>Committed</b>	<b>Balance</b>
<b>Workforce Development</b>	\$7,339,532	\$7,092,399	\$247,133	
<b>Outreach and Marketing</b>	\$15,841,507	\$15,841,507		
<b>Energy Audits and Implementation</b>				
One-to-Four-Family Residential Buildings	\$26,946,225	\$26,946,225		
Multifamily Buildings	\$4,697,574	\$4,697,574		
Small Commercial and Not-for-Profit	\$8,431,856	\$8,013,475	\$418,381	
<b>Energy Audits and Implementation Total</b>	\$40,075,655	\$39,657,274	\$418,381	
<b>Revolving Loan Fund</b>				
One-to-Four-Family Residential	\$164,409,489	\$137,315,460	\$2,036,036	\$25,057,993
Multifamily	\$557,738	\$169,451		\$842,097
Small Commercial and Not-for-Profit	\$1,977,386	\$1,523,576		
<b>Revolving Loan Fund Total</b>	\$166,944,613	\$139,008,487	\$2,036,036	\$25,900,090
<b>Loan Loss Reserve Initiative</b>	\$10,000,000		\$8,415	\$9,991,585
<b>Pre-Development Financing</b>	\$4,050,000		\$908,925	\$3,141,075
<b>Program Evaluation</b>	\$5,600,000	\$3,822,001	\$4	\$1,777,995
<b>Program Administration</b>	15,942,730	\$14,483,470	\$188,717	\$1,270,543
<b>NYS Cost Recovery Fee</b>	\$2,710,985	\$2,674,484		\$36,501
<b>TOTAL</b>	\$268,505,022	\$222,579,622	\$3,807,611	\$42,117,789

<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.

Committed: Funding for contracts, purchase orders, incentive award and loans that are encumbered, 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: Residential Energy Efficiency Financing Revenue Bonds sold as Qualified Energy Conservation Bonds (QECCB), \$24.3 million.
- September 2015: Residential Energy Efficiency Financing Revenue Bonds to Environmental Facilities Corporation (EFC), in connection with AAA-rated State Revolving Fund bonds issued by EFC, \$46.23 million.

- October 2015: Residential Solar Loan Revenue Bonds issued to M&T Bank, \$48.5 million.
- September 2016: Residential Energy Efficiency Financing Revenue Bonds to EFC, in connection with AAA-rated SRF bonds issued by EFC, \$23.2 million.
- March 2018: Residential Solar Financing Green Revenue Bonds, \$18.5 million.
- March 2019: Residential Solar and Energy Efficiency Financing Green Revenue Bonds, \$15.5 million.
- October 2020: Residential Solar and Energy Efficiency Financing Green Revenue Bonds, \$16.69 million.
- June 2021: From participation sale of GJGNY loans, \$24.6 million.

Section 3 provides more details regarding the bonds issued and the participation sales 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 or other means, 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>8</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 3 outlines expenditures for individual components of GJGNY from all funding sources.

**Table 3. GJGNY Expenditures (Multiple Funding Sources) as of June 30, 2021**

<b>Program Area</b>	<b>Expended July 1, 2020–June 30, 2021</b>	<b>Expended Cumulative to Date</b>
Workforce Development	\$7,313,031	\$18,416,669
Outreach and Marketing	\$1,652,948	\$20,473,887
One- to Four-Family Residential Buildings Audits	\$1,935,700	\$40,134,060
Multifamily Buildings Audits	\$0	\$4,697,574
Small Commercial and Not-for-Profit Audits	\$49,382	\$8,013,475
Combined Financing	\$11,391,652	\$139,008,490
Loan Loss Reserve Initiative	\$0	\$0
Pre-Development Financing	\$0	\$0
Program Evaluation	\$55,298	\$3,822,001
Program Administration	\$1,475,086	\$14,483,470
NYS Cost Recovery Fee	\$140,699	\$2,674,484
<b>TOTAL</b>	<b>\$24,013,796</b>	<b>\$251,724,109</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 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. 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 refinement 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 4. Summary of Performance Metrics—July 1, 2020 through June 30, 2021**

Metric	One- to Four-Family Residential Buildings	Multifamily <sup>8</sup>	Small Commercial and Not-for-Profit Energy Efficiency	Total
Assessment Applications Received (number)	96681	0	439	10,107
Assessments Completed (number)	11,7832	0	207	11,990
Projects completed (units)	4,5683	0		4,568
1st Year Net kWh Savings from Projects Receiving Audits <sup>4</sup>	1,894,9733	0	1,343,354	3,238,327
1st Year Net MMBtu Savings from Projects Receiving Audits <sup>4</sup>	91,8503	0	14,056	105,906
Loan applicants (number)	11,586	0	8	
On-Bill Recovery Loans Issued (number)	1,050	0	2	
Smart Energy Loans Issued (number)	3,102		0	
Participation Loans Issued (number)		0	1	
Bridge Loans Issued (number)	3			
Total Value of Loans	\$58,697,957	\$0	\$96,439	\$58,794,396
Participation Loans			\$1,165,468	\$1,165,468
Average Loan Amount	\$14,127	0	\$32,146	
Average Project Cost (Estimate) of Projects Receiving Loans <sup>5</sup>	\$23,770	0	\$49,027	
1st Year Net kWh Savings from Projects Receiving Loans <sup>4, 6</sup>	49,956,000	0	1,200	
1st Year Net MMBtu Savings from Projects Receiving Loans <sup>4, 6</sup>	59,621	0	10.95	
Number of loan defaults <sup>7</sup>	11	0	10	
Number of OBR loan recipients who are in arrears on their utility accounts for electric and/or gas service.	818		6	
Number of OBR loan recipients who are in arrears in their OBR loan payment.	2120		8	
Number of OBR loan recipients whose utility service has been terminated for non-payment.	0		0	
Number of OBR loan recipients whose utility service have been reconnected.	2		0	

<sup>1</sup> The column One- to Four-Family Residential Buildings and row Assessment Applications Received reflects the Assisted Home Performance with ENERGY STAR program only. Does not include the Residential Energy Audit Program, which 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 Assisted Home Performance with ENERGY STAR, the Residential Energy Audit Program, and PSEG-Long Island.

<sup>3</sup> Reflects 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 and reducing administrative burden on companies and organizations serving the customer. 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 has 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 continue to work with the Legislature again in the 2022 session to consider passing the bill (S.6612) and enacting this amendment.

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 temporarily suspending late payment charges and collection efforts and allowing two-month payment deferrals upon request for borrowers experiencing financial hardships due to COVID-19. Fees and collection efforts resumed on October 1, 2020.

In January 2021, the residential loan program launched a new loan product, the Residential Renewable Energy Tax Credit Bridge Loan. This loan is available to GJGNY financing customers that want to borrow a portion of the renewable energy system cost that may be eligible for federal or State income tax credits or NYC Real Property Tax Abatement as described in section 3.2.

In March 2021, NYSERDA provided \$3 million in GJGNY funding and entered into a direct contract with New York City Energy Efficiency Corporation (NYCEEC), a not-for-profit lender, to issue predevelopment loans including Integrated Physical Needs Analysis (IPNA), Investment Grade Energy Assessment (IGEA) studies, or similar predevelopment energy/engineering studies to assess energy efficiency improvements and renewable energy installations in eligible buildings located in New York State. NYCEEC will issue loans for which NYSERDA provides 100% of the loan principal, up to \$150,000, at 0% interest and will also issue loans which NYSERDA provides 25% of the loan principal, up to \$500,000, between 0% and 5%, though it is expected that most loans will be at 0% to help reduce the interest rate to the borrower. NYCEEC provides the remaining loan principal and will set their rate.

NYSERDA provided \$10 million of GJGNY funding to fund a Loan Loss Reserve (LLR) Program and launched an open solicitation accepting applications in December 2020. The Loan Loss Reserve/Credit Enhancement provides support for financing products which support clean energy improvements in residential (1–4 unit) dwellings, small commercial (100 employees or less), not-for-profit and multifamily (5+ unit) buildings (Eligible Properties) located in New York State Communities. The Loan Loss Reserve will provide reimbursement for defined losses on individual transactions.

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

The performance period of this report coincided with the COVID-19 pandemic. NYSERDA is committed to driving continued progress toward New York State's clean energy goals and aiding in the State's economic recovery while adhering to the most current NYS guidance in order to protect public health and minimize the spread of COVID-19.<sup>9</sup> As 2021 continues to unfold and the full impact of COVID-19 on the 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 pre-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>10</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 with comprehensive energy assessments.

### **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>11</sup> for buildings with two to four units through the Assisted Home Performance with ENERGY STAR program (Assisted HPwES). Effective July 13, 2020, following the COVID-19 work pause, NYSERDA raised the 80% Assisted HPwES income threshold to 120% and the caps for the Assisted HPwES were raised to \$5,000 for a single-family home and up to \$10,000 for a 2–4 family home. The Assisted HPwES income threshold reverted to 80% Area Median Income effective September 1, 2021. The increased incentive cap remains in effect.

#### **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 NYSERDA's 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. 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 program, 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. NYSERDA is also working closely with contractors, solution providers and utilities to test remote audit strategies that can further streamline the process, reduce costs, and create broader access to energy audits for New York State homeowners and minimize the public health risks of COVID-19 associated with in-person contact.

### **2.1.3 Energy Audit Fees**

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 5 provides the audit reimbursement rates, based on customer income thresholds.

**Table 5. 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 completed through a NYSERDA program is approximately 33% since program inception. A 2012 NYSERDA evaluation indicated aspects of the recommended work proceeded outside a NYSERDA 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>12</sup> These evaluation findings indicate an overall conversion rate greater than 70%.

### 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 6.

**Table 6. Implementation and Support Contracts—Residential**

Identification		
106225	Kelliher Samets Volk	Marketing Support
107771	CLEARresult	Shared Services Provider
116844	CLEARresult	Implementation/Technical Services
117927	EME Consulting Engineering Group LLC	Quality Assurance
121807	Uplight	EmPower/Assisted Home Performance 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 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 State and local housing agencies, developers, building owners, and their representatives to improve the energy efficiency, health, safety, and security of affordable 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**

In July 2020, NYSERDA and New York State utilities filed a joint implementation plan to create a statewide portfolio of programs and offerings to better serve low-to-moderate customers and communities in New York State.<sup>13</sup> Since that time, NYSERDA has worked closely with utility partners to develop and deliver energy efficiency programs that meet the needs of the affordable housing sector.

In addition, NYSERDA continues to coordinate closely with NYS Homes and Community Renewal and the federally funded Weatherization Assistance Program, NYC Housing Preservation and Development, U.S. Housing and Urban Development, and others to leverage additional funding, streamline access to funding, coordinate program operations, as appropriate.

## **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>14</sup>

Applicants may be eligible to receive a subsidized energy audit via NYSERDA's FlexTech program.<sup>15</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>16</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 7.

**Table 7. Revolving Loan Fund Status by Sector as of June 30, 2021**

Program Area	Funding Allocation	Loans Issued and Implementation Expenses	Loan Repayments and Bond Proceeds	Committed	Balance*
One- to Four-Family Residential Buildings	\$164,409,489	\$403,391,550	(\$266,076,089)	\$2,036,036	\$25,057,992
Multifamily Performance	\$557,738	\$4,011,318	(\$3,841,867)	\$0	\$388,287
Small Commercial Energy Efficiency	\$1,977,386	\$3,082,044	(\$1,558,465)	\$0	\$453,807
<b>TOTAL</b>	<b>\$166,944,613</b>	<b>\$410,484,912</b>	<b>(\$271,476,421)</b>	<b>\$2,036,036</b>	<b>\$25,900,086</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 and (2) purchase and installation of new systems or equipment and any required ancillary equipment and related services, including necessary health and safety improvements.

## **3.2 Residential Financing**

GJGNY offers three 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 third type of loan is the Residential Renewable Energy Tax Credit Bridge Loan, which was launched in January 2021. The Bridge Loan is used to finance tax credits for applicable projects and has a term of two (2) years. A balloon payment of principal and interest is due from the customer at maturity. The Bridge Loan is a Smart Energy Loan and must be paid by check or automatic withdrawal (ACH).

The residential loans are originated statewide through Slipstream, a not-for-profit energy efficiency lending organization competitively selected by NYSERDA to provide residential financing services. Slipstream reviews applications and originates loans on behalf of NYSERDA pursuant to underwriting criteria established by NYSERDA. Slipstream closes on the loan, disburses proceeds to the contractor from a cash advance pool provided by NYSERDA to Slipstream, 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 systems 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, 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, up to 50% of the project cost, related to associated health and safety measures and qualified accessories, can be financed as long as the loan meets the cost-effectiveness criteria.

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 Wood 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, wood pellet 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>20</sup> where available. The loan may also be combined with NYSERDA's income-eligible pellet stove, wood pellet boiler, and cordwood boiler incentives, which target households with a total income up to 80% of the State or county median income.<sup>21</sup>

### **3.2.1.4 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, administered by New York State utilities. 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 applicable federal tax incentives and/or incentives offered through the NYS Clean Heat Program.<sup>22</sup>

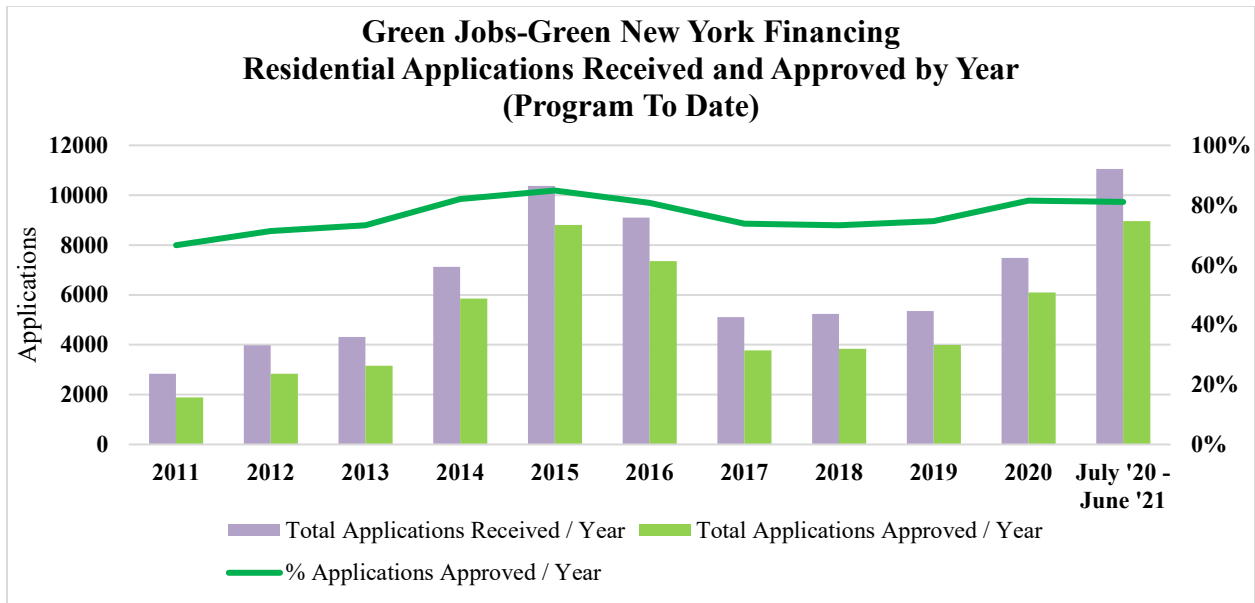
### **3.2.2 Residential Loan Fund Performance**

From October 2010 through June 2021, 20,116 energy efficiency loans closed valued at more than \$186 million. Approximately 28% of Assisted HPwES projects completed in the 12 months ending on June 30, 2021 were financed through a GJGNY loan. From February 2014 through June 2021, 10,429 solar electric loans closed totaling more than \$177.4 million. Approximately 18.3% of residential solar electric projects completed in the 12 months ending on June 30, 2021 were financed through a GJGNY loan. In addition, 617 loans closed for solar thermal, wood heating systems, ground source and air source heat pump projects totaling over \$10.3 million.

The Smart Energy Loan consistently represents most loans closed on a monthly basis; over the last 12 months Smart Energy Loans represented 71.6% of loans closed.

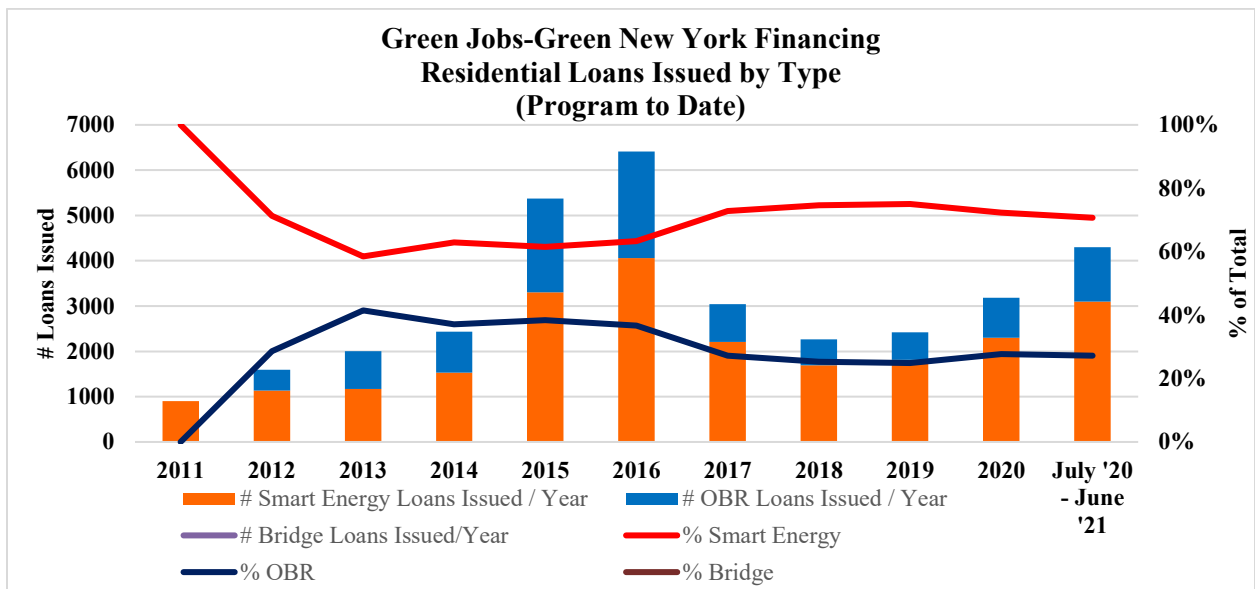
Figures 1 and 2 illustrate financing applications submitted and Smart Energy and OBR and loans issued since the launch of the program.

**Figure 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 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.

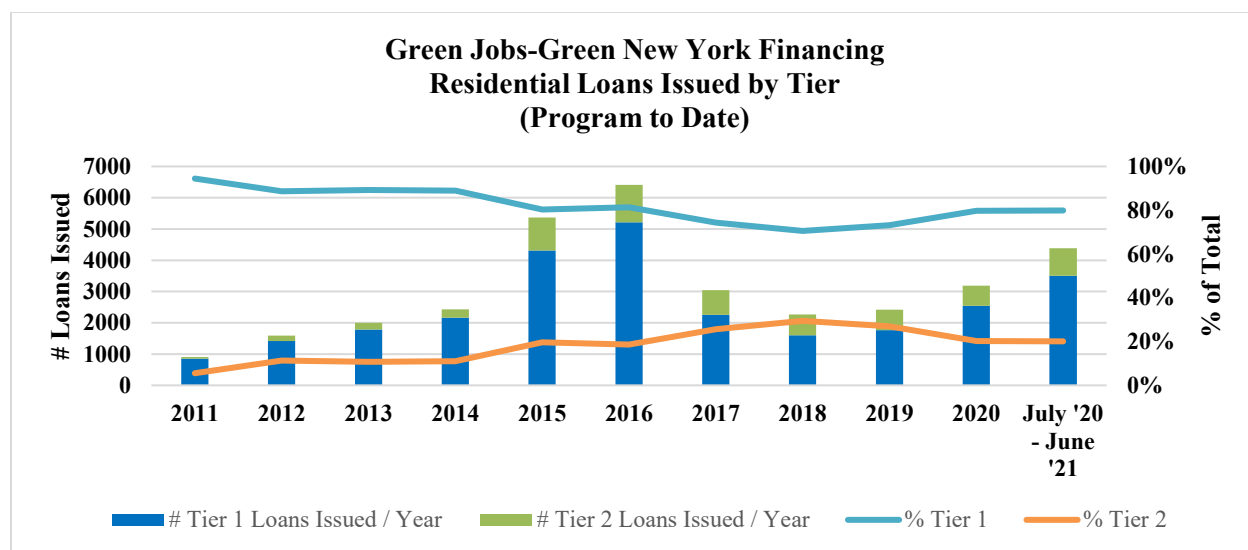
Table 8 summarizes loan underwriting standards used for both the Smart Energy and OBR Loans. NYSERDA modified loan underwriting standards eight times since the launch of the program in an effort to address loan application denials and responsibly improve the penetration of financing to consumers who 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 illustrates the impact of modifying the Tier 2 standards, enabling more individuals to qualify for financing. Tier 2 loans now consistently make up 15–25% of loans issued monthly.

**Table 8. GJGNY Residential Loan Underwriting Standards as of June 30, 2021**

<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. 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 structured bond issues to capitalize the GJGNY residential loan fund. In June 2021, NYSERDA offered the sale of a participation interest of the principal balance of eligible Green Jobs - Green New York Program residential consumer loans to community banks or credit unions through a syndication platform offered by a third-party provider, LoanStreet, for the sale of participation interest in GJGNY residential loans. The loan participations can sell up to 90% participation interest in the loan pools, with NYSERDA and the purchasers sharing pro-rata/pari-passu in all loan repayments, prepayments, and losses. As of June 30, 2021, NYSERDA sold a total of 39.9% participation interests in the offered loans and received \$24.6 million in proceeds. Additional sales of participation are expected to occur on a periodic basis with the goal of achieving a target of 90% participation.

Performance information about the GJGNY loan portfolio is 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 and participation sales 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) or participation sales. NYSERDA has historically made changes to program loan interest rates in order to manage the annual amount of RGGI funds required and available to support the program. Interest rates are now based on the household income and loan type. The interest rates are shown in Table 9.

**Table 9. GJGNY Residential Loan Fund Interest Rates as of January 4, 2021**

Income as Percentage of Area Median Income	Loan Type		
	On-Bill Recovery	Smart Energy and Bridge (Auto Pay)	Smart Energy and Bridge (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.

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 the 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 the Wall Street Journal Prime Rate of Interest + 200 basis points, fixed at closing, 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 was available until allocated funds were encumbered or May 31, 2021, whichever came first, after which, the rate reverted 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 wood pellet stoves, wood pellet boilers, and advanced cordwood 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) wood pellet boilers and advanced cordwood 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, 2021, 36 Participation Loans have been closed with a total value of \$4,909,365, of which NYSERDA's loan value is \$1,165,468. These include 30 energy efficiency loans totaling \$4,660,222 and six solar electric loans totaling \$249,143.



### 3.6 Expenditures for Financing Implementation and Administration

NYSERDA continues to use competitively selected contractors to support the loan fund implementation, including loan origination, loan servicing, property title searches, and declaration/satisfaction filings. NYSERDA also continues to receive services from several other competitively selected organizations to assist with bond issuance, and to provide financial and legal advice. In addition, NYSERDA pays fees to utilities for the administration of the OBR program. Expenditures are detailed in Table 10.

**Table 10. Expenditures for Financing Implementation and Administration**

<b>Purpose</b>	<b>Expenditures 7/1/20-6/30/21</b>	<b>Expenditures Program to date</b>
Origination	849,183	9,331,634
Servicing	1,486,249	8,655,462
Title Searches, Declaration and Satisfaction Filing (contractor services), Filing Fees (counties)	786,399	4,883,406
Bond Issuance, Financial and Legal Advice and Support	66,889	4,970,259
Fees to Utilities	277,969	2,335,840
<b>TOTAL</b>	<b>3,466,689</b>	<b>30,176,602</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 New York State Department of Labor (DOL) programs that were 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 NYS Registered Apprenticeship and third-party accredited building trades programs. The efforts are meant to increase access to technical training 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 NYS 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 six OJT companies, bringing the total number of GJGNY businesses to 16 for a total investment of approximately \$353,190 of GJGNY funds in the OJT program. To date, 49 people have been hired by these businesses under the OJT program.

Participants in the NYSERDA's OJT for Energy Efficiency and Clean Energy Program funded with CEF and GJGNY funding are listed by technology type and region in Table 11.

**Table 11. 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	3	6	19	6	3	16	17		4		74
Energy Efficiency /Weatherization	9	28	59	26	21	21	10	7	23	18	222
Heat Pump	9	8	74	15	47	26	10	4	2	4	199
Lighting and Controls	9		2			20	6				37
Smart Grid	1		4		1		8		15		29
Energy Storage	8				17		3				28
Building Automation and Controls			1				10				11
Other							5	15			20
Solar Electric	3	2	2	2			4				13
EV Charging Stations	2						2				4
<b>Total</b>	<b>44</b>	<b>44</b>	<b>161</b>	<b>49</b>	<b>89</b>	<b>83</b>	<b>75</b>	<b>26</b>	<b>44</b>	<b>22</b>	<b>637</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 NYSEDA'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 job quality 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 implemented.



## **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 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 NYS 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 residents, small businesses, and multifamily building owners 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) increase energy literacy, (2) understand the benefits of clean energy solutions, (3) enable informed energy decision-making, (4) facilitate action in completing clean energy projects, and (5) decrease energy consumption.

CEEP expanded the reach of NYSERDA programs throughout the State to incorporate a regional approach, thus providing geographic alignment with other State efforts and full statewide coverage. Ten 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 CEEP contractors are listed in Table 12.

**Table 12. Organizations Under Contract to Provide CEEP Outreach Services—July 1, 2020 through June 30, 2021**

<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.	\$625,000.00
CEEP	Central New York	Cornell Cooperative Extension Tompkins County	\$203,763.00
CEEP	Finger Lakes	PathStone	\$423,074.63
CEEP	Long Island	United Way of Long Island	\$420,000.00
CEEP	Mid-Hudson	Cornell Cooperative Extension Dutchess County	\$783,560.00
CEEP	Mohawk Valley	Mohawk Valley Economic Development District	\$408,131.86
CEEP	New York City	The Center for New York City Neighborhoods	\$977,564.17
CEEP	North Country	Cornell Cooperative Extension Tompkins County	\$167,755.00
CEEP	Southern Tier	Cornell Cooperative Extension Tompkins County	\$576,518.00
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 and was funded \$176,304.74. 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 as of June 2019.

Home Headquarters' contract ended November 13, 2019 and was funded \$74,384.55. The CCETC, with subcontractors from locally based Cornell Cooperative Extensions (Cortland, Madison, and Onondaga Counties), support outreach in the Central New York region as of April 2020.

The following highlights activities that were undertaken during the reporting period, as self-reported by the Community Energy Advisors:

- Many of the planned in-person outreach events were cancelled or postponed until further notice due to the COVID-19 pandemic. As a result of the ongoing COVID-19 pandemic and related restrictions, outreach and engagement activities were conducted mostly virtually, and very limited in-person outreach activities took place in Q2 2021 as restrictions began to be lifted.
- Advisors continued to leverage their social media platforms and other channels (e.g., email blasts, newsletters, etc.) to conduct outreach and engagement. Examples of these strategies include:
  - North Country Community Energy Advisors hosted a virtual Facebook live series called “Pathways to Energy Efficiency” on a range of clean energy topics in summer 2020.
  - Mohawk Valley Community Energy Advisors, who also worked on the HeatSmart community campaigns in the region, developed a streamlined web-based intake process branded as “HeatSmart Mohawk Valley” to quickly and easily allow users to sign up for information on incentives for a range of programs based on (1) property type, (2) whether they own or rent, (3) the county they live in, (4) household occupancy information, and (5) some basic property information. The online intake tool also asks users for their contact information so that a Community Energy Advisor can follow-up with them to discuss applicable programs to assist the customer with their energy needs.
- An additional \$100,000 in funding was awarded for an additional regionally specific initiative, bringing the total funding awarded for five pilot projects to \$435,712 to pilot different strategies for outreach and to expand the reach of CEEP.
- Community Energy Advisors have conducted outreach to approximately 5,276 potential customers regarding clean energy opportunities, resulting in more than 8,800 opportunities for clean energy programs. Opportunities are referrals to NYSERDA or non-NYSERDA clean energy programs that are self-reported by the Community Energy Advisors.
- Community Energy Advisors continued targeted program outreach focused on key residential programs such as Assisted Home Performance with ENERGY STAR®, Empower New York and Home Performance with ENERGY STAR®, with 2,483, 2,237 and 1,426 opportunities (leads)—self-reported as of June 30, 2021, respectively.
- Advisors promoted the Solar for All program for low- to moderate-income customers to receive a no cost solar subscription and the Green Jobs - Green New York (GJGNY) Energy Study Program for small businesses and nonprofits to obtain a reduced cost energy efficiency study and an energy study report detailing recommended energy efficiency measures. As of June 30, 2021, there were 373 Solar for All projects and 173 GJGNY Energy Study opportunities (leads) self-reported by the CEEP contractors.

- Leveraging private investment from other sources to support implementation of clean energy projects continued through CEEP. As of June 30, 2021, Community Energy Advisors reported a total of approximately \$7 million in non-NYSERDA private investment leveraged for projects. This includes but is not limited to funding from Community Development Block Grant funds (CDBG), Home Energy Assistance Program (HEAP), NYS HOME program, home repair dollars, weatherization, Heating Equipment Repair and Replacement (HERR) benefit funds, utility incentives, etc. to implement clean energy projects.
- The Community Energy Advisors across the State continue to evaluate options for conducting outreach and engagement virtually in the future and will evaluate in-person outreach as further guidance on COVID-19 and rising infection rates become available.

## 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, 2020 through June 30, 2021. A comprehensive list of completed GJGNY evaluation activities and links to evaluation reports can be found in the 2020 Green Jobs - Green New York Annual Report posted on NYSERDA's web site.<sup>25</sup> Additionally, evaluation contractor reports are posted on NYSERDA's website for public use once completed.<sup>26</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 recommended in the audit can elect to either use a NYSERDA contractor through Assisted 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 and generates savings not captured or recorded as contributing toward the State's energy goals. To estimate these savings, a Measure Adoption Rate (MAR) evaluation of the GJGNY-funded, audit-only projects for studies is undertaken periodically. In 2020, a MAR evaluation assessing audits completed between 2016 and 2018 was finalized.

The MAR evaluation indicates the GJGNY audit-only projects resulted in an overall long-term evaluation of 0.46 for a combination of measures. The total installed source equivalent energy savings for the entire audit only population is 421,819 million British thermal units (MMBtu), which amounts to an average savings value of 26 MMBtu per GJGNY Audit-only household with installed measures. An assessment of individual measures was also conducted. The MAR varied based on the measure and fuel type with programmable thermostat and cooling measures yielding the highest MAR values of 0.61 and 0.73, respectively. Insulation and air-sealing measures were the most commonly recommended and installed measures, accounting for 50% of the installed measure count and 70% of the installed energy savings. Hot water heating measures were at the low end with a 0.17 adoption rate. Additionally, electric measures were more commonly installed than fossil fuel-saving measures, as can be seen in the MAR values in Table 2 of the report.<sup>27</sup>

## 6.2 Evaluation Contracts

External contracts related to the evaluation of the GJGNY program during the reporting period are detailed in Table 13.

**Table 13. Evaluation Contracts**

Identification Number	Contractor	Description
140428	Energy & Resource Solutions Inc.	GJGNY Audit Only Impact Study

# Endnotes

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- 1 Visit [nysersda.ny.gov/Researchers-and-Policymakers/Green-Jobs-Green-New-York/GJGNY-LMI-Working-Group](https://nysersda.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 Visit [nysersda.ny.gov/-/media/Files/EDPPP/GJGNY/Advisory-Council-Updates/GJGNY-Community-Outreach-Working-Group-Recommendations.pdf](https://nysersda.ny.gov/-/media/Files/EDPPP/GJGNY/Advisory-Council-Updates/GJGNY-Community-Outreach-Working-Group-Recommendations.pdf)
- 3 Visit [nysersda.ny.gov/-/media/Files/EDPPP/GJGNY/Advisory-Council-Updates/GJGNY-Workforce-Development-Recommendations.pdf](https://nysersda.ny.gov/-/media/Files/EDPPP/GJGNY/Advisory-Council-Updates/GJGNY-Workforce-Development-Recommendations.pdf)
- 4 Visit [nysersda.ny.gov/Researchers-and-Policymakers/Green-Jobs-Green-New-York/Advisory-Council/Meetings](https://nysersda.ny.gov/Researchers-and-Policymakers/Green-Jobs-Green-New-York/Advisory-Council/Meetings) to view Advisory Council meeting documentation.
- 5 Visit [ny.gov/programs/open-ny](https://ny.gov/programs/open-ny) to access datasets on Open NY
- 6 Visit [nysersda.ny.gov/Partners-and-Investors/Partner-With-NYSERDA/Residential-Market-Advisory-Group](https://nysersda.ny.gov/Partners-and-Investors/Partner-With-NYSERDA/Residential-Market-Advisory-Group)
- 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 [nysersda.ny.gov/About/Clean-Energy-Fund](https://nysersda.ny.gov/About/Clean-Energy-Fund) for information regarding CEF initiatives and budgets.
- 8 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 [nysersda.ny.gov/About/Clean-Energy-Fund](https://nysersda.ny.gov/About/Clean-Energy-Fund) for more information about the CEF.
- 9 Visit [forward.ny.gov](https://forward.ny.gov) for more information on New York State guidance regarding COVID-19.
- 10 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.
- 11 These incentives are provided through the Clean Energy Fund (CEF) or Regional Greenhouse Gas Initiative (RGGI).
- 12 NYSERDA. 2012. "Process Evaluation and Market Characterization and Assessment: Green Jobs - Green New York Residential Program," [nysersda.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2012ContractorReports/2012-GJGNY-MCA-Report.pdf](https://nysersda.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2012ContractorReports/2012-GJGNY-MCA-Report.pdf)
- 13 Visit [nysersda.ny.gov/About/Newsroom/2020-Announcements/2020-07-27-Governor-Cuomo-Announces-Clean-Energy-Investments-to-Benefit-Over-350000-Low-to-moderate-Income-Households](https://nysersda.ny.gov/About/Newsroom/2020-Announcements/2020-07-27-Governor-Cuomo-Announces-Clean-Energy-Investments-to-Benefit-Over-350000-Low-to-moderate-Income-Households) to learn more about Statewide LMI Portfolio.
- 14 Visit [nysersda.ny.gov/-/media/Files/EERP/GJGNY/Small-Business/Energy-Assessment-Standards.pdf](https://nysersda.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.
- 15 Visit [nysersda.ny.gov/All-Programs/Programs/Small-Commercial-Energy-Assessments](https://nysersda.ny.gov/All-Programs/Programs/Small-Commercial-Energy-Assessments) for information about NYSERDA's subsidized audits for Small Commercial/Not-For-Profits.
- 16 Visit [nysersda.ny.gov/Contractors/Find-a-Contractor/FlexTech-Consultants](https://nysersda.ny.gov/Contractors/Find-a-Contractor/FlexTech-Consultants)
- 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.nysersda.ny.gov/CORE\\_Solicitation\\_Detail\\_Page?SolicitationId=a0rt000000QnxFAAS](https://portal.nysersda.ny.gov/CORE_Solicitation_Detail_Page?SolicitationId=a0rt000000QnxFAAS) for details about Program Opportunity Notice 2112, NY-Sun Residential/Nonresidential Incentive Program.
- 19 Visit [nysersda.ny.gov/All-Programs/Programs/NY-Sun](https://nysersda.ny.gov/All-Programs/Programs/NY-Sun) for more information about NY-Sun.
- 20 Incentives for Renewable Heat NY are funded through the Regional Greenhouse Gas Initiative and the Clean Energy Fund.
- 21 Visit [nysersda.ny.gov/All-Programs/Programs/Renewable-Heat-NY](https://nysersda.ny.gov/All-Programs/Programs/Renewable-Heat-NY) to learn more about Renewable Heat NY.
- 22 Visit <https://saveenergyny.ny.gov/NYScleanheat/> or further information about the program.

- <sup>23</sup> The GJGNY 2021 Annual report shows a decrease in the number of loans issued in “New York” county as compared to the number of loans reported in the GJGNY 2020 Annual report. This is due to the number of loans in “New York” county being reported incorrectly in the GJGNY 2020 Annual Report.
- <sup>24</sup> Visit [nysesda.ny.gov/-/media/Files/EDPPP/GJGNY/Advisory-Council-Updates/GJGNY-Workforce-Development-Recommendations.pdf](https://nysesda.ny.gov/-/media/Files/EDPPP/GJGNY/Advisory-Council-Updates/GJGNY-Workforce-Development-Recommendations.pdf)
- <sup>25</sup> Visit [nysesda.ny.gov/About/Publications/GJGNY-Advisory-Council-Reports](https://nysesda.ny.gov/About/Publications/GJGNY-Advisory-Council-Reports)
- <sup>26</sup> Visit [nysesda.ny.gov/About/Publications/Program-Planning-Status-and-Evaluation-Reports/Evaluation-Contractor-Reports](https://nysesda.ny.gov/About/Publications/Program-Planning-Status-and-Evaluation-Reports/Evaluation-Contractor-Reports) to view completed evaluation reports.
- <sup>27</sup> Visit [nysesda.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2016-2018-GJGNY-Audit-Only-MAR-Impact-Evaluation-Report.pdf](https://nysesda.ny.gov/-/media/Files/Publications/PPSER/Program-Evaluation/2016-2018-GJGNY-Audit-Only-MAR-Impact-Evaluation-Report.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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