

Solar MAP

Affordable Multifamily Housing Program

June 6, 2024

Affordable Multifamily Network Presentation



Team Introduction

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Agenda

- ❖ Introduction to Green Bank
- ❖ Changes to Affordable Multifamily Housing Solar
- ❖ Solar Marketplace Assistance Program
- ❖ Battery Storage
- ❖ Q&A

Mission & Vision



Connecticut Green Bank is the nation's first state level green bank. Established in 2011 as a quasi-public agency, the Green Bank uses limited public dollars to attract private capital investment and offers green solutions that help people, businesses and all of Connecticut thrive.

Our mission is to confront climate change by increasing and accelerating investment into Connecticut's green economy to create more resilient, healthier, and equitable communities.



Investing in Vulnerable Communities

EQUITY Investing

Investing in vulnerable communities, The Green Bank has set goals to reach 40% investment in communities that may be disproportionately harmed by climate change.



Study: CT ranks 4th for most expensive electricity in U.S.



| Rank | State | Annual Bill Estimate |
|------|--------------|----------------------|
| 1 | Hawaii | \$3,450.55 |
| 2 | Maine | \$2,383.75 |
| 3 | Florida | \$2,367.14 |
| 4 | Connecticut | \$2,362.28 |
| 5 | Rhode Island | \$2,361.85 |
| 6 | Maryland | \$2,265.19 |
| 7 | California | \$2,196.94 |
| 8 | Arizona | \$2,190.60 |
| 9 | Nevada | \$2,132.50 |
| 10 | Alabama | \$2,064.63 |

Source:
<https://www.hartfordbusiness.com/article/study-ct-ranks-4th-for-most-expensive-electricity-in-us>

Date: February 28, 2024

Overview Of How Affordable Multifamily Housing Projects Were Previously Developed



- Projects were treated as “commercial” and participated in the State's Commercial Incentive Program, Non-Residential Renewable Energy Solutions (NRES)
 - Long process - subject to the bidding cycle of the program (1-2 times/ year)
 - Competitive solicitation
 - Capped capacity, limiting the number of projects per year
- Typically designed to offset common area meters only
- Financial benefit provided to the property owner NOT the tenants

Affordable Multifamily Clean Energy Generation In Statute



The definition of a residential customer was expanded to include affordable multifamily, specifically:

A **multifamily dwelling consisting of five or more units**, provided in the case of a multifamily dwelling consisting of five or more units, (i) not less than sixty percent of the units of the multifamily dwelling are occupied by persons and families with income that is not more than sixty per cent of the area median income for the municipality in which it is located, as determined by the United States Department of Housing and Urban Development, or (ii) such multifamily dwelling is **determined to be affordable housing** by the Public Utilities Regulatory Authority in consultation with the Department of Energy and Environmental Protection, Department of Housing, Connecticut Green Bank, Connecticut Housing Finance Authority and United States Department of Housing and Urban Development.

State Level Incentive: Residential

- Now Affordable Multifamily properties are treated as “residential” and can access the Residential incentive program, Residential Renewable Energy Solutions (RRES)
 - Residential Tariff is higher than the alternative commercial tariff
 - **\$0.3739/kWh** VS ~\$0.20/kWh
 - There is no cap on the number of Residential Tariff projects
 - One project to benefit all tenants and common space

What is “Affordable”?

Statutory Definition

Not less than sixty percent of the units of the multifamily dwelling are occupied by persons and families with income that is not more than sixty percent of the area median income

Tier One

- Property participates in the LIHTC Program
- Property contains a majority of households earning 80 percent or less of AMI
 - This encompasses many CHFA and DOH administered programs which participation in will make a property eligible

Tier Two

- 66% of residents have a household income at or below 60% of SMI

Tier Three

- Agency group reviews and recommends eligibility of individual properties

Naturally Occurring Affordable Housing (NOAH)

- Households earning less than 80% of AMI in HUD Qualified Census Tract Properties

Breakdown of Properties on the Tier 1 List

| # of Units | # of Properties |
|------------|-----------------|
| 500+ | 3 |
| 250 - 500 | 27 |
| 100 - 249 | 192 |
| 25 - 99 | 753 |
| 5 - 25 | 368 |

State Incentive: Financial Benefit Must Be Shared with Residents



- Requirement that a portion of the financial benefit be shared with the tenants of the facility
- Individually metered units: Tenants receive on-bill credits on their utility bill (20% of the tariff)
- Master metered sites: currently proposed that 25% of the tariff value must be set aside up front for an immediate energy improvement to the facility. *Program rules have not yet been finalized – expected by EOY 2024.*
 - Eligible property upgrades:
 - (1) energy efficient windows or doors;
 - (2) insulation;
 - (3) energy efficient appliances;
 - (4) heat pumps;
 - (5) energy storage (if such storage enrolls in the Energy Storage Solutions Program);
 - (6) broadband internet access (if such internet access is provided freely to tenants);
 - (7) lead remediation or removal of environmental hazards such as asbestos necessary to enable energy efficiency upgrades; and
 - 8) energy efficient lighting

[https://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/6bf949e674ea002d85258a5a00536ec7/\\$FILE/230802-110123.pdf](https://www.dpuc.state.ct.us/dockcurr.nsf/8e6fc37a54110e3e852576190052b64d/6bf949e674ea002d85258a5a00536ec7/$FILE/230802-110123.pdf)

Federal Incentives

Inflation Reduction Act

- Passed at the end of 2022
- Largest investment in climate and energy in American History
- Creates the opportunity for projects to qualify for specific bonus investment tax credits
- Goal: to accelerate the US green energy transition

Base ITC

The base investment tax credit (ITC) value is 30%

Potential Qualifying ITC Bonuses:

Energy Community Bonus – 10%

Low-Income Bonus – 10%

Qualified Low-Income Residential Project – 20%

Domestic Content – 10%

Category 3 ITC Bonus Qualified Low-Income Residential Project



Participation in a covered housing program makes the project eligible for a 20% Low Income ITC Bonus.

Programs include:

- Department of Housing and Urban Development's (HUD) Section 202 Supportive Housing for the Elderly, including the direct loan program under Section 202;
- HUD's Section 811 Supportive Housing for Persons with Disabilities;
- HUD's Housing Opportunities for Persons With AIDS (HOPWA) program;
- HUD's homeless programs under title IV of the McKinney-Vento Homeless Assistance Act, including the Emergency Solutions Grants program, the Continuum of Care program, and the Rural Housing Stability Assistance program;
- HUD's HOME Investment Partnerships (HOME) program;
- Federal Housing Administration (FHA) mortgage insurance under Section 221(d)(3) subsidized with a below-market interest rate (BMIR) prescribed in the proviso of Section 221(d)(5) of the National Housing Act;
- HUD's Section 236 interest rate reduction payments;
- HUD Public Housing assisted under section 9 of the United States Housing Act of 1937;
- HUD tenant-based and project-based rental assistance under section 8 of the United States Housing Act of 1937;
- HUD Section 8 Moderate Rehabilitation Program;
- HUD Section 8 Moderate Rehabilitation Single Room Occupancy Program for Homeless Individuals;
- USDA Section 515 Rural Rental Housing;
- USDA Section 514/516 Farm Labor Housing;
- USDA Section 538 Guaranteed Rural Rental Housing;
- USDA Section 533 Housing Preservation Grant Program;
- Treasury/IRS Low-Income Housing Credit under section 42 of the Code;
- HUD's National Housing Trust Fund;
- Veterans Administration's (VA) Comprehensive Service Programs for Homeless Veterans;
- VA's grant program for homeless veterans with special needs;
- VA's financial assistance for supportive services for very low-income veteran families in permanent housing; and/or
- Department of Justice transitional housing assistance grants for victims of

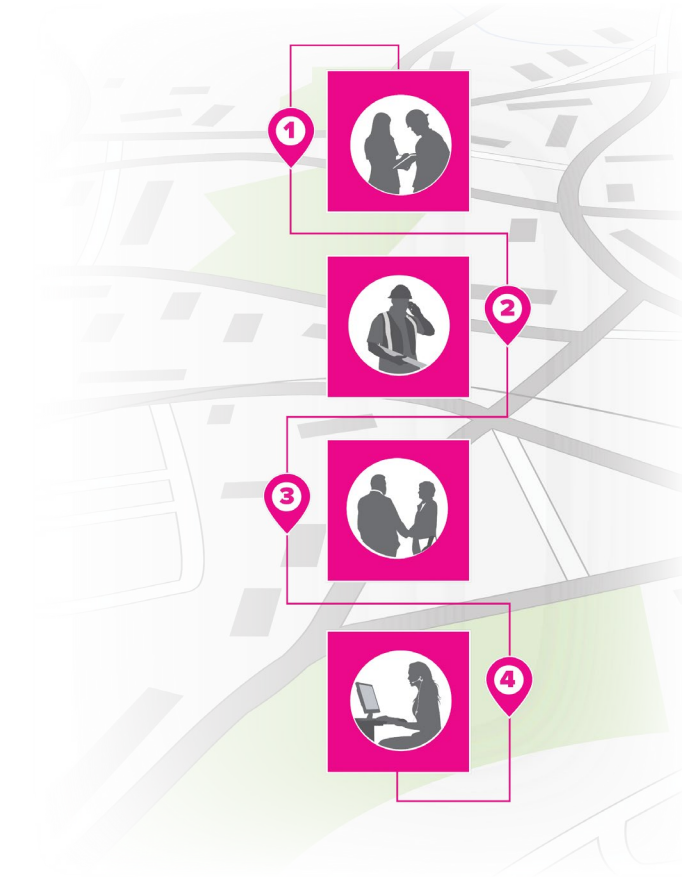
Section 48(e)(2)(B)(i) also includes the following Federal housing programs:

- Housing assistance programs administered by the USDA under title V of the Housing Act of 1949; and/or
- Housing programs administered by an Indian Tribe or a Tribally designated housing entity (as defined in section 4(22) of the Native American Housing Assistance and Self-Determination Act of 1996 (25 U.S.C. 4103(22)).



Less work. **More benefits.** Now even easier for property owners.

- No-cost technical support and project development support
- 60+ Municipal and State Agency projects developed to date
- Program has recently been expanded to include affordable **multifamily housing**
- Flexible financing with no upfront investment



Program Steps

1

Site Analysis. The Solar MAP team works with stakeholders to perform an analysis of all eligible locations to **identify opportunities** for solar projects

2

Project Development. We conduct **site visits, confirm project eligibility, and develop system designs** for each project to determine project economics.

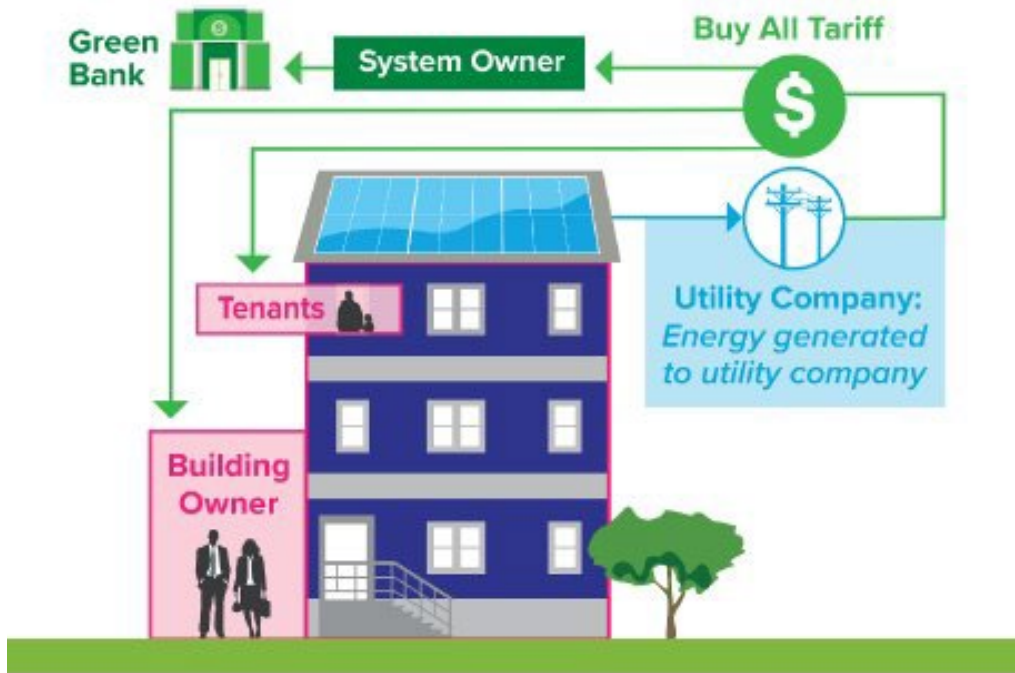
3

Execute. We present **project specs and pricing to execute a project agreement.**

4

Trusted Partner. We solicit **competitive proposals** from solar contractors and select the best, **bundling participating projects together** to achieve economies of scale. After a qualified contractor is selected, the team **manages all final steps** of development, construction, and energization of the project. This process includes submittal for eligible **state and federal incentives.**

Multifamily Affordable Housing Green Bank Solar Lease



- Affordable housing sites are typically debt-constrained properties, requiring an off- balance sheet approach to solar development
- No capital requirement from property owner
- Tenants receive credits on their electric bill from production (i.e., RRES)
- Green Bank owns and maintains asset, and bears risk

Multifamily Affordable Housing Green Bank Solar Loan



Benefits of the loan:

- Retain a higher portion of the tariff value
- Directly monetize the available tax credits for the solar project

Additional factors that impact project economics

- Roof size
- Building + Meter configuration
- Exposure to the sun (and therefore how much energy your system produces)
- How much energy is consumed across all units + common area meters
- Building Type: high rise, garden style, etc.
- # of units
- Inclusion of battery storage
- Required Upgrades:
 - Interconnection Upgrades
 - Structural Upgrades
 - Roof Repair or Replacement Prior to Install

Sample Project Economics

| Project Description | ITC | Year 1 Property Owner Revenue | Year 1 Residents Revenue | Year 1 Per Tenant Revenue | Cumulative Benefit |
|---------------------|-----|-------------------------------|--------------------------|---------------------------|--------------------|
| 294.4 kW Solar | 30% | \$ 24,865 | \$ 26,095 | \$ 168 | \$ 960,200 |
| 294.4 kW Solar | 50% | \$ 33,929 | \$ 33,929 | \$ 219 | \$ 1,278,580 |



Sample Project Economics

| Project Description | ITC | Year 1 Property Owner Revenue | Year 1 Residents Revenue | Year 1 Per Tenant Revenue |
|-----------------------|-----|-------------------------------|--------------------------|---------------------------|
| 298kw Solar | 30% | \$ 12,588 | \$ 23,976 | \$ 235 |
| 298kw Solar | 50% | \$ 27,213 | \$ 27,213 | \$ 267 |
| 298kw Solar + Storage | 30% | \$ 7,505 | \$ 23,976 | \$ 235 |
| 298kw Solar + Storage | 50% | \$ 25,895 | \$ 25,895 | \$ 254 |

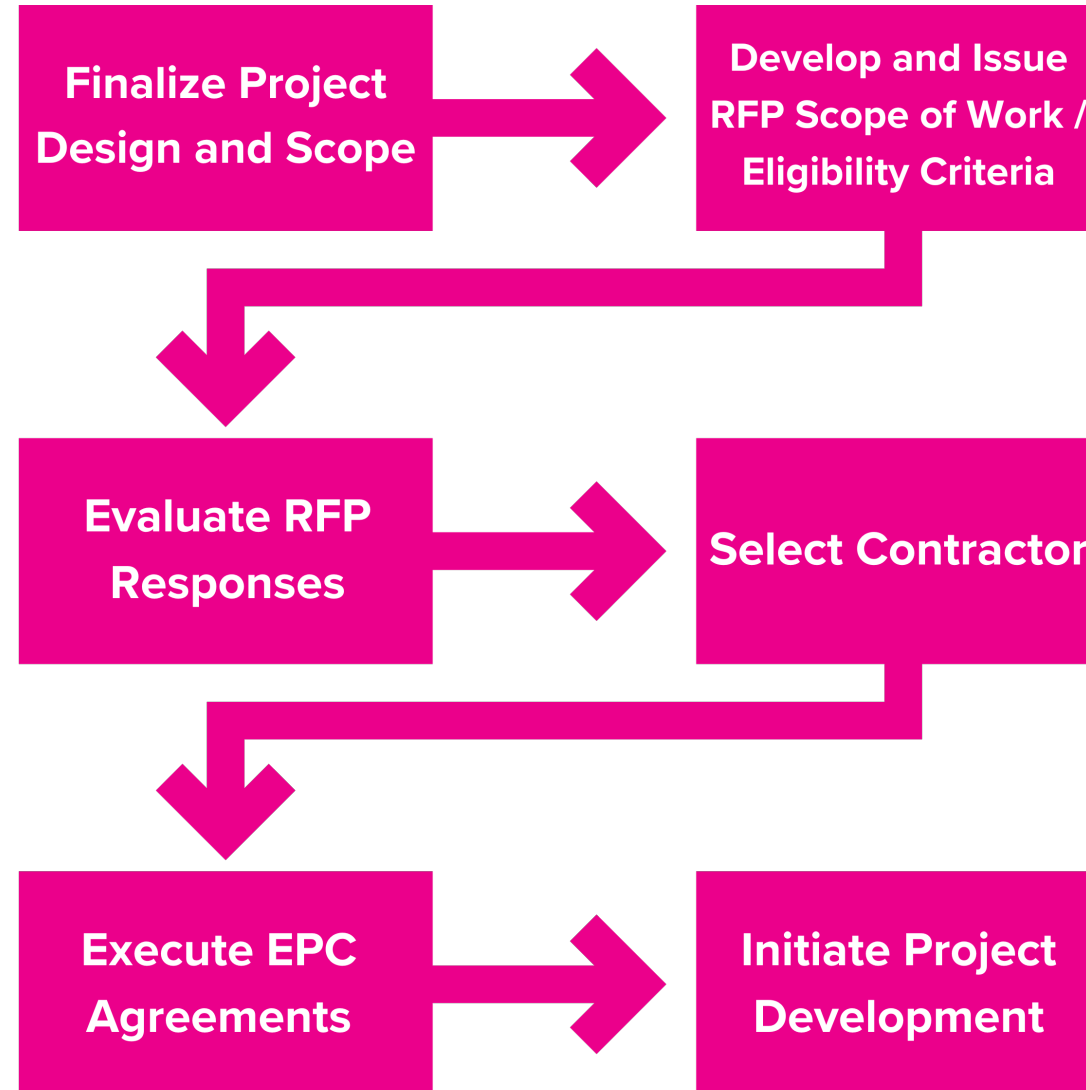


Sample Project Schedule



| | | | | | | | | | |
|----------------------------|----------|-------------|------|--------------|------------------------------|---------|--------------|----|--------------|
| Notice to proceed | 0 days | Tue 2/28/23 | 100% | Tue 2/28/23 | Construction | 54 days | Mon 9/11/23 | 0% | Wed 11/22/23 |
| Engineering | 86 Days? | Tue 2/28/23 | 100% | Tue 6/27/23 | Mobilize Site | 5 days | Mon 9/11/23 | 0% | Fri 9/15/23 |
| Proposal Process | 5 days | Tue 2/28/23 | 100% | Mon 3/6/23 | Array Installation | 20 days | Mon 9/18/23 | 0% | Fri 9/15/23 |
| Engineers Contracted | 6 days | Tue 3/7/23 | 100% | Tue 3/14/23 | Electrical Installation | 20 days | Wed 10/11/23 | 0% | Tue 11/7/23 |
| Site Visits | 10 days | Wed 3/15/23 | 100% | Tue 3/28/23 | Final Gear Installation | 4 days | Thu 10/12/23 | 0% | Tue 10/17/23 |
| One Line | 1 day? | Wed 3/1/23 | 100% | Wed 3/1/23 | Shutdown | 1 day | Sat 11/11/23 | 0% | Sat 11/11/23 |
| Structural Report | 25 days | Wed 3/29/23 | 100% | Tue 5/2/23 | Mechanical Completion | 1 day | Mon 11/13/23 | 0% | Mon 11/13/23 |
| Racking Drawings | 20 days | Wed 5/3/23 | 100% | Tue 5/30/23 | Muni Inspections | 5 days | Mon 11/13/23 | 0% | Fri 11/17/23 |
| Permit Set | 20 days | Wed 5/31/23 | 100% | Tue 6/27/23 | Commissioning Visit | 2 days | Tue 11/14/23 | 0% | Wed 11/15/23 |
| Interconnection | 92 days | Thu 3/2/23 | 100% | Fri 7/7/23 | Mechanical Complete Certific | 5 days | Thu 11/16/23 | 0% | Wed 11/22/23 |
| Application Process | 92 days | Thu 3/2/23 | 100% | Fri 7/7/23 | Closeout | 21 days | Thu 11/23/23 | 0% | Thu 12/21/23 |
| Subcontractor Procurement | 15 days | Wed 6/23/23 | 100% | Mon 7/17/23 | Utility Witness Test | 1 day | Thu 11/23/23 | 0% | 11/23/23 |
| Proposals | 10 days | Wed 6/28/23 | 100% | Mon 7/10/23 | Utility PTO | 10 days | Fri 11/24/23 | 0% | Thu 12/7/23 |
| Contracting | 5 days | Tue 7/11/12 | 100% | Mon 7/17/23 | Commissioning/COD | 10 days | Fri 12/8/23 | 0% | Thu 12/21/23 |
| Permitting | 23 days | Fri 6/23/23 | 100% | Mon 7/24/23 | Closeout Documentation | 10 days | Fri 12/8/23 | 0% | Thu 12/21/23 |
| Building & Electrical | 23 days | Fri 6/23/23 | 100% | Mon 7/24/23 | | | | | |
| Procurement | 358 days | Wed 6/1/22 | 81% | Wed 10/11/23 | | | | | |
| Racking | 30 days | Mon 7/31/23 | 55% | Fri 9/8/23 | | | | | |
| Modules | 160 days | Wed 6/1/22 | 100% | Tue 1/10/23 | | | | | |
| Inverters | 30 days | Mon 7/31/12 | 55% | Fri 9/8/23 | | | | | |
| Monitoring System | 30 days | Mon 6/12/23 | 100% | Thu 7/20/23 | | | | | |
| Electrical Long Lead Items | 90 days | Mon 6/12/23 | 58% | Wed 10/11/23 | | | | | |

Competitive Solicitation With Our Contractor Network



Energy Storage Solutions



Program Design

| Program Element | Design Item | Summer | Winter |
|--|-----------------------------|--------------------------------|-------------------------|
| Upfront Incentive (Passive Dispatch) | Events per Season | All non-holiday weekdays (~60) | N/A |
| | Months | June, July & August | N/A |
| | Event Duration | 5 Hours | N/A |
| | Anticipated Dispatch Window | 3 PM to 8 PM | N/A |
| Performance-Based Incentive (Active Dispatch) | Events per Season | 30 to 60 | 1 to 5 |
| | Months | June through September | November through March |
| | Event Duration | 1 - 3 hours | 1 - 3 hours |
| | Anticipated Dispatch Window | Noon to 9 PM (All Days) | Noon to 9 PM (All Days) |

Commercial Incentives

| Upfront Incentive Levels (Installed 2022-2024)* | | | |
|---|-----------|------------|-----------|
| Customer Class | Small C&I | Medium C&I | Large C&I |
| <i>Peak Demand</i> | <200 kW | 200-500 kW | >500 kW |
| Step 2 Incentive Rates | \$200/kWh | \$175/kWh | \$100/kWh |
| Priority Customer Adder | +25% | +25% | +25% |

| Performance Incentive Levels (Installed 2022-2024) | | | |
|--|-------------------|--------------------|--------------------|
| Summer, Years 1-5 | Winter, Years 1-5 | Summer, Years 6-10 | Winter, Years 6-10 |
| \$200/kW | \$25/kW | \$115/kW | \$15/kW |

**Upfront Incentive capped at 50% of total cost*

Residential Incentives

| Upfront Incentive Levels (Installed 2022-2024)* | | | |
|---|-------------|-------------|------------|
| Capacity Block (MW) | Standard | Underserved | Low-Income |
| 10 | \$250/kWh | \$450/kWh | \$600/kWh |
| 15 | \$212.5/kWh | \$450/kWh | \$600/kWh |
| 25 | \$162.5/kWh | \$450/kWh | \$600/kWh |
| Grid-Edge Adder | +50% | +50% | +50% |

**Residential Upfront Incentive capped at \$16,000 or 50% of total cost (whichever is less), per residential unit*

Sample Incentive Calculation

| Project Description | Sample Cost (total) | Sample Cost (per unit) | Upfront Incentive (per unit) | Upfront Incentive (total) | 10-year Performance Incentive |
|------------------------------|---------------------|------------------------|------------------------------|---------------------------|-------------------------------|
| 1927 kW, 3854 kWh, 200 units | \$3,219,386.00 | \$16,096.93 | \$8,048.47* | \$1,609,693.00* | \$1,244,782 |

- Low-Income/AMFH rate: \$600/kWh
- Upfront Incentive capped at 50% of cost, per unit
- 10-year performance incentive estimate is in nominal USD

**Residential Upfront Incentive capped at \$16,000 or 50% of total cost (whichever is less), per residential unit*

Applying for Incentives

Become an Energy Storage Solutions Eligible Contractor. Get in touch with an Eligible Contractor at energystoragect.com/eligible-contractors/

Submit an initial application. Apply for incentives through the Energy Storage Solutions contractor portal. Ensure the BESS is on the Eligible Equipment list.

Await approval and Reservation of Funds (ROF). Green Bank staff will review the initial application for basic project and site information. If approved, an ROF letter will be issued.

Submit Completion Application after BESS installation. Submit a Completion Application with site verification information through the ESS portal.

Await payment and Confirmation of Funds (COF). The Green Bank will issue payment of the Upfront Incentive once the Completion Application is approved and the BESS connection is confirmed.

Questions & Answers



Email us at info@ctgreenbank.com or visit <https://www.ctgreenbank.com>

Link to schedule a meeting:

<https://calendly.com/d/5j7-3jf-vyj/intro-call-solar-map-affordable-multifamily-solar>

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Thank you for attending!

