

# **NY-Sun** Upstate + Long Island Program Manual



**NY-Sun**

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# Program Basics



## PROGRAM SUMMARY

### NY-Sun Incentive Program

The New York State Energy Research and Development Authority (NYSERDA) provides financial incentives and financing options through the NY-Sun Incentive Program for the installation of new grid-connected solar photovoltaic (solar electric) systems that offset the use of grid-supplied electricity.

Funding for the program has been allocated by the New York State Public Service Commission through the Clean Energy Fund (CEF) with additional funding made available through the Regional Greenhouse Gas Initiative. Incentives are granted on a first-come, first-served basis, and applications will be accepted through December 31, 2023, or until funds are fully committed.

The program is divided into the following regions and sectors:

- The region served by Con Edison (Con Ed)
  - > Residential up to 25kW
  - > Nonresidential up to 7.5MW
- The balance of the State (Upstate)
  - > Residential up to 25kW
  - > Nonresidential up to 750kW
  - > Commercial/Industrial 750kW to 7.5MW
- The region served by PSEG Long Island as the LIPA System Operator (Long Island)
  - > Residential up to 25kW
  - > Nonresidential up to 750kW

Community Distributed Generation (CDG) projects are eligible for nonresidential and commercial/industrial incentives and subject to all program rules and any rules adopted by the Public Service Commission. A CDG project sponsor is considered a program customer.

**This program manual contains the terms and conditions applicable to residential, nonresidential, and commercial/industrial projects in the Upstate and Long Island regions.** A separate program manual is available for residential and nonresidential projects in the Con Ed region.

# PROGRAM PARTICIPATION

The residential and nonresidential program relies on contractors and builders to implement new solar electric systems for customers seeking incentives through the program. Contractors are responsible for the contract with the customer, while builders are responsible for the installation of the system. A company approved as both a contractor and builder is responsible for all aspects of the project. Before a contractor and builder can work together, they must establish a contractor-builder relationship agreement through the program.

The commercial/industrial program relies on the contractor role only. For details on the roles and responsibilities of each, see the Qualifications, Roles, and Responsibilities sections.

Incentives are only available for new solar electric systems designed and installed by participating contractors and builders. Incentives in the residential program will be provided directly to the contractor of record for the project, not to the customer or builder. Incentives in the nonresidential and commercial/industrial programs will allow for payment assignment and/or full assignments.

To participate in the program, a company must submit a contractor application, which can be found at [nyserdera.ny.gov/become-a-solar-contractor](https://nyserdera.ny.gov/become-a-solar-contractor). Interested companies may apply in either program, as a participating contractor, builder, or both at any time while the program is open.

Once a company is approved in the program, they will be given access to the NYSERDA Portal to begin submitting project applications. Initially, contractors and builders in the program will be in a provisional status. See the Quality Assurance and Compliance section for details on participation status.

## Qualifications

### Experience

Prior experience with installation, shading analysis, or relevant skills; credentials; employment history; customer satisfaction; and other pertinent experiences will be considered. Applicants are also evaluated on past performance in this or other NYSERDA programs, if applicable.

Applicants are required to submit a quality assurance plan, organizational chart, and/or resumes of key personnel.

### Customer References

Residential and nonresidential program applicants must provide three verifiable solar electric customer references (customer name, address, phone, and email) for completed, grid-connected solar electric installations. System size (kilowatts), interconnection date, and the applicant's role in the project must be specified. Construction photos for the projects listed as a reference are required.

Applicants to the commercial and industrial program must provide three verifiable solar electric customer references (customer name, address, phone, and email) for completed, grid-connected solar electric installations that entered commercial operation in the past three years that, in aggregate, sum to at least 3MW. System size (kilowatts), interconnection date, and the applicant's role in the project must be specified. Construction photos for the projects listed as a reference are required.

### NYSERDA Programs

An application will not be approved if the applicant has unresolved customer or performance issues in this or other New York State programs



## Contractor Qualifications, Roles, and Responsibilities

The contractor role is necessary to participate in the residential, nonresidential and commercial/industrial programs.

### Contractor Qualifications

A contractor may use any business structure that is legal for conducting business in New York State (corporation, LLC, sole proprietorship, etc.). They must meet all program requirements, including required insurance coverage and have the capability to provide warranty services on all solar electric systems installed, as required by the program and State law.

A contractor must comply with all local authority requirements for registration and licensing that apply to solar electric system installations.

Visit [nyserdera.ny.gov/find-a-solar-contractor](https://nyserdera.ny.gov/find-a-solar-contractor) for a list of approved contractors.

### Contractor Roles and Responsibilities

- Holds the agreement with the customer
- Responsible for performance of builder or engineering, procurement, and construction (EPC) contractor
- Receives incentive payments unless payment assignment is identified
- Adheres to terms of participation agreement
- Adheres to terms of contractor and builder relationship agreement
- Responsible for customer complaints, warranties, and production guarantees

## SOLARIZE CONTRACTORS

Solarize campaigns are locally organized community outreach efforts aimed at getting a group of homes and businesses in one area to install solar. Contractors who participate in a Solarize campaign must be a NY-Sun participating builder or contractor and prequalified before responding to a Solarize campaign request for proposal (RFP). Information about Solarize can be found at [nyserdera.ny.gov/solarize](https://nyserdera.ny.gov/solarize). To become prequalified to participate in a Solarize campaign, a contractor must submit their name, mailing address, and federal employee identification number to [communitysolar@nyserdera.ny.gov](mailto:communitysolar@nyserdera.ny.gov).

By agreeing to participate in a Solarize campaign, the contractor is expected to act in good faith and follow proposed campaign guidelines. Only those Contractors or builders selected to participate in a campaign may use the Solarize name. The Solarize name is reserved solely for selected contractors.

If the status of selected contractor changes to either suspended or terminated, they must surrender all leads generated by the campaign to the Solarize program manager.

Failure to provide adequate services on previous Solarize campaigns may be grounds for rejecting future participation.



## Builder Qualifications, Roles, and Responsibilities

The contractor and builder role is necessary to participation in residential and nonresidential program only.

### Builder Qualifications

Builders are responsible for maintaining an on-staff individual who has fulfilled one of the credentialing paths. Companies applying for builder status must include a copy of their credentialing certificate.

#### 1. NABCEP (North American Board of Certified Energy Practitioners) PV Installation Professional Certification

Builders who choose to become credentialed through NABCEP must have a NABCEP certified PV Installation Professional on staff.

#### 2. IBEW-NECA Electrical Journeyman & Apprentice Training (International Brotherhood of Electrical Workers and National Electrical Contractors Association)

Builders who choose to become credentialed through the IBEW must have a journeyman electrician who completed an IBEW/NECA, NABCEP, or UL approved 40-hour PV training course on staff.

#### 3. UL (Underwriters Labs) PV System Installer

Builders who choose to become credentialed through UL must have a UL certified PV System Installer on staff.

### NYSERDA Logo Use

Solar contractors and builders are prohibited from using NYSERDA's logo on their website or any marketing materials.

### Builder Roles and Responsibilities

- Responsible for installation and quality of project
- Responsible for maintaining a credentialed person on staff
- Agrees to terms of contractor and builder relationship agreement

# CONTRACTOR AND BUILDER RESOURCES

Contractors and builders are encouraged to visit [nyserdera.ny.gov/solar-contractor-resources](https://nyserdera.ny.gov/solar-contractor-resources) for sample program documents, instructional guides, technical fact sheets, QA checklists and inspection criteria, and other program documents.

## SOLAR ANNOUNCEMENTS

Contractors and builders are responsible for staying current on all program updates by registering for email announcements at [nyserdera.ny.gov/solar-announcements](https://nyserdera.ny.gov/solar-announcements). NYSERDA provides email updates on upcoming conference calls, stakeholders meetings, and other program announcements.

## TAX CREDITS

Customers may be eligible for State and federal tax credits or qualify for real property tax exemptions and tax abatement programs, along with accelerated depreciation allowances. The contractor or builder should inform customers about the availability of tax credits and other governmental assistance, and advise them to consult with an attorney, accountant, or tax professional to determine eligibility.

Real property tax information can be found at the New York State Department of Taxation & Finance Office of Real Property Tax Services website. The real property tax exemption Form RP487 may be found at [tax.ny.gov/pdf/current\\_forms/orpts/rp487\\_fill\\_in.pdf](https://tax.ny.gov/pdf/current_forms/orpts/rp487_fill_in.pdf).

A list of jurisdictions that have opted out of the real property tax exemption and where access to Form RP487 does not apply may be found at <http://www.tax.ny.gov/research/property/legal/localop/487opt.htm>.



# INCENTIVE STRUCTURE

Incentives are available on a first-come, first-served basis and are based on direct current (DC) module wattage ratings at standard test conditions (nameplate rating).

The program is based on a megawatt (MW) block model—an incentive structure designed to provide certainty and transparency around incentive levels; account for regional market differences; clarify that New York State intends to phase out cash incentives in a reasonable time frame; and eliminate those incentives sooner in regions where market conditions can support it, based on market penetration, demand, and payback.

The MW block approach allocates megawatt targets to specific regions of the State, breaks those targets into blocks, and assigns incentives per block. Incentives are awarded based on the block in effect at the time of submission. Once all blocks within a region/sector are fully subscribed, the incentive is no longer available to that region/sector. NYSERDA will monitor market conditions and MW block subscription and adjust accordingly. NYSERDA will notify stakeholders in advance of any planned changes.

## Regional MW Blocks and Sectors

- The balance of the State (Upstate)
  - > Residential up to 25kW
  - > Nonresidential up to 750kW
  - > Commercial/Industrial 750kW to 7.5MW
- The region served by PSEG Long Island as the LIPA System Operator (Long Island)
  - > Residential up to 25kW
  - > Nonresidential up to 750kW

Incentives are reserved at the incentive level designated in the MW block in effect at time of application submission. Program incentives are not awarded until a project has achieved an approved status.

Information on the MW block design, including real-time data on the current incentive levels for Upstate can be found by visiting [nyserdera.ny.gov/upstate-dashboard](https://nyserdera.ny.gov/upstate-dashboard) and for Long Island at [nyserdera.ny.gov/LI-dashboard](https://nyserdera.ny.gov/LI-dashboard).

The type of incentive is based by the residential or nonresidential service classification of the meter, as determined by the utility. A site/meter is where the solar electric system will be interconnected to the utility. Farms meeting the Agriculture and Markets Law 301 definition of “farm operation” will be considered nonresidential.

If multiple existing meters serving customer load are present, multiple systems may be eligible for incentives. The incentive cap will apply to each meter. For example, a shopping mall with four existing separately metered businesses constitutes four “sites/meters,” each of which may be eligible for incentives, subject to the kilowatt and usage caps.

Co-location of multiple solar electric systems on the same site or tax parcel in which a significant portion of the generation is credited to off-site accounts are not eligible. Sites designated as a brownfield or landfill are exempt from this rule. See Available Incentive Adders section for additional details.

Incentives for New York Power Authority (NYPA) customers will be the same as those for non-NYPA customers.

Once a project application has been submitted in the portal, no changes to the contractor, payee, site address, metering type, or customer name are allowed. If such a change is requested, the application will be canceled and an updated one will need to be submitted, at the current incentive level.

Commercial/industrial projects will be allowed to request a full assignment which would transfer roles and responsibilities to another approved NY-Sun Contractor. See additional details in Assignments section.

NYSERDA reserves the right to deny newly submitted applications if the contractor or builder is delinquent in installation milestones for other solar electric projects with an approved status.

For direct purchase transactions, the agreement between the customer and contractor must clearly show the full amount of the NYSERDA incentive being applied to the total solar electric system price. For lease or power purchase agreement (PPA) transactions, the value of the NYSERDA incentive must be applied to reduce the kilowatt-hour cost.

Any contractor or builder who moves forward with the installation of a project that does not yet have an approved status, does so at their own financial risk. Projects completed prior to being submitted to NYSERDA are not eligible to receive program incentives.

Once the project is approved, the contractor or builder will be notified of the incentive amount. This amount will not change assuming the solar electric system is installed as approved and within the terms and conditions of the program.

Nonresidential projects submitted as of December 14, 2017 may not cancel and reapply. Change orders for these projects to obtain an additional incentive up to 750kW will not be processed. Contractors or builders will be allowed to submit a new application for an expansion to a completed project.

Commercial/industrial projects submitted as of December 14, 2017 may not cancel and reapply. Change orders for these projects to obtain an additional incentive up to 7.5MW will not be processed. Contractors will be allowed to submit a new application for an expansion to a completed project.

## System Size Cap

Project incentives are capped at the following system sizes:

Sector	System Size Cap
Residential	25kW
Nonresidential	750kW
Commercial/Industrial	7.5MW

Projects larger than 750kW in Upstate region are not eligible for nonresidential incentives and must be submitted to the commercial/industrial program.

Residential projects calculated to offset more than 110% of the systems annual electric usage are not eligible for incentives or financing. New construction residential systems must not exceed 110% of the calculated yearly projected kilowatt-hour of electric usage. These caps do not apply to nonresidential and commercial/industrial projects.

## Expansion of Completed Systems

Additional incentives for the expansion of a project previously completed in the program may be requested. The initial application must be completed in its entirety, and the new application must indicate that it is an expansion system.

Residential projects will continue to be capped at 110% of the systems annual electric usage and 25kW.

Nonresidential projects may submit a new application for an additional 750kW expansion system beyond the previously completed system. Commercial/industrial projects will be capped so that the aggregate system size between the initial system and expansion system does not exceed 7.5MW. All required documents must be submitted.

## Available Incentive Adders

The contractor or builder is responsible for selecting an adder, if any, on the project application prior to submission. No array or solar panel can have more than one incentive adder. Nonresidential projects in Long Island are not eligible for incentive adders.

### Affordable Solar Residential Incentive

Additional incentives for solar electric installations are available for households that qualify as low- to moderate-income, through the Affordable Solar Residential Incentive. To apply, the customer must submit the Affordable Solar incentive eligibility application found at [nyserda.ny.gov/affordable-solar](https://nyserda.ny.gov/affordable-solar) to NYSEERDA's income eligibility service provider.

Projects eligible for the Affordable Solar Residential Incentive will receive a total incentive of \$.80/W of nameplate capacity in Upstate region, and \$.40/W in Long Island region, up to a cap of 6kW. For projects greater than 6kW in capacity, the standard MW block incentive will also apply for nameplate capacity above 6kW. In cases where the standard incentive would be reduced due to losses from shading, azimuth, and tilt, the Affordable Solar Residential Incentive will be likewise reduced, per the System Losses section in the System Technical Requirements.

If the standard program incentive in the final MW block is exhausted, eligible projects will continue to receive the Affordable Solar Residential Incentive up to 6kW of nameplate capacity until the Affordable Solar Residential Incentive funding is exhausted.

### To be eligible for the Affordable Solar Residential Incentive, a project must meet all requirements of the program, and:

- Service the owner-occupied residence of a customer verified as income-eligible according to program rules, or service a residential affordable housing property that has documented eligibility. See Applying for Incentives section for details.
- Attest to the installation of lighting efficiency and hot water efficiency upgrades in the project residence, to include
  - > High-efficiency lighting in high-use areas of the residence.
  - > Low-flow faucet aerators, if the residence has an electric water heating system.
- Have a nameplate capacity equivalent to but not greater than the lower of
  - > 110% of projected annual energy usage after implementation of required efficiency upgrades.
  - > 100% of current annual energy usage.
- Provide annual cost savings to the customer for the full lifetime of the solar electric system installation, as demonstrated through the Residential Savings Calculator for Affordable Solar.
- Include an escalation of monthly payment or energy rate no greater than 1.5% annually, if financed through a lease or PPA.

The Affordable Solar Residential Incentive cannot be applied to an expansion of a completed system project.

### Multifamily Affordable Housing Incentive

Additional incentives for solar electric installations are available for nonresidential projects serving multifamily affordable housing properties. In addition to the standard nonresidential incentive, eligible projects will receive an additional \$.30/W incentive for the first 50kW of the project. Project capacity above 50kW will receive the applicable nonresidential base incentive.



**To be eligible for the Multifamily Affordable Housing Incentive, a project must meet all requirements of the program, and:**

- Project must be sited at an affordable housing property that has documented eligibility (see required documents under Applying for Incentives section); and
- Offset the usage of the affordable housing property (behind-the-meter) or its residents (Community Distributed Generation from system located on property).

Projects sited at eligible affordable housing properties and offset the usage of other eligible affordable housing properties and/or residents within the same affordable housing development or portfolio may be eligible, subject to review by NYSERDA. Projects sited at eligible affordable housing properties and meter a portion of their generation to the property as a Community Distributed Generation “anchor” subscriber may receive added incentive on the equivalent portion of the project’s capacity, subject to review by NYSERDA and a binding long-term subscription contract.

**Brownfield/Landfill Solar Incentive**

Additional incentives are available for ground mounted systems on brownfields or landfills for nonresidential and commercial/industrial projects. In addition to the standard nonresidential incentive, eligible projects will receive an additional \$.10/W incentive. Eligible systems must be located on a designed brownfield or landfill site as defined by the New York Codes Rules and Regulations (NYCRR), Title 6, parts 375 or 360 respectively or United States Environmental Protection Agency. See [dos.ny.gov/info/nycrr.html](https://dos.ny.gov/info/nycrr.html), [epa.gov/brownfields](https://epa.gov/brownfields), or [epa.gov/landfills](https://epa.gov/landfills) for more information.

The brownfield/landfill added incentive must be identified at time of application. Projects located on a brownfield or landfill are allowed to co-locate projects. Sites that do not have a registry number will be required to submit the eligibility form to NYSERDA for preapproval prior to submitting project application. The eligibility form can be found at: [nyserdera.ny.gov/solar-contractor-resources](https://nyserdera.ny.gov/solar-contractor-resources).

# FINANCING

## Residential Customers

A residential customer with an existing home of four units or less may be eligible to finance the purchase of their solar electric system through NYSERDA's Green Jobs – Green New York (GJGNY) loan program using either a Smart Energy Loan or On-Bill Recovery. Residential members of CDG projects are not eligible for GJGNY financing.

To access the loan, a contractor must register with the GJGNY loan service provider. To register, visit [nyserdera.ny.gov/solar-contractor-resources](https://nyserdera.ny.gov/solar-contractor-resources) and complete and submit the loan servicer's contractor application packet.

### The packet consists of the following documentation:

- Contractor Application
- Participation Agreement
- ACH Authorization Form (allows for electronic transfer of loan proceeds – optional)
- IRS form W-9
- Certificate of Insurance

Contractors should email a completed application packet to: [efs@energyfinancesolutions.com](mailto:efs@energyfinancesolutions.com). Notification of approval or request for additional information can be expected within five days.

Customers can apply online or download an application at [www.energyfinancesolutions.com](http://www.energyfinancesolutions.com).

## Nonresidential and Not-for-Profit Customers

A nonresidential or not-for-profit customer may be eligible to finance the purchase of their solar electric system through NYSERDA's GJGNY loan program. A customer who wishes to finance their system will rely on the contractor to submit a request for financing to NYSERDA on their behalf. NYSERDA will review the request for financing and provide the customer with a letter approving or denying the eligibility of the system. If the system is approved as eligible by NYSERDA, the customer must submit the approval letter to a participating lender as part of their loan application. If the customer is approved for financing by the lender, the customer will receive the loan proceeds directly from the lender. Go to [nyserdera.ny.gov/small-commercial-financing](https://nyserdera.ny.gov/small-commercial-financing) for additional information on nonresidential and not-for-profit customers.

Contractors should email a completed application packet to: [efs@energyfinancesolutions.com](mailto:efs@energyfinancesolutions.com). Application packets can be found at [nyserdera.ny.gov/solar-contractor-resources](https://nyserdera.ny.gov/solar-contractor-resources). Notification of approval or request for additional information can be expected within five days.

Commercial members of CDG projects are not eligible for GJGNY financing for systems not located at the member's premises.

# ASSIGNMENTS

## Residential Projects

Incentive payments will be made to the contractor only. Payment assignments and/or full assignments are not allowed for residential projects.

## Nonresidential Projects

### Payment Assignments

Nonresidential projects may request payments be made to another entity. The contractor or builder must identify the payee at the time of project application submission. Projects requiring a payment assignment after a project application has been submitted must cancel and submit a new application. The contractor or builder, customer, and payee must sign the project application agreeing to the payee assignment. All rights and responsibilities will remain with the contractor and builder.

Once the application has been submitted, the payee will receive a payee registration form via email. This form must be completed for the application to move forward. Payees will not have access to the portal.

### Full Assignments

Full assignments are not allowed for nonresidential projects.

## Commercial/Industrial Projects

### Payment Assignments

Commercial/industrial projects may request payments be made to another entity. The contractor must identify the payee at the time of application or before the commercial operation payment. Once a payee has been identified, no additional payee assignments will be allowed. The contractor, customer, and payee must sign the project application agreeing to the payee assignment. All rights and responsibilities will remain with the contractor. Payees will not have access to the portal.

### Full Assignments

The Contractor may request a full assignment for an approved project to another approved contractor. An assignment request must be submitted via the portal. This request must be made before the commercial operational payment is requested. NYSERDA reserves the right to deny a full assignment request and may ask for additional documentation before approving the request.

The contractor must provide the following to submit a request:

- New Contractor must be an approved contractor in the program and be in good standing.
- Email confirmation from utility of 100% interconnection upgrade payments made.
- Assignment Document signed by the old contractor and new contractor.
- New Project Application signed by old contractor, new contractor, customer, and payee.

The contractor must also identify the payee at the time of full assignment request. If the contractor does not identify a new payee, no payee assignments will be allowed after the full assignment has been executed by NYSERDA. The current contractor will be responsible for the project until the assignment has been executed.



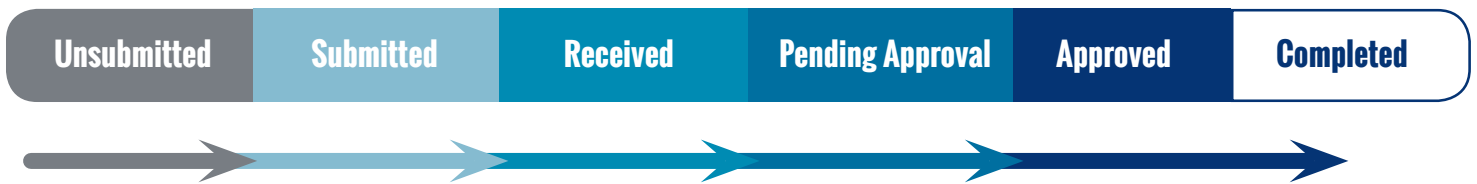
# Applying for Incentives



Approved contractors or builders can submit project applications for incentives, monitor the status of applications, and perform other program-related activities via the NYSERDA Portal.

The project application will progress through each status shown below.

## Project Application Flow



## Unsubmitted Status



All project applications are generated in and submitted through the portal. Unsubmitted status is reached once a contractor or builder generates the application. The incentive rate is not confirmed until the application has been submitted.

## Submitted Status



The project application moves to submitted status once the contractor or builder submits the application along with the required documents to the portal. Use the chart to determine which documents are required with each project application. Once the application is submitted, the current incentive rate (at that time) is locked in.

## Document Details

### Project Documents to Reach Submitted Status

<b>Required for All Projects: Must Submit with Project Application</b>
Project application signed by customer and payee, if applicable
Site map (site plan)
Site photos
Electrical drawing
Customer utility bill – only required for NYPA and municipality owned utilities
<b>Additional Items Required for Residential and Nonresidential Projects</b>
Shading report
<b>Additional Items Required for Nonresidential and Commercial/Industrial Projects</b>
If CESIR required: Final CESIR, proof of 25% interconnection upgrade payment and if in C/I, proof of planning and zoning approvals
If no CESIR required: signed and executed interconnection agreement
Coastal Assessment
SEQRA and lead agency, SEQRA Negative Declaration for C/I
<b>Additional Items Required for Projects Using GJGNY Financing</b>
GJGNY ProForma tool
GJGNY preapproval letter
<b>Additional Items Required for Projects Using Affordable Solar Residential Incentive</b>
Affordable Solar income eligibility letter
Affordable Solar project screening Tool
<b>Additional Items Required for Projects Using Multifamily Affordable Housing Incentive</b>
Documentation of eligibility
<b>Additional Items Required for Projects Using Brownfield/Landfill Incentive</b>
Brownfield/landfill eligibility form

### Documents Not Required with Submission: Must be Available Upon Request

<b>Required for All Projects</b>
Customer agreement
Customer utility bill
Permits - <b><i>required with project invoice submission</i></b>
Environmental assessment - <b><i>for projects more than 4,000 square feet</i></b>
Clipboard energy efficiency assessment - <b><i>for residential projects only</i></b>
Small commercial energy assessment - <b><i>for small commercial projects only</i></b>
Construction photos of the completed installation

A detailed description of each document can be found on the following pages.

## Required Documents That Must Be Submitted with Each Application

### > Project Application

The contractor or builder must submit all project applications electronically through the portal. Applications submitted to the residential and nonresidential program must list both a contractor and builder. Applications submitted to the commercial/industrial program must list a contractor only. The project application form must be signed by the customer, and if applicable, the payee.

Electronic signatures may be obtained through NYSEERDA's DocuSign account, which is available in the portal. If a contractor prefers to use their own electronic signature account, the tool must be NYSEERDA approved and a signature verification report must be provided. Approved electronic signature tools include DocuSign, CudaSign, EchoSign, Adobe, and Seamless Doc. **Under no circumstances is a contractor or builder permitted to sign on behalf of the customer.**

### > Site Map (Site Plan)

The site map must include:

- Location of all solar electric system components, including solar electric modules, inverters, disconnects, point of interconnection, and utility meter.
- Layout of solar electric array, showing the tilt, azimuth, and number of solar electric modules on each roof face or sub-array.
- Length of all wire runs more than 100 feet.
- Indication of which trees, if any, will be removed prior to system installation.
- For roof mounted projects, structural/mounting details stamped by a professional engineer (PE) or registered architect (RA) as required by New York State law.
- Customer name and address.

Go to [nyserdera.ny.gov/solar-contractor-resources](https://nyserdera.ny.gov/solar-contractor-resources) for a sample site map.

### > Site Photos

The contractor or builder must take photos of the array location, from both the ground and roof level, and photos taken looking south. The application must also include photos of the existing electrical service and the proposed location of the inverter. A single aerial photo does not meet this requirement.

Go to [nyserdera.ny.gov/solar-contractor-resources](https://nyserdera.ny.gov/solar-contractor-resources) for a sample set of site photos.

### ***Preexisting Conditions***

Photos must document preexisting conditions that do not meet current codes and standards, including damaged items. As part of the work scope, the contractor or builder will repair or replace substandard conditions that are hazardous or impact the installation of the solar electric system.

- When encountering structural deficiencies, all repairs or replacement will be done under the direction of a State licensed engineer or registered architect.
- Split bus panelboard and load centers, by any manufacturer, will not be used for supply side or load side connection, including fused and circuit breaker styles.
- Panelboard and load centers manufactured with FPE Stab-Lock® circuit breakers or Bulldog/ITE pushmatic-style circuit breakers will not be used for supply side or load side connection.
- Damaged or severely corroded panelboards, disconnects, or switchboards will not be used for supply side or load side connection.
- Missing or undersized grounding electrodes, including the grounding electrode conductor (GEC) and water meter jumpers, must be replaced.



- Existing roof damage in the area of the array must be repaired or replaced.
- When installing a supply side disconnect, at a minimum, the enclosure and the overcurrent protection device must meet or exceed the available fault current (AIC Rating) of the existing main service disconnects.

### > **Electrical Drawing**

A legible electrical diagram is required, using standard symbols to clearly describe the solar electric system. Either a one- or three-line drawing is acceptable and must indicate:

- Quantity, conductor size, and insulation type of all energized (hot) conductors, neutral/grounded conductors, and ground conductors.
- Type and characteristics of all raceways, conduit, and enclosures.
- The configuration of solar electric array into electrical strings.
- The voltage and amperage ratings of all combiner boxes, overcurrent protection devices, switches, inverters, batteries, electrical panels, and other relevant equipment as applicable. The rating of the main service panel and its main breaker must be given.
- The quantity, manufacturer, and model of the inverter and solar electric modules.
- Customer name and address.

Go to [nyserdera.ny.gov/solar-contractor-resources](http://nyserdera.ny.gov/solar-contractor-resources) for a sample wiring diagram and a list of design issues.

### > **Customer Utility Bill – only required for NYPA and municipal projects**

For projects in NYPA or a municipal utility, a copy of the utility bill is required with application submission.

## **Required for Residential and Nonresidential Projects**

### > **Shading Report and Estimate of Annual Output**

#### ***Shading Report***

The shading report must describe the percentage of the available solar resource the solar electric array will receive, accounting for losses from shading, array azimuth, and tilt. Residential and nonresidential projects with a total solar resource fraction (TSRF) below 80% will receive a reduced incentive, as described in System Losses under the System Technical Requirements section.

Reports generated by Solmetric Suneye, Solar Pathfinder, Bright Harvest, Solar Census, Lightmile, HelioScope, Wiley ASSET, and Aurora are acceptable.

In cases where trees or other obstructions must be removed, an incentive payment will not be made until a new shading report has been submitted to and approved by NYSERDA.

When the solar electric system consists of multiple arrays with different azimuths, tilts, or shading profiles, a shading report must be run for each array and a weighted average taken to find the overall TSRF and must be indicated on the shading report.

#### ***Estimate of Annual Output***

The estimate of annual output will be calculated in the portal using NREL's PVWatts tool, based on information provided by the contractor or builder, including system size, location, and TSRF. A separate calculation of the solar electric system's expected annual production is not necessary.

This estimate will determine if the system offsets more than 110% of the customer's annual electric use and is required for residential projects only. The contractor or builder must use this figure when completing the GJGNY ProForma worksheet for financing and the Affordable Solar residential project screening tool, if applicable.

## Required for Nonresidential and Commercial/Industrial Projects

### > Final CESIR – if CESIR is required

The contractor must submit a copy of the final CESIR if the utility requires it. The following item must also be included for projects requiring a CESIR:

#### ***Proof of 25% interconnection upgrade payment***

The contractor must provide email confirmation from the utility that the 25% interconnection upgrade payment has been made.

#### ***Proof of planning and zoning approvals – C/I only***

The contractor must provide proof that all necessary governmental permits and approvals required have been obtained. This does not include ministerial permits, such as a building permit. Required approvals include a Special Use Permit, Site Plan Regulations, or similar approval process and a Negative SEQRA Determination. If these are not required, the contractor must demonstrate from the Authority Having Jurisdiction, via meeting minutes or local laws, that the contractor is approved to move forward with the project.

### > Signed and executed interconnection agreement – if no CESIR required

If the utility determines a CESIR is not required for the project, the contractor or builder must provide a copy of the signed and executed interconnection agreement.

### > Coastal Assessment

The contractor or builder must provide a screen capture from the [New York State Department of State online GIS tool](#) showing if the project site location is or is not located in a New York State coastal boundary area and/or local water front revitalization program zone.

### > SEQRA and lead agency – Nonresidential only

For projects larger than 4,000 sq. ft, it is the contractor or builder's responsibility to initiate the SEQRA process, including filing of the SEQRA form (found on [dec.ny.gov](#)), at the local level and ensure a lead agent is identified. The contractor or builder will be required to submit the first half of the SEQRA Form to NYSERDA.

Projects located where the local authority having jurisdiction has adopted a moratorium that prevents local approval of the project are not eligible to apply to the program while the moratorium is in effect. For projects where the local authority having jurisdiction declines to be lead agent for roof mounted systems, NYSERDA shall issue an independent review.

## Required Documents If Using GJGNY Financing

For residential projects using GJGNY financing, the following documents must be submitted in the portal with the project application:

- GJGNY ProForma worksheet
- Loan preapproval letter

All information in the preapproval letter and ProForma worksheet must match the information in the portal.

The contractor or builder is required to input the customer's preferred loan type (Smart Energy Loan or On-Bill), loan term (5, 10, or 15 years), and loan amount. These fields must match the customer's desired loan selection information on the ProForma tool. If there is a discrepancy in this information, the loan will not be approved.

Visit [nyserdera.ny.gov/solar-contractor-resources](https://nyserdera.ny.gov/solar-contractor-resources) to access a sample preapproval letter and ProForma worksheets.

## Required Documents If Accessing Affordable Solar Residential Incentive

For residential projects applying for the additional Affordable Solar incentive, the following documents must be submitted in the portal with the project application:

- Income eligibility letter (application available at [nyserdera.ny.gov/affordable-solar](https://nyserdera.ny.gov/affordable-solar))
- Residential Savings Calculator for Affordable Solar (available at [nyserdera.ny.gov/solar-contractor-resources](https://nyserdera.ny.gov/solar-contractor-resources))

## Required Documents If Using Multifamily Affordable Housing Incentive

For projects applying for the additional incentive for Multifamily Affordable Housing Incentive, the contractor or builder must provide proof the site is located at an affordable housing property. Go to [nyserdera.ny.gov/solar-contractor-resources](https://nyserdera.ny.gov/solar-contractor-resources) for list of acceptable eligibility documents.

## Required Documents If Using Brownfield/Landfill Incentive

The brownfield/landfill added incentive must be identified at time of application. Projects that have a United States Environmental Protection Agency or NYS Department Environmental Conservation registry number must submit the eligibility form at time of project application submission. Sites that do not have a registry number will be required to submit the eligibility form to NYSERDA for preapproval prior to submitting project application.



## Documents Not Required with Application: Must be Available Upon Request

The following additional documents must be on file with the contractor. They may be requested by NYSERDA, but do not need to be submitted with the project application to achieve submitted status.

### > Customer Agreement

The customer agreement is an important document outlining the direct relationship between the contractor and the customer. As a condition of participation in the program, contractors must abide by the terms and conditions in the participation agreement. The customer agreement may be in the form of a purchase contract or a lease/power purchase agreement. This does not apply to CDG projects.

#### ***A. All customer agreements must be signed by both parties and include the following:***

- **Installation location:** town, street, and lot or building number.
- **Installation schedule:** realistic installation and interconnection schedule taking into account timeline requirements of NYSERDA and utility review requirements.
- **System description:** description of the solar electric system being purchased and an outline of system specifications, the make and model of major system components, identification and location of easy-to-read meter, references to UL listing, etc.
- **Estimate of annual energy output:** in kilowatt-hours and summarizing the results of the system loss analysis.
- **Applicable incentives:** customer agreement must reflect the entire amount of the anticipated NYSERDA incentive and incentives and warranties must pass to the customer.
- **Explanation and estimate of additional customer-incurred costs:** for development; installation; and commissioning of the system and a payment schedule, if applicable.
- **Assignment of responsibilities:** for scheduling or obtaining and paying for permits, inspections, or other regulatory requirements.
- **Addendum to customer agreement:** completed and signed by both the customer and the contractor.

Electronic signatures may be obtained through NYSERDA's DocuSign account, which is available in the portal. If a contractor prefers to use their own electronic signature account, the tool must be NYSERDA approved and include a signature verification report. Approved electronic signature tools include DocuSign, CudaSign, EchoSign, Adobe, and Seamless Doc. **Under no circumstances is a contractor or builder permitted to sign on behalf of the customer.**

#### ***B. If the customer agreement is for the purchase of the system, the agreement must also include the following:***

- **Total system and itemized costs:** broken down into cost of modules; cost of inverters; balance of system (wires, racks, etc.); and labor and overhead (labor, permitting, etc.).
- **System warranty** (see System Technical Requirements section).

#### ***C. If the customer agreement consists of a lease or power purchase agreement (PPA), it must include all items listed under "A," and the following:***

- **Total agreement cost and applicable incentives:** lease or PPA must reflect the entire amount of the approved NYSERDA incentive.
- **Production warranty** (see the System Technical Requirements section).

- **Other terms:** such as the party (customer or contractor) responsible for costs related to movement and reinstallation of the system or parts and the terms under which those actions will be taken, as well as any insurance coverage related to the system.
- **Escalation rates or factor for a lease or PPA:** clearly described.

### > **Utility Bill**

For project applications, a copy of the utility bill must be available upon request. For new construction residential projects, anticipated electric usage is required and detailed calculations must be submitted for review. For projects in NYPA or a municipal utility, a copy of the utility bill is required. Bills are not required for Community Solar Projects.

### > **Permits**

For residential and nonresidential projects, the contractor or builder must have applied for all necessary permits, approvals, and certificates, to the appropriate agencies or municipalities for construction of the solar electric project before submitting the application to the program. While submission of required permits is not necessary with the project application submission, the contractor or builder must produce all documents immediately upon NYSERDA's request.

The building permit must be submitted with the final project invoice for all projects. Nonresidential and commercial/industrial projects must also include the electrical inspection certificate with final project invoice or commercial operation payment request.

All permits must clearly reference installation of the approved solar electric system at the customer site. If permits are not needed for installation, a signed letter from the town code officer, or authority having jurisdiction (AHJ) must be submitted stating no building permit is required.

### > **Energy Assessment**

#### ***Residential Clipboard Energy Efficiency Assessment***

For residential project applications, a clipboard energy efficiency assessment must be performed. A clipboard assessment consists of two components: an interview of the home owners to determine energy-use habits and age of the home, and a home inspection to identify energy-saving opportunities. Certification an assessment has been completed must be indicated on the project application at time of submission.

The inspection component of the assessment should take no more than 60 minutes and includes:

- Assessment of the hard-wired lighting systems and free-standing light fixtures.
- Appliance ages and whether they are ENERGY STAR® certified.
- Presence of advanced power strips.
- Existence of “vampire loads” related to consumer electronics and battery chargers.
- Use of programmable thermostats or timers for air conditioners.
- Age and condition of the doors and windows.
- Details on recent energy efficiency upgrades, such as insulation.

After the assessment, the results will be reviewed with the homeowner. A copy of the report will be left with the homeowner along with a list of Home Performance contractors and informational brochures detailing NYSERDA's energy efficiency programs.

Customers will not be required to implement energy efficiency upgrades as a prerequisite to participating in the program, except in the case of projects applying for the additional Affordable Solar Residential Incentive.

## ***Nonresidential and Commercial/Industrial Energy Assessment***

For all nonresidential and commercial/industrial projects, building owners are given information on benchmarking tools, such as ENERGY STAR's portfolio manager benchmarking tool. If requested by the building owner, the contractor or builder will help input utility bill information in the tool to calculate an energy-use index and, where applicable, an ENERGY STAR score. Customers will not be required to benchmark or implement energy efficiency upgrades as a program prerequisite. Energy assessment completion must be indicated on the project application at time of submission.

Any CDG project is exempt from the energy assessment requirements

### **> Payee W9**

All payees should register their entity through the Portal. For projects eligible for payment assignments, the contractor or builder must provide a copy of the payee's W9 upon request.

### **> Construction Photos**

The contractor or builder is required to take construction photos for each project. NYSERDA may request construction photos for purposes of conducting a photo inspection at any time. See the Photo Inspection section for additional information.

Visit [nyserdera.ny.gov/solar-contractor-resources](http://nyserdera.ny.gov/solar-contractor-resources) for a photo documentation sample, which contains a complete list of required photos.

## Received Status



The project application moves to received status once it has been received by the program. At this time, the application will move into the queue for technical review.

### **Technical Review**

Once the application has been received, the project may undergo a full technical review (design review) to confirm the project has been designed appropriately and meets all program rules. For a full description of all requirements, see the System Technical Requirements section.

If a project application has missing or inaccurate information or documents, the contractor or builder will be asked to provide the correct information in the portal.

## Pending Approval Status



When the project passes technical review, the application will automatically move to pending approval status. In this status, the purchase order is finalized and funding for the application is reserved.

# Approved Status

Unsubmitted

Submitted

Received

Pending Approval

**Approved**

Completed

When the project application and system design have been officially approved by the program, the contractor, builder, customer, and payee will receive notification to move forward with the installation of the system.

## Project Timelines

All residential and nonresidential projects have 365 days from the project approval date (the date project is marked approved in the portal) to complete the system installation and submit for final project invoice approval.

Commercial/industrial projects have 912 days from the project approval date (the date project is marked approved in the portal) to complete the system installation and submit for commercial operation payment approval.

For projects requiring a CESIR, the contractor or builder must submit a CESIR milestone via the portal no later than 140 days from the date the utility confirmed payment of the 25% interconnection payment. The contractor or builder must provide an executed Interconnection Agreement and proof of payment for the remaining 75% interconnection payment. If a project is removed from the utilities interconnection queue, the project must also be cancelled in the MW Block program. If the project reapplies to the utilities interconnection queue, that project may reapply to the MW Block Program.

Projects that do not meet the specified deadlines and have no extension on file will be in jeopardy of cancellation.

## Actions in Approved Status

While in approved status, the contractor or builder may submit a project cancellation request, project extension request, project modification request, or project invoice request.

### Project Cancellation Requests

Requests to cancel a project must be done through the portal by submitting a request for cancellation.

Should a project wish to move forward after cancellation, the contractor or builder must submit a new project application. In this case, the incentive level and all rules in effect at the time the new application is submitted will apply.

### Project Extension Requests

To request an extension, the contractor or builder must submit a project extension request in the portal. Projects that exceed the completion deadline date will be in jeopardy of cancellation.

NYSERDA will approve extensions on a limited case-by-case basis. Project extensions will be granted for **legitimate and verifiable reasons which are beyond the control of the contractor, builder, or customer**. No other requests will be considered.

### *Residential Project Extension Requests*

Project extensions may only be granted once for each residential project. If approved, the extension will allow an extra 90 days to complete the project, bringing the total to 455 days.

### *Nonresidential Project Extension Requests*

Project extensions may be granted twice, in 180-day increments each, for nonresidential projects.



If applicable, the contractor or builder must submit proof that an application has been filed at New York State Education Department.

If approved, the first extension will allow an extra 180 days to complete the project, bringing the total to 545 days from the original project approval date. A second extension may bring the total to 725 days from the original project approval date.

### ***Commercial/Industrial Project Extension Requests***

Project extensions may be granted once for each commercial/industrial project. If approved, the extension will allow an extra 180 days to complete the project, bringing the total to 1,092 days.

### **Project Modification Requests**

A project modification request must state the original equipment quantity and catalog numbers, the proposed equipment quantity and catalog numbers, changes in cost, and any changes in the array configuration or wiring.

Customer signature is required for any project modification request that results in change in approved funding amounts. Electronic signatures may be obtained through NYSERDA's DocuSign account, which is available in the portal. If a contractor or builder prefers to use their own electronic signature account, the tool must be NYSERDA approved and a signature verification report must be provided. Approved electronic signature tools include DocuSign, CudaSign, EchoSign, Adobe, and Seamless Doc. **Under no circumstances is a contractor or builder permitted to sign on behalf of the customer.**

The contractor, builder, customer, and payee if applicable, will receive email approval for project modification requests. All other changes will be approved in the portal. Please check the portal before contacting NYSERDA regarding project modification approvals.

Any system modifications or equipment changes must be submitted in the portal as a project modification request and approved by NYSERDA before project invoice or commercial operation payment is submitted. Failure to submit a change modification may result in revocation of the incentive reservation or nonpayment of the incentive.

### ***Residential Project Modifications***

Residential project modification requests resulting in a larger system size are eligible to receive an increased incentive. NYSERDA will review the request and calculate the new incentive or loan amount (if applicable).

Residential projects funded at a previously higher incentive level have the option of accepting the existing incentive award "as is" or recalculating the entire array at the current incentive level.

### ***Nonresidential Project Modifications***

Nonresidential project modification requests resulting in an increase to system size will not earn an additional incentive; however, projects that result in a smaller system size being built, may result in a smaller incentive.

### ***Commercial/Industrial Project Modifications***

Commercial/industrial project modification requests resulting in an increase to the system size will not earn an additional incentive. Projects which are built smaller than proposed may see a reduction in incentives. The contractor must provide a copy of the as-built 3-line that is stamped by a NYS Professional Engineer to confirm equipment listed on the change modification matches what was installed for either a system size increase or decrease.

## **Project Invoice Requests – Incentive Payments**

### ***Residential Incentive Payments***

The contractor receives the total project incentive in one installment. To request the incentive payment, the project invoice must be submitted in the portal for approval.

Customer signature is only required on invoices for projects using GJGNY financing. Electronic signatures may be obtained through NYSEDA's DocuSign account, which is available in the portal. If a contractor prefers to use their own electronic signature account, the tool must be NYSEDA approved and include a signature verification report. Approved electronic signature tools include DocuSign, CudaSign, EchoSign, Adobe, and Seamless Doc.

**Under no circumstances is a contractor or builder permitted to sign on behalf of the customer.**

**To receive the incentive payment, the project invoice must include:**

- Signed project invoice – for projects using GJGNY financing only
- Utility interconnect permission to operate (PTO) letter
- Building permit

### **Financing-Only Projects – Residential**

The total GJGNY loan amount approved by NYSEDA will be paid on approval of the project invoice.

Customer signature is required on project invoices for financing only projects. Once approved, NYSEDA's loan originator is notified to release the loan.

**To release the loan, the project invoice must include:**

- Signed project invoice – for projects using financing only
- Utility interconnect permission to operate (PTO) letter
- Building permit

### ***Nonresidential Incentive Payments***

The contractor or payee receives the total project incentive in one installment. To request the incentive payment, the project invoice must be submitted in the portal for approval.

**To receive the incentive payment, the project invoice must include:**

- Utility interconnect permission to operate (PTO) letter
- Building permit
- Electrical Inspection Certificate

### ***Commercial/Industrial Incentive Payments***

The contractor or payee receives the project incentive in three installments: one invoice when the system is installed, interconnected, and commercially operational and two invoices over the subsequent two consecutive years (performance period) based on measured annual kilowatt hour (kWh) output of the solar electric system (system actual annual energy production).

### **Commercial Operation Payment**

Project invoice requests for commercial operation payment and any required deliverables must be submitted through the NYSEDA Portal. The payment will equal 50% including any additional incentive adders.

A field or photo inspection by may be required prior to payment.

**To receive the Commercial Operation Payment, the project invoice must include:**

- Utility interconnect permission to operate (PTO) letter
- Building permit
- Electrical Inspection Certificate
- Negative Declaration for SEQRA
- As-built 3-line stamped by New York State Professional Engineer (PE) that includes:
  - Quantity, conductor size, and insulation type of all energized (hot) conductors, neutral/grounded conductors, and ground conductors.
  - Type and characteristics of all raceways, conduit, and enclosures.
  - The configuration of solar electric array into electrical strings.
  - The voltage and amperage ratings of all combiner boxes, overcurrent protection devices, switches, inverters, batteries, electrical panels, and other relevant equipment as applicable. The rating of the main service panel and its main breaker must be given.
  - The quantity, manufacturer, and model of the inverter and solar electric modules.
  - Customer name and address.
- Confirmation site is reporting to the NYSERDA DG Website, the site name must match what is listed in salesforce, if there are multiple sites with the same address the application number must also be listed

## Completed Status

Unsubmitted

Submitted

Received

Pending Approval

Approved

**Completed**

The project has achieved completed status once the system has been installed and interconnected and NYSERDA approves the final payment or commercial operation.

Commercial/industrial projects will continue to receive performance-based payments while in completed status.

### **Performance-based Payments – Commercial/Industrial**

For each year of the two-year performance period, NYSERDA will generate and issue the performance payment. The payment will equal 25% of the incentive (\$/kWh) identified in the approval multiplied by the site actual annual energy production (kWh). This production data will be obtained from the NYSERDA DG website at [der.nyserdera.ny.gov](http://der.nyserdera.ny.gov). The contractor and the payee are responsible for ensuring all production numbers and site name are reported correctly to the DG website.

Performance payments will be paid directly by NYSERDA after each of the two anniversary dates. The completed status date is the anniversary date of the project. Emails from the portal will be sent 30 and 15 days before the anniversary date to the contractor and payee, if applicable, to review and confirm the yearly production on the NYSERDA DG website. Any discrepancies should be addressed prior to payment. If the discrepancy cannot be resolved prior to payment, the contractor or payee must notify NYSERDA. No additional payments will be issued if a discrepancy is identified after payment has been made.

For projects already invoiced as of June 14, 2018, payments will continue to be made in four installments as originally awarded. One at commercial operation and three annual performance payments, as program rules specific at time project application was submitted. Any projects still in the approved status will receive three installments payments.

# System Technical Requirements



## Solar Modules

All solar electric modules must be certified as meeting all applicable standards of the Institute of Electrical and Electronics Engineers (IEEE) and Underwriter's Laboratory (UL) 1703 and detailed in the California Energy Commission (CEC) eligible list found in the portal. The manufacturer is responsible for accurate updates to the list.

## Inverters

All inverters must be certified as meeting all applicable standards of IEEE and UL and approved by the IOU that the system will be interconnected to.

The CEC eligible list can be found in the portal. The manufacturer is responsible for accurate updates to the list.

## Metering and Data Acquisition – Commercial/Industrial

The contractor must provide, install, and maintain an internet enabled electric meter that displays instantaneous AC power and cumulative total AC energy production, and at a minimum, can record cumulative total AC energy production of the solar electric system on an hourly and time-stamped basis, store the hourly readings for at least seven days, and transmit recorded readings once per day to a NYSERDA designated data agent via e-mail, FTP, HTTP or Modbus TCP/IP. The meter must meet the American National Standards Institute (ANSI) C12.20, be revenue grade with a +/- 0.5% accuracy and properly calibrated. The meter must also have battery backup to prevent the loss of data during power outages or cloud data storage capability.

The contractor must provide, and maintain, an active internet connection to the meter throughout the performance period to support daily data transmissions. Data collected from the meter will be available to the public at [der.nyserda.ny.gov](http://der.nyserda.ny.gov) or other similar websites specified by NYSERDA and will be used by NYSERDA to verify the Actual Energy Production, which will inform the calculation of annual performance-based payments. It is the contractor's responsibility to ensure the meter and associated data storage, cloud data, battery, and communications are responsibly maintained and in good working order, and that data is successfully transmitted to the website during the performance period. Data not reconciled before payment is issued, will not be able to recoup loss payments for production.

Data transfer from the NYSERDA required meter to the NYSERDA website will be coordinated through the designated data agent. Information on data transfer methods and registering your site can be found by contacting NYSERDA designated data agent at [cdhenergy.com](http://cdhenergy.com) or by calling 315-655-1063.

## Monitoring Equipment – Residential and Nonresidential

Each solar electric system must have the ability to record system production in kilowatt-hours. The contractor has the option of providing this information from a hardwired solar electric production meter, online monitoring system, inverter display recorded production, or other approved method.

When a hardwired meter is provided, it will have the capability to display instantaneous AC power and cumulative total AC energy production. Such meters must have a minimum accuracy of 5% and a certificate of compliance from the manufacturer. Remanufactured utility-style meters are permitted if they are certified as calibrated to the applicable ANSI standards for electricity metering. The meters must include numerical digital displays, or analog (easy-read type) in watts or kilowatts for power and kilowatt-hours or megawatt-hours for energy.

The listed metering and data acquisition and monitoring equipment requirements are separate from the utility meters, which are used to determine customer credits on their bills. The utility meters should be coordinated with the local utility as part of the interconnection process.

## System Losses – Residential and Nonresidential

Project applications will indicate all potential output losses (actual kilowatt-hours generated after all equipment losses are applied) associated with shading, system orientation, tilt angle, etc., and must be analyzed and detailed by the contractor or builder for each system. Solar electric systems shaded by trees or installed on a flat roof will have less than optimal outputs. All impacts on system output must be quantified and considered during the review of the project application submitted by the contractor or builder. The incentive level for a project will be reduced in proportion to output losses when losses from factors, such as shading and orientation, exceed 20% of ideal kilowatt-hour output, as illustrated in this table.

<b>Shading and Orientation Loss</b>	<b>0 - 20%</b>	<b>21%</b>	<b>23%</b>	<b>24%</b>	<b>25%</b>	<b>26%</b>	<b>27%</b>	<b>28%</b>	<b>29%</b>	<b>30%</b>
<b>Incentive Level</b>	<b>100%</b>	<b>79%</b>	<b>77%</b>	<b>76%</b>	<b>75%</b>	<b>74%</b>	<b>73%</b>	<b>72%</b>	<b>71%</b>	<b>70%</b>

Combined losses from tilt, azimuth, and shading must be shown on the shading report as a Total Solar Resources Fraction (TSRF) figure

## Grid Connection

To be eligible for incentives, all solar electric systems must be grid-connected, end-use applications. End-use means the system is connected on the customer's side of the electric meter, and electricity generated offsets the customer's electricity purchases in accordance with current net metering laws and utility guidelines. Projects may benefit from remote net metering of multiple utility accounts or be structured as a Community Distributed Generation (CDG) project.



## Approved System Design

Solar electric systems must be installed in accordance with the design and system components submitted in the application and approved by NYSERDA. However, NYSERDA's approval of the project application does not guarantee the system design, engineering, construction and/or installation of the solar electric system is proper or in compliance with any particular laws (including patent laws), regulations, codes, or industry standards.

Solar electric systems not installed according to the NYSERDA-approved design must have a project modification submission on file. The project modification must be approved before the incentive payment or commercial payment is made. Upon inspection, if it is determined the system is not installed as approved, the contractor may not be eligible for future incentive payments.

## Interconnection

The contractor or builder is required to ensure all approved solar electric systems have an appropriate interconnection agreement that meets New York State standard interconnection requirements. They must also ensure all approved systems are installed in compliance with that interconnection agreement.

## Other Electrical Components

All other electrical components of each solar electric system including, but not limited to, charge controllers, batteries, wiring, and metering equipment must be new equipment and certified as meeting the requirements of all relevant national and New York State codes and standards.

## Structural Requirements

The contractor is responsible for determining that a building is structurally able to support the addition of a solar electric system without overstressing the structure or increasing the load beyond acceptable national and State limits.

## Compliance with Laws and Codes

All approved solar electric systems, system components, and installations must comply with all manufacturers' installation requirements, applicable laws, regulations, codes, licensing, and permit requirements. This includes, but is not limited to, the New York State Environmental Quality Review (SEQR); the International Building Code Series as amended by the New York State Uniform Code Supplement; the National Electric Code (NEC); New York State's Standard Interconnection Requirements; and all applicable State, city, town, or local ordinances or permit requirements.

Information on New York City fire codes and the NYC Fire Code Section 504.4 can be found at:

- Fire Code-Section FC504:  
<http://bit.ly/bpVFKD>
- Application for a Variance to Fire Code FC504:  
<http://bit.ly/cRLNjp>

## **System Warranty for Purchase Agreements**

The contractor must provide the purchaser of the solar electric system with a full five-year transferable warranty. The warranty must cover all components of the generating system against breakdown or degradation in electrical output of more than 10% from the original rated electrical output. The warranty will cover the full costs, including labor, repair, and replacement of defective components or systems. The contractor is responsible for providing warranty coverage in a timely manner regardless of the level of support from the equipment manufacturer. Requests for warranty services must be responded to within 72 hours and repairs completed within 30 days. Batteries must be covered by a minimum two-year warranty. The contractor must also provide the customer with information on any additional or extended warranties that may be applicable.

## **Production Warranty for PPA/Leases**

The contractor will offer a production guarantee to the customer for the initial term of the agreement (at minimum). This will provide the customer with compensation if the system produces less than the guaranteed output as specified in the lease or PPA agreement. Guaranteed output may not allow cumulative degradation in electrical output of more than 1% per year from the original rated electrical output for the initial term of this agreement. Under no circumstance will customers be responsible for any labor and repair or replacement costs of defective components or systems over the initial term of the agreement. Should the customer sell the property at which this solar facility is located, the production guarantee is fully transferable to a new lessee, consistent with the terms of the lease or PPA agreement.

# Quality Assurance and Compliance



NYSERDA maintains the integrity of its program through an independent Standards and Quality Assurance team, which manages the quality assurance (QA) system for the program.

The QA program has several components, including a review of qualifications and credentials, paperwork audits, establishment of program standards, and comprehensive field and photo inspections. QA field inspections include verification of the contracted scope of work, accuracy of the site analysis, comparison of installation to submitted design drawings, National Electric Code, International Building Codes with New York State Uniform Code Supplement compliance, and the overall delivered quality of the solar electric installation. The NYSERDA Standards and Quality Assurance team, or its representatives, may make a reasonable number of visits to the customer site before, during, and after installation of a solar electric system to assess overall compliance.

## Inspection of Completed Projects

NYSERDA selects specific completed projects for QA inspections following a rational sampling protocol. The protocol utilizes a strategic sampling of completed projects with rates primarily based on the contractor's and builder's current program status and recent photo and field inspection scores.

NYSERDA attempts to conduct photo or field inspections on up to 15% of systems installed by full status contractors and builders. Those with a probation or suspended status will have their completed projects inspected at a rate between 30% and 100% and will be detailed in the status change notice provided by NYSERDA prior to the change being enacted. Provisional contractors and builders will initially be subjected to up to 100% inspection rate. After the provisional status review is completed, their inspection rate will be determined based on their current status.

The purpose of the QA inspection is to provide NYSERDA with an opportunity to evaluate the accuracy of the site analysis and design paperwork and verify the system was installed according to all program requirements. The QA inspection also includes selected health, safety, and performance items, and specific compliance items per applicable code.

The inspection report will be sent to the contractor and builder approximately 15 days after the inspection. The report will be made available to the system owner upon submission of a request directly to NYSERDA.

NYSERDA may select any completed project at any point in the future for a photo or field inspection based on customer complaints, warranty-related issues, or a review of the work done by the contractor or builder under status review or program disciplinary action. All contractors and builders are encouraged to perform in-house quality control of their projects.

## Field Inspections

Field inspections are conducted by a qualified independent third party, using comprehensive field inspection QA checklists and inspection processes approved by NYSERDA.

QA field inspections are scheduled at the customer's convenience. Customers are encouraged to allow the contractor and builder to attend the inspection, so questions can be answered and minor fixes can be made on-site. If the customer agrees, the contractor and builder will be notified between 5 and 14 days of the upcoming inspection. Every effort will be made to accommodate the schedule of the contractor and builder, but the customer's schedule and efficient scheduling of inspections takes precedence.

Customers have the right to request the contractor or builder not attend the QA field inspection. In these situations, the contractor and builder will not be notified of the scheduled inspection, but they will receive the results within 15 business days.

### Affordable Solar Field Inspections

QA field inspections will be conducted on a minimum of the first two projects receiving the Affordable Solar Residential Incentive completed by any contractor or builder, and a minimum of 5% of Affordable Solar Residential Incentive projects completed thereafter. In addition to the components of the standard QA field inspection, Affordable Solar Residential Incentive projects will also be inspected for compliance with lighting and water efficiency requirements in the Affordable Solar Energy Efficiency Specifications found at [nyserdanyc.org/solar-contractor-resources](https://nyserdanyc.org/solar-contractor-resources).

## Photo Inspections

The contractor or builder is required to take construction photos for each project. The program may request construction photos for purposes of conducting a photo inspection at any time.

Visit [nyserdanyc.org/solar-contractor-resources](https://nyserdanyc.org/solar-contractor-resources) for a photo documentation sample, which contains a complete list of required photos.

If photos are requested, the contractor and builder will be notified and provided with a method for submission. Failure to provide a complete set of photos upon request may result in disciplinary action. Photo inspection scores will be taken into consideration, along with QA field inspection scores, when evaluating performance.

## Procedure for Handling Nonconformance and Corrective Action

The QA inspection report will provide details of all evaluated elements of the project and list any nonconformances identified. The report will provide an overall score of the project and identify a pass or fail. Projects that have nonconformances related to critical (health and safety) or major (system performance) attributes will automatically fail. Projects that have only nonconformances to minor or incidental attributes may pass or fail based on their overall merits.

All nonconformances are expected to be addressed and corrected in future work conducted in the program. Acknowledgment and plans for preventing future problems may be requested with the report. While some nonconformances cannot be corrected post installation, others can be remedied through corrective action to the documentation, incentive applied to the project, or remediation of the installation or its components.

Contractors or builders are required to respond to NYSERDA with proof of corrective action for those projects that received a failed inspection report (score of 1 or 2). The contractor or builder is responsible for correcting all nonconformances identified but is specifically required to submit proof for all major or critical items identified. A failed inspection report must be either disputed within 15 days by contacting NYSERDA or remedied within 30 days. Sufficient evidence of remediation must be provided to NYSERDA documenting the completion of required actions. NYSERDA may, at its discretion, conduct a field verification of the remediated installation.

NYSERDA has the right to provide a copy of the QA report or specific information from the field inspections directly to the customer, all AHJ, or the interconnecting utility based on health, safety, and compliance concerns. In an emergency, NYSERDA or its representatives may shut down the system and will notify the contractor and builder of such action as soon as is possible.

NYSERDA may communicate with any program customer on any matter relevant to a project. Such communications may be in reply to an inquiry from a customer or at NYSERDA's initiation.

## PARTICIPATION STATUS

### Provisional Status

Contractors and builders in provisional status meet entry level program requirements for credentials and experience but have not met the minimum QA requirements as described to move to full status.

Project applications submitted by contractors or builders in provisional status will receive both an initial review and technical review; and completed installations will be subject to increased QA oversight. The guidelines of the provisional status are as follows:

- Provisional contractors or builders will be listed on NYSERDA's website and may be denoted as such.
- Provisional contractors are limited to 15 project applications, until three completed projects have received a passing QA inspection (photo or field).
- Provisional contractors or builders are required to submit construction photos for three of their most recently completed projects.
- Following the completion of the third project and the related QA inspections, NYSERDA will conduct a formal review to evaluate a change in status. Evaluation for a change to full status will be based on the quality and consistency of all submitted work that is fully compliant and meets credentialing requirements.



## Full Status

Contractors and builders who have met all program requirements for credentialing, experience, and installation quality will be placed in full status. Existing contractors and builders who have previously demonstrated consistent quality through the program will be placed in full status. The guidelines of the full status are as follows:

- Full contractors and builders will be listed on NYSERDA's website and may be denoted as such.
- Full contractors and builders must meet program standards for timely responses to NYSERDA communications and QA field inspection corrective action requests.
- Full builders are required to have an appropriately credentialed individual on staff (the Builder Qualifications section). Failure to satisfy this requirement and present appropriate documentation will result in an automatic change to probation status.

## Probation Status

Probation status is reserved for contractors and builders that have failed to meet the requirements of the program. Probation is prescriptive in nature, in that NYSERDA defines specific results to be achieved in a designated timeframe. During probation, a contractor or builder can still submit project applications, but is restricted from signing a relationship agreement with another participating contractor or builder.

### **A contractor or builder may be placed in probation status for any of the following reasons:**

- Violation of program rules or ethical standards.
- Failure to consistently deliver completed projects that pass the QA field or photo inspection standard.
- Failure to take effective corrective actions on a critical or major deficiency or a repeated incidental or minor deficiency in work quality or performance.
- Corrective action requests that have not been responded to or remain unresolved for more than 30 days.
- A lapse in required credentials.

### **The probation period will not be less than 30 days. While in probation status, the contractor or builder:**

- Will remain on the NYSERDA website.
- May continue to submit new project applications, subject to restrictions based on the reason for the probation status.
- Will be subject to higher QA inspection levels as outlined in the program manual.
- Must remediate all issues related to probation, as directed by NYSERDA.
- Must submit, in writing, an agreed-upon action plan designed to ensure future violations are avoided.
- Must demonstrate successful results through a specified number of completed projects.

Upon satisfactory completion of the action plan and all remediation and review of probation period QA results, NYSERDA will determine whether to return the contractor or builder to full status, continue the probation period, or move to suspended or terminated status.

## Suspended Status

Contractors and builders who have failed to adequately respond to terms of the probation status action plan, or who have committed serious violations of program rules, will be placed in suspended status.

### **A contractor or builder may be suspended if they:**

- Fail to adequately fulfill the terms of the probation action plan.
- Are placed on probation for a second time in 12 months.
- Are under investigation for or have been determined to have engaged in practices that have put the public or program at risk.
- Have one or more projects not completed by the deadline and no project extension is on file.
- Have outstanding and unresolved requests for return of incentive to NYSERDA due to failure to meet program requirements.
- Fail to provide backup documents when requested.
- Have submitted documentation with falsification of any required items, including but not limited to, permits, approvals, and customer signatures.
- Have a lapse in required credentials while on probation status.
- Fail to consistently deliver completed projects that pass the QA field or photo inspection standard.

### **While in suspended status, the contractor or builder:**

- Will be removed from the NYSERDA website.
- Will not be allowed to submit new project applications to the program.
- Must complete any work that is in progress when the partner is placed in suspended status.
- May not represent themselves as a participating contractor or builder, except in the execution of remedial action.
- May be directed by NYSERDA to remediate issues related to the suspension.
- May be required to submit, in writing, an agreed-upon action plan designed to ensure future violations are avoided.

A contractor may not submit project applications using a builder in suspended status. Likewise, a builder may not submit project applications or install for a contractor in suspended status.

Suspended contractors and builders will either progress to probation or full status upon satisfactory completion of the specified remedial activities and resolution of issues related to the suspension or will be terminated from program participation. Nothing in this status relieves the contractor or builder of the responsibility to fulfill any outstanding obligations to the program or program customers as directed by NYSERDA.

## Terminated Status

Contractors and builders who have failed to respond to prescriptive action plans and disciplinary measures, or who have committed serious violations of the program rules may be terminated.

### **A contractor or builder may be terminated from the program if they:**

- Have had a suspended status for more than 30 days and have been unresponsive or failed to adequately fulfill the terms of their suspension action plan.
- Have had their credentials lapse while suspended.
- Submit falsified documents or unauthorized signatures to the program.
- Commit illegal actions while participating in the program.
- Are convicted or have a principal who is convicted of a criminal charge that casts the program in a negative light or calls their integrity or workmanship into question.
- Are in gross violation of program installation standards.
- Repeatedly invoice for uninstalled upgrades.
- Fail to meet the terms of the provisional period.

A contractor will not be allowed to submit project applications using a builder in terminated status. Likewise, a builder will not be allowed to submit project applications or install for a contractor in terminated status. Neither can represent themselves as a participating contractor or builder except in the execution of remedial action.

Contractors and builders in terminated status are prohibited from participation in this or other NYSERDA programs. Customers with incomplete projects will be notified of the termination and may be offered such remedies as NYSERDA deems appropriate. NYSERDA may notify the New York State Attorney General, the New York State Department of Labor, the Better Business Bureau, or others, of the decision to terminate the contractor or builder from the program. Further, the officers and owners of the terminated contractor or builder are prohibited from being or becoming officers or owners of any other program partner. Nothing in this process relieves the contractor or builder of the responsibility to fulfill any remaining obligation to the program or its customers.

## Inactive Status

Contractors and builders may be declared inactive if they have not had an approved project in the program over a 24-month period of time. They will be removed from the website, no longer receive email notifications, nor be eligible for incentives or financing options. Should they wish to participate in the future, they may reapply under the rules in place at that time.

## Status Review Process

NYSERDA continually reviews all contractors and builders performance in the program to determine if a change in status is necessary.

### **NYSERDA administers change in program status in the following ways:**

- Request a meeting with the contractor or builder.
- Issue a notice of program violation or compliance resulting in contractor or builder status change.
- Reserves the right to take immediate action on program violation when warranted.
- Contractor or builder has 5 business days to dispute the program violation notification.

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NY-Sun, a dynamic public-private partnership, will drive growth in the solar industry and make solar technology more affordable for all New Yorkers. NY-Sun brings together and expands existing programs administered by the New York State Energy Research and Development Authority (NYSERDA), Long Island Power Authority (LIPA), PSEG Long Island, and the New York Power Authority (NYPA), to ensure a coordinated, well-supported solar energy expansion plan and a transition to a sustainable, self-sufficient solar industry.

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. NYSEDA professionals work to protect the environment and create clean-energy jobs. NYSEDA has been developing partnerships to advance innovative energy solutions in New York State since 1975.

To learn more about NYSEDA's programs and funding opportunities, visit [nyseda.ny.gov](https://nyseda.ny.gov) or follow us on Twitter, Facebook, YouTube, or Instagram.

