

Green Jobs - Green New York (GJGNY) 10-Year Review

**Prepared by NYSERDA
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Background on Green Jobs – Green New York

- The Green Jobs - Green New York (GJGNY) Act of 2009 was signed into law on October 9, 2009.
 - Established a revolving loan fund to finance the cost of approved qualified energy efficiency services for residential, multifamily, and nonresidential structures
 - Directed to target communities where energy costs are particularly high in relation to median household income
- Governor Andrew M. Cuomo signed the Power NY Act of 2011.
 - An On-Bill Recovery Financing Program was established for GJGNY project financing
 - Maximum loan limits for residential consumers were increased
- Advisory Council consists of nine ex-officio members and 22 appointed members.
 - Members 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

Funding for GJGNY

- The Act allocated \$112 million in funding from New York State's share of the Regional Greenhouse Gas Initiative (RGGI) to support GJGNY.
- In 2010, NYSERDA received a U.S. 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.
- Over time, NYSERDA supplemented the initial GJGNY program funding with \$93.4M in additional RGGI funds.
- Six series of bonds totaling \$176.4M were issued to replenish the GJGNY residential revolving loan fund since August 2013. Series 2018A and Series 2019A both achieved an A rating by Kroll Bond Rating Agency. Series 2018A is Climate Bond Certified and Series 2019A is a Green Bond issuance.

Program Evaluation and Select Outcomes

Jobs:

- An evaluation concluded in 2016 indicated that GJGNY-related work via NYSERDA programs resulted in a total of 2,627 direct jobs in 2014 and 2015. Direct jobs include new jobs added because of GJGNY-related work and retained jobs that would have been let go without GJGNY-related work but were retained because of that work. Approximately three-fourths (73%) of direct jobs were new jobs and one-fourth (27%) were retained jobs.
 - Of the total 2,627 direct jobs, 1,237 (47%) occurred through the Workforce Development and Training program. Another 863 jobs (33%) were added or retained in various positions in 2014 and 2015 because of GJGNY-funded activities of the NY-Sun Initiative, and 471 jobs (18%) were added or retained because of the Home Performance with ENERGY STAR[®] program.
 - Nearly one-third of all direct jobs from 2014 and 2015 GJGNY program activities were in a disadvantaged community (833.7 direct jobs).
- The evaluation included a macroeconomic assessment of the total (direct, indirect, and induced) job impact, economic output, labor income, and gross State product impacts from the GJGNY program.
 - The total impact of the GJGNY program in program years 2014 and 2015 was 5,357 jobs, accounting for \$297.1 million in additional labor income.
 - For program years 2014 and 2015, the GJGNY program added \$463.1 million to New York's GSP and \$945.7 million in total economic output.

Retrofits:

- An impact evaluation of the residential Home Performance with Energy Star program included an assessment of energy-saving impacts associated with homeowners who received a GJGNY audit but did not pursue participation in a program.
 - More than four-fifths of the respondents (84%) reported that one or more major measures were recommended and about 71% of the respondents installed all major measures recommended in the audit report. Insulation and air sealing were the two most frequently recommended and installed measures.

GJGNY status updates and evaluation reports are available online:

- Status Reports: nyserda.ny.gov/About/Publications/GJGNY-Advisory-Council-Reports
- Evaluation Reports: nyserda.ny.gov/About/Publications/Program-Planning-Status-and-Evaluation-Reports/Evaluation-Plans

Highlights – Workforce Development and Training

- From the program’s inception, 4,184 New Yorkers were trained in a range of energy efficiency and renewable energy courses.
 - Funding for training providers: \$600,000 contracted to train 609 people.
 - On-the-job training: \$1.67 million in wage and training subsidies. There were 278 people hired and 13 incumbent workers were promoted. Average wage was \$16.97/hour.
 - Worker readiness training: \$222,281 contracted to train 250 people.
 - Oil heat efficiency training and Small Commercial Energy Assessment curriculum development: \$600,000 issued to train 988 people.
 - Solar thermal training: \$300,000 issued to train 241 people.
 - Technical training: \$1.48 million issued to train 1,557 people.
 - Contractor exchange workshops: \$150,000 funded five workshops attended by 300 contractors.
 - Career pathways: \$367,000 in funding. A total of 121 students participated, with 32 graduates to date.
 - Training and field-testing houses: \$591,541 in funding to support building four houses.

Highlights – Financing

- Loans Issued:
 - 24,632 residential loans totaling \$288,786,100 with outstanding balance of \$203,390,296
 - 23 multifamily loans totaling \$3,859,897 with outstanding balance of \$553,148
 - 75 small commercial and not-for-profit loans totaling \$2,386,776 with outstanding balance of \$1,501,842
- Established Tier 2 loans with expanded underwriting criteria to allow single-family residential applicants with lower credit scores and higher debt-to-income to qualify for loans who otherwise would not qualify for traditional financing. The program helped 4,592 consumers, 18.6% of total loans issued.
- Issued 2013 bonds using first-in-nation use of State Clean Water Revolving Fund guarantee.
- Issued 2018/2019 bonds reaching A rating by Kroll Bond Rating Agency structured as Green Bonds.
- The 2019 bonds included residential solar and energy efficiency loans and Tier 2 loans meeting five years of payment performance history.
- Creation of Open NY data set on the performance of all portfolio loans to allow for improved transparency, ability for stakeholders (lender/capital providers, potential investors, credit agencies) to access data for further analysis on loan performance and portfolio attributes

Loans Summary – Residential

RESIDENTIAL						
Purpose	Number of Applications Received*	% of Total	Number of Loans Issued	% of Total	Loans Issued	% of Total
Energy Efficiency	36,618	73.70%	16,770	68.10%	\$158,305,798	54.80%
Solar (includes Energy Efficiency)	12,838	25.80%	7,792	31.60%	\$129,751,884	44.90%
RHNY (includes Energy Efficiency)	169	0.30%	48	0.20%	\$425,473	0.10%
Ground Source Heat Pumps	33	0.10%	11	0.00%	\$227,395	0.10%
Solar Thermal	19	0.00%	11	0.00%	\$75,549	0.00%
Residential Total	49,677	100.00%	24,632	100.00%	\$288,786,099	100.00%
Loan Type						
Smart Energy Loans			16,453	66.80%	\$173,621,147	60.10%
On-Bill Recovery Loans			8,179	33.20%	\$115,164,952	39.90%
Residential Total			24,632	100.00%	\$288,786,099	100.00%

* Applications Received include loans with the following status: (1) Closed, (2) Approved, (3) Conditional Preapproval, (4) Final Preapproval, (5) Pending, (6) Denied, (7) Withdrawn. Of these, 34,121 are approved or closed, and 9,984 are denied representing a total approval rate of 77%.

Loans Summary – Multifamily and Small Commercial

MULTIFAMILY			
	Number	NYSERDA Share of Total Loan Value	Total Loan Value
Participation Agreements Approved	22	\$3,834,685	\$12,099,798
Multifamily Total	22	\$3,834,685	\$12,099,798

Loans Summary – Small Commercial

SMALL COMMERCIAL			
	Number	NYSERDA Share of Total Loan Value	Total Loan Value**
Applications Approved*			
Participation Loans	150	\$3,070,091	\$6,439,073
On-Bill Recovery	91	\$2,851,504	\$2,851,504
Loans Closed			
Participation Loans	32	\$1,024,325	\$2,304,334
On-Bill Recovery	43	\$1,362,451	\$1,362,451
Small Commercial Total	75	\$2,386,776	\$3,666,785
The Small Commercial Energy Efficiency Financing Program has 13 participating lenders.			
* Customer applications are assessed for both Participation Loan and On-Bill Recovery Loan eligibility prior to approval. Approved application values are inclusive of loans that have moved forward to closure.			
**The total loan value represents the total value of the loan issued by the lender to the borrower. The total loan value may include financing for non-energy efficiency projects. NYSERDA's share of the total loan value represents 50% of the total energy project cost or \$50,000, whichever is less.			

Audits Summary – All Sectors

RESIDENTIAL			
	Free	Reduced Cost	Program Total
Audits Completed	122,391	9,510	131,901
Note: Reported data includes all audits offered through the Residential Free/Reduced-Cost Energy Audit Program. In mid-2016, NYSERDA began using CEF funds for audits in CEF electric utility territories.			

MULTIFAMILY			
	Affordable Housing	Market Rate Housing	Program Total
Audits Completed	186	130	316

SMALL COMMERCIAL			
	GJGNY Funded	ARRA Funded*	Program Total
Audits Completed	3,367	849	4,216
*The GJGNY Act of 2009 restricts the provision of GJGNY-funded energy assessments to small business and not-for-profit organizations with 10 employees or less. American Recovery and Reinvestment Act of 2009 (ARRA) funds were used for eligible small business and not-for-profit organizations that have more than ten employees. ARRA funding expired on September 30, 2013.			

Highlights – Residential Audits

- Received 181,145 free or reduced cost audit applications.
 - 161,501 approved for free audit
 - 13,167 approved for reduced cost audit
 - 131,901 audits complete
 - 39,477 projects completed through Home Performance with ENERGY STAR (30% conversion rate) with additional projects being completed outside of NYSERDA’s program
- Since the launch of GJGNY, 55,331 projects have been completed, of which 22,895 projects were completed through Assisted Home Performance with ENERGY STAR (income qualified customers, up to 80% of county median income), and 32,436 were completed through Home Performance with ENERGY STAR (Market Rate).
- Since the launch of GJGNY, 384 contractors have participated in the Home Performance/Assisted Home Performance with ENERGY STAR programs, with 317 contractors closing a project with a loan and 183 contractors closing a project with a Constituency Based Organization (CBO) or Community Energy Advisor affiliation.
- Program evaluation shows the following:
 - More than 60% of customers do some sort of energy efficiency work as a result of the energy audit. Although conversion through the program is around 30%, many free audit programs have low conversion rates — this is a successful rate by comparison.
 - Contractors feel the audit program is a good lead generation source and lowers customer acquisition costs because the audit is compensated.
 - Customers find the audit reports to be informative and enjoy receiving a plan to improve their home, which is prioritized and can be completed over time. The availability of incentive programs and financing for those who receive an audit is an important component to success.

Highlights – Small Commercial Audits

- A total of 4,216 audits were completed for small business and not-for-profits between 2014 and 2016.
- A FlexTech program is currently utilized for this target audience.
- An updated small commercial offering launched in March 2019, offering subsidized energy studies (assessments) for GJGNY-eligible small businesses and not-for-profits. More than 20 studies were initiated as of May 15, 2019.
- The updated small commercial offering utilizes:
 - Centralized process to manage communications and contractors providing the audits
 - Standardized calculations and report template
 - Coordination with NYSERDA’s Communities and Local Government team and Community Energy Engagement Program Clean Energy Advisors

Highlights – Multifamily Audits

- A total of 316 audits were completed for multifamily buildings
- Energy savings for installations in 61,795 units estimated at 53,208 MWh and 840,317 MMBtu
- Program evaluation shows:
 - Building owners find the audit and funding for the audit to be helpful in developing an energy efficiency scope of work. The GJGNY audit funding supported many projects to include energy efficiency improvements as part of a larger capital planning project.
 - The audit was found to be a reliable, unbiased source of information by the building owner. This encouraged adoption of the work scope.

Highlights – Marketing

- Developed a marketing plan to build awareness of the program and drive participation targeting small businesses, not-for-profit organizations, multifamily building owners, and residents across the State.
- Conducted audience specific research to gather insights on motivators and barriers related to energy efficiency improvements and financing, test understanding, benefits and appeal of the offers/enhancements through GJGNY; and uncover barriers to participation.
- Created and distributed comprehensive suite of collateral materials to support the outreach and marketing conducted by the CBOs.
- Developed multilingual materials for use by CBOs.

Highlights – Outreach

- In total, NYSERDA provided \$16.5 million for outreach and engagement services through two programs:
 - GJGNY CBO Outreach Program: Approximately \$11.0 million from the fall of 2011 through March 2017 supported by 12 CBOs.
 - Community Energy Engagement Program (CEEP): Approximately \$5.5 million via the Clean Energy Fund (CEF) and Regional Greenhouse Gas Initiative (RGGI) funding from 2017 through 2020 and is supported by two CBOs and eight locally based organizations.
- An evaluation of the GJGNY Outreach and CBO initiative found that CBOs are effective in recruiting household members who had not heard of traditional NYSERDA programs. Typically, these household members are more likely to live in older homes, identify as non-Caucasian, and have lower incomes and less education than non-CBO-affiliated Home Performance with ENERGY STAR participants.
- From the fall of 2011 through March 2017, CBOs via the GJGNY Outreach Program were responsible for 5,014 completed assessments resulting in 1,500 completed retrofits. Approximately 52% of those retrofits were for Assisted Home Performance with ENERGY STAR customers who have a household income of up to 80% of the S/AMI.
- From the fall of 2017 through December 2018, Community Energy Advisors via the CEEP were responsible for \$2,001,328 in leveraged funds received by customers, 35 new partnerships developed with other locally based organizations and 1,132 customers as reported by the Advisors as referred to clean energy programs.

Program Improvement Measures

- **Workforce Development:** Workforce training programs and contracts were routinely changed or modified throughout the course of GJGNY to address stakeholder input, market response, or program needs. For example, interest in developing new apprenticeship programs was not as great as originally anticipated. When a need for contractor workshops was identified, NYSERDA issued a Request for Proposals to conduct workshops across the State.
- **Residential Audits:** The audit application process was streamlined in 2014 to reduce the steps needed to be taken by the homeowner. With submission of utility bills copies noted as a barrier to participation, this requirement was moved to later in the process. The reduction of questions asked on the application, change in the utility bill submission requirement, and enhancement to the online application to support immediate approvals reduced NYSERDA's administrative costs and made it easier for customers to participate. The automated approvals for most customers have been helpful to the participating contractors who can get their customers qualified while on-site.
- **Small Commercial Audits:** Newest offering just launched in March 2019 offering subsidized energy studies (assessments) for GJGNY-eligible small businesses and not-for-profits. Lessons learned are to be determined.
- **Multifamily Audits:** There is a landlord/tenant split incentive barrier for building owners that invest in measures done in tenant spaces and that lower tenant bills from those done in common areas or in master metered areas that lower owners' bills. The program updated its tools to identify opportunities for both building owners and tenants. (Multifamily Performance Program Process Evaluation and Market Characterization, pg. S-8.)
- **Financing:** On-line loan system and e-signature of loan documents make applying and issuing loans easier and faster for customers; Loan portfolio analysis supports that higher credit scores are indicative of good loan performance, which allowed the streamlining of underwriting criteria and required income documentation for clients with a credit score of 780+. Several revisions to loan interest rates were made to ensure volume could be met with funding available and to simplify.
- **Marketing:** Pivoted from leading with the brand of GJGNY to the talking about individual offers and features of GJGNY (e.g., On-Bill Recovery)
- **Outreach:** After GJGNY funding was expended, NYSERDA continues locally based outreach and engagement efforts through the Clean Energy Engagement Program (CEEP) with funding provided via the Clean Energy Fund and Regional Greenhouse Gas Initiative. As recommended through the GJGNY Community Outreach Discussion Working Group Recommendations, outreach was expanded statewide via CEEP with a regional approach for the 10 Economic Development Regions. Also recommended by the Group, CEEP expanded the pool of eligible outreach organizations beyond CBOs to include other locally based organizations with a strong local presence uniquely qualified to provide services to communities within each Region.

Moving Forward

- **Workforce Development:** Many of the current workforce training initiatives supported through the CEF were informed by lessons learned through EEPS and GJGNY. For example, hands-on training and support for businesses hiring workers were priorities under GJGNY and they continue to be through CEF programs that fund interns, new hires, and hands-on training (\$17M+ commitment for interns and hands-on training programs).
- **Residential Audits**
 - The requirements for a GJGNY audit will be revised to allow for different approaches to completing energy audits and to be applicable in more programs than just the Home Performance with ENERGY STAR Program.
 - Changes will be made in order to reduce steps required of contractors in a home while still supporting customers receiving accurate reports of their home's energy performance.
 - NYSERDA will be defining standards for audits on single systems when a customer is seeking GJGNY financing. This will allow for proper evaluation of systems (such as an HVAC system) to be completed in instances when a customer does not wish to have a whole-home energy assessment completed.
- **Small Commercial Audits:** Expected to continue offering subsidized energy audits as long as it's included in the legislation.
- **Multifamily Audits:** The Multifamily Performance Program continues to support building owners throughout the life cycle of the program by requiring a building audit to identify energy efficiency opportunities.
- **Financing**
 - Introduction of legislation amendment to replace current requirements for filing of OBR Declarations with a provision for the loan to be voluntarily and expressly assumed by a purchaser/transferee; and if not, the original borrower would be responsible for making loan payments directly to NYSERDA's loan servicer (and not on their utility bill).
 - Introduction of Market Rate Financing program to replace HPwES Program.
 - Annual issuance of bonds to capitalize the GJGNY residential revolving loan fund.
 - Additional modifications to underwriting criteria further streamline application process and decrease processing time.
 - Implementation of geo-based eligibility for GJGNY low-interest financing.

- Outreach
 - Outreach and community engagement continue under the CEEP. In 2019, outreach efforts will be expanded to include additional, targeted, regionally specific initiatives that drive increased adoption of energy efficiency and other clean energy solutions.
 - Additional low- to moderate-income outreach efforts have also been added to other program areas such as Clean Energy Communities (i.e., high-impact action for Solar for All), which is supported through an additional network of regionally based contractors — Clean Energy Coordinators.
- Evaluation: 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 perform their own installations. 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. NYSERDA will conduct an evaluation of GJGNY-funded audit-only projects for studies completed between 2014 and 2016 to estimate these savings. This evaluation is slated to begin in the third quarter of 2019 and results are expected in the first quarter of 2020.