CONNECTICUT GREEN BANK®

Financing Residential Solar in Connecticut:

Insights into Lease and Third-Party Ownership Programs

August 3, 2023

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Introduction

CONNECTICUT GREEN BANK

Connecticut Green Bank is the nation's first state 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

Guiding this mission is our vision for
"…a planet protected by the love of humanity."

Overview of the Greenhouse Gas Reduction Fund

Greenhouse Gas Reduction Fund

- **Inflation Reduction Act** – provides $27 billion to the U.S. Environmental Protection Agency (EPA) to administer the Greenhouse Gas Reduction Fund (GGRF)
- **Notice of Funding Opportunities** – EPA has now released all three opportunities, including:
  - **National Clean Investment Fund** - $14 billion competition that will fund 2-3 national nonprofits that will partner with private capital providers to deliver financing at scale to businesses, communities, community lenders, and others
  - **Clean Communities Investment Accelerator** - $6 billion competition that will fund 2-7 hub nonprofits with the plans and capabilities to rapidly build the clean financing capacity of specific networks of public, quasi-public, and nonprofit community lenders to ensure that households, small businesses, schools, and community institutions in low-income and disadvantaged communities have access to financing
  - **Solar for All** - $7 billion competition that will provide up to 60 grants to states, tribes, municipalities and nonprofits to expand the number of low-income and disadvantaged communities for investment in residential and community solar

Solar for All Competition

- **Funding and Awards** – $7 billion from Section 134(a)(1) of the Clean Air Act for up to 60 awards (i.e., states (including territories), Tribal governments, municipalities, and eligible entities) which must be invested in low-income and disadvantaged communities to deploy or benefit from zero-emission technologies
- **Activities** – expand existing low-income solar programs or design and deploy new Solar for All programs, including the following types of projects:
  - **Residential Rooftop** – rooftop and ground-mounted that support individual households, master-metered facilities, and/or common areas in multifamily buildings
  - **Community Solar** – solar PV producing facility or power purchasing program in which benefits flow to multiple residential customers
  - **Associated Storage** – store solar for various purposes (e.g., resilience, demand response)
  - **Enabling Upgrades** – building infrastructure to support solar deployment (e.g., EE, roof repairs)

Greenhouse Gas Reduction Fund

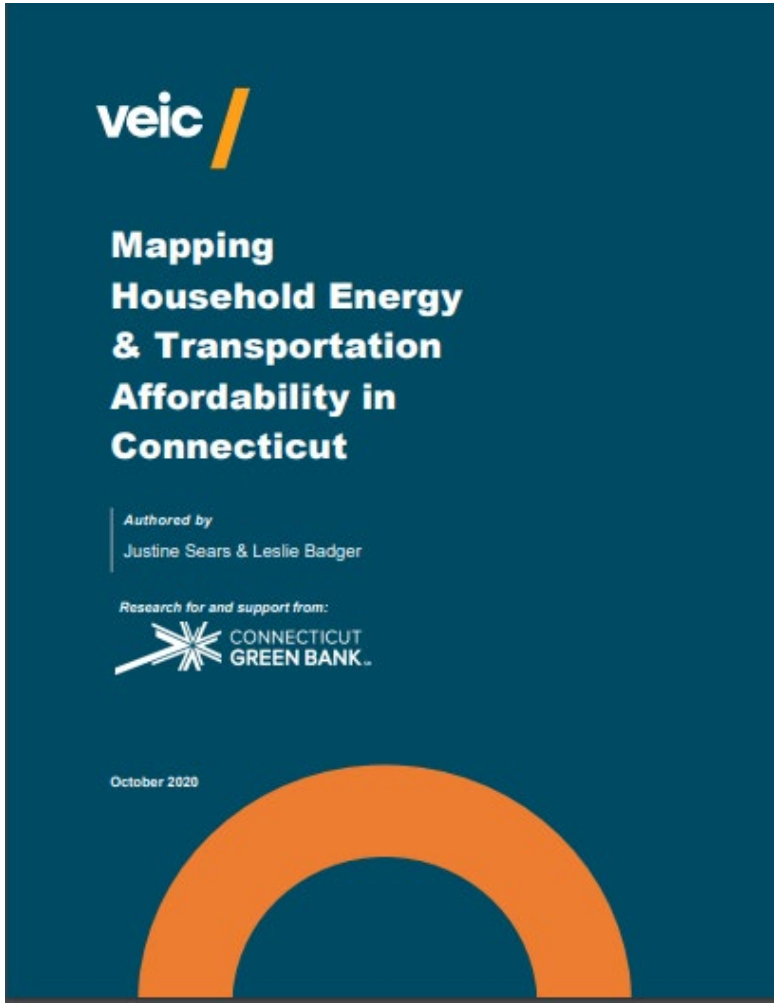
EPA Announces Another $20 Billi in Funding Under the Greenhouse G Reduction Fund

EPA released the Notices of Funding Opportunity for the $14 billion Nationa Investment Fund competition and the $ Clean Communities Investment Acceler competition.

Energy Burden and Barriers to Residential Solar

Energy Burden

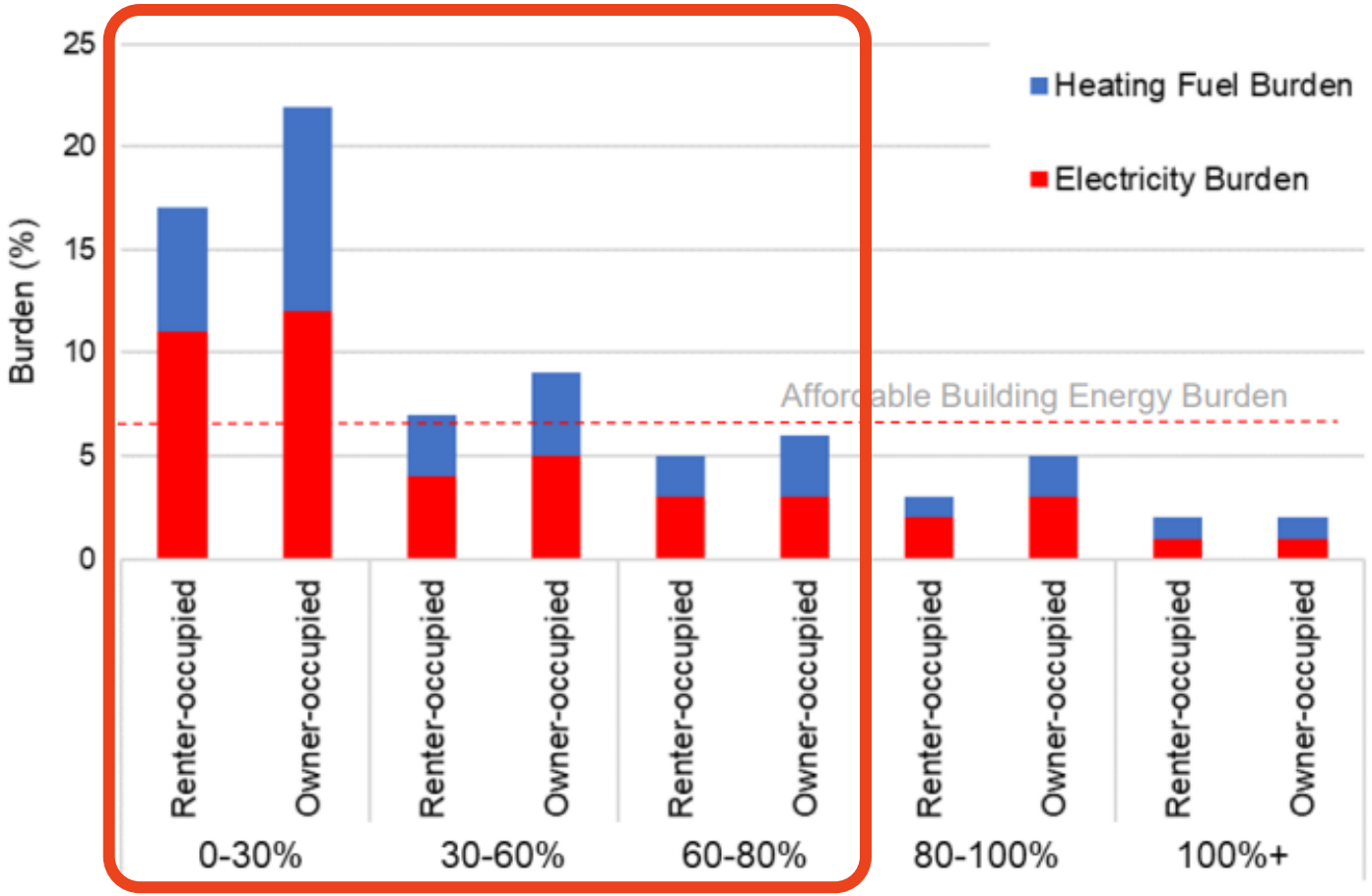
- **Energy Burden** – energy spending expressed as a percentage of household income
- **Energy Affordability Threshold** – energy burden above which is considered unaffordable
- **Energy Affordability Gap** – difference between actual home energy bills and affordable home energy bills for a specific geographic area



REFERENCES

Mapping Household Energy & Transportation Affordability in Connecticut by VEIC for Connecticut Green Bank (October 2020)

Energy Burden
Income and Ownership

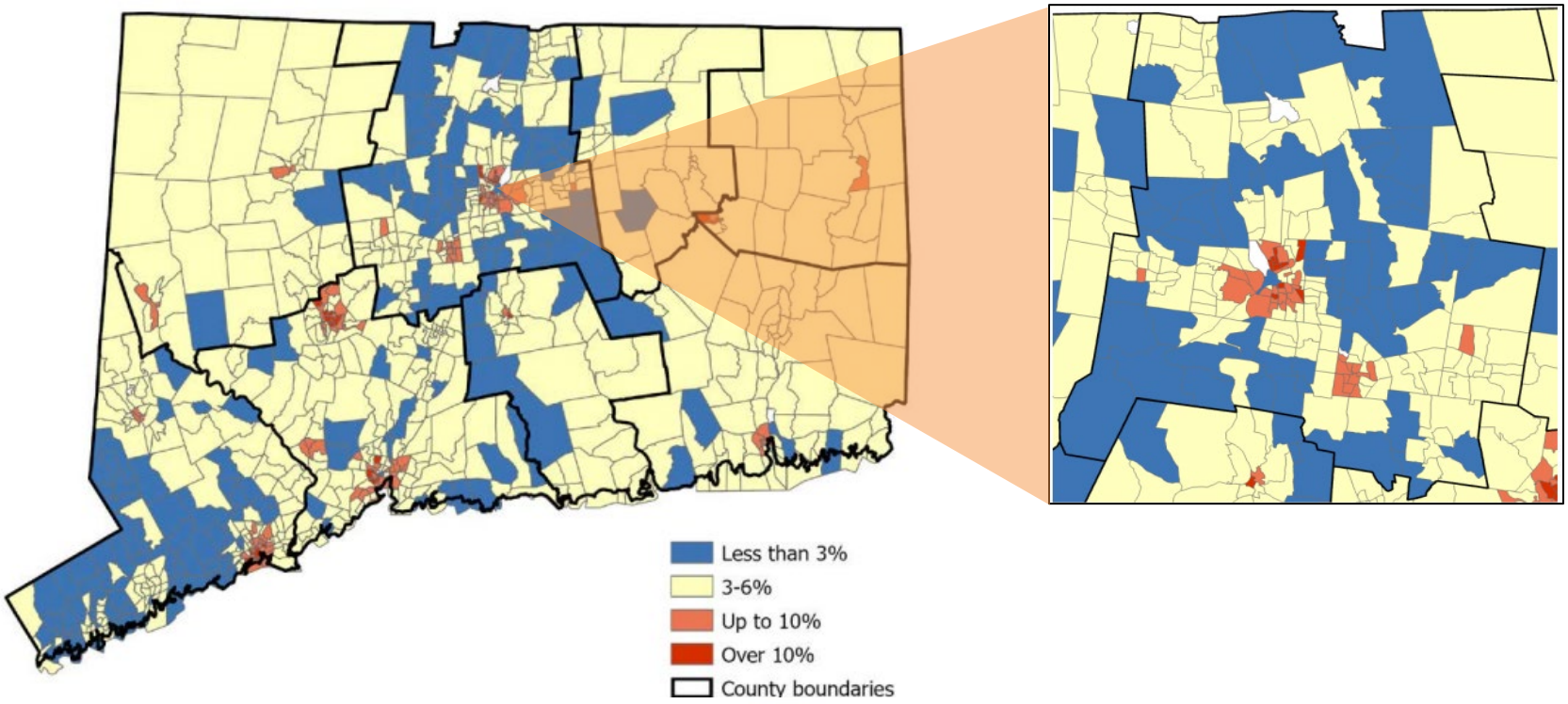


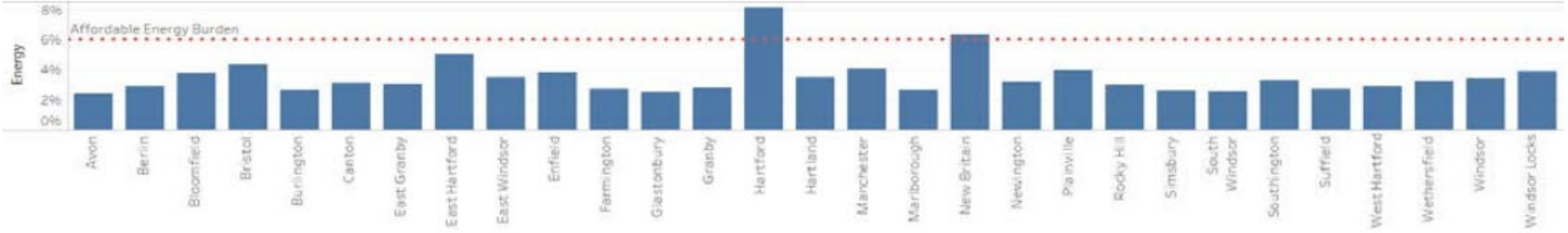
Low-income (<80% AMI), owner occupied and rental housing, experience the highest energy burden

REFERENCES

Mapping Household Energy & Transportation Affordability in Connecticut by VEIC for Connecticut Green Bank (October 2020)

Energy Burden
Hartford County

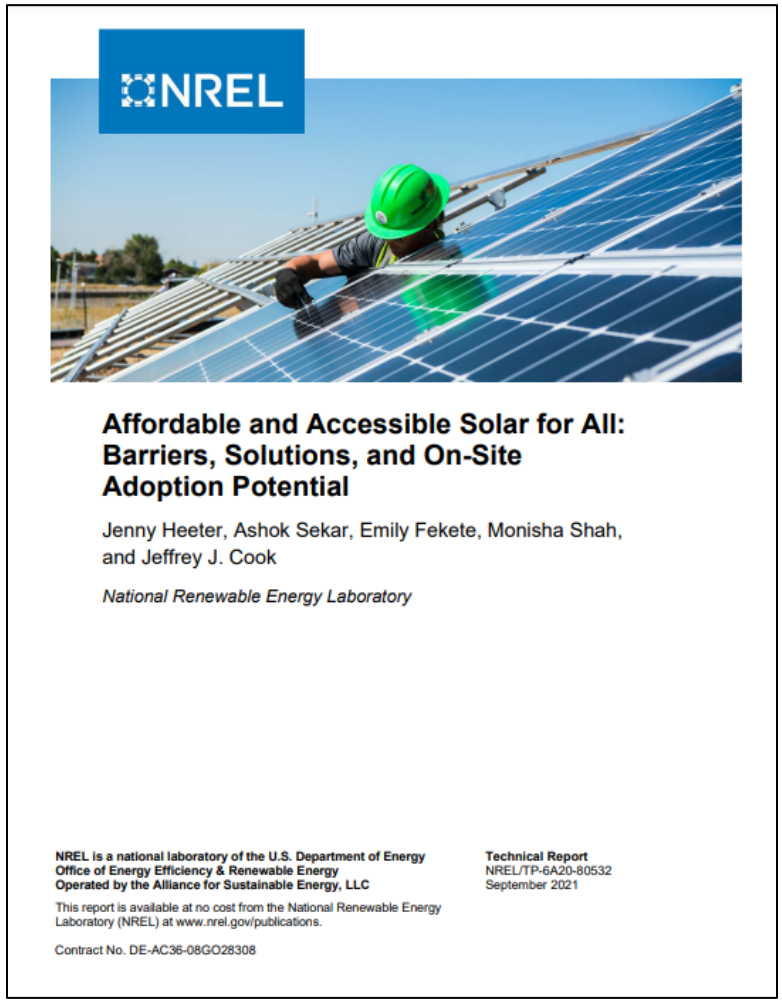




REFERENCES

Mapping Household Energy & Transportation Affordability in Connecticut by VEIC for Connecticut Green Bank (October 2020)

Barriers to Residential Solar Low Income Adoption



1. **Finance and Funding**
   - Inability to afford an upfront payment
   - Difficulty accessing low-cost financing options for low or no credit score
   - Limited LMI specific incentives, credits, or financing mechanisms to bring down cost of solar and enable bill savings from day one
   - LMI households without tax appetite to benefit directly from the federal investment tax credit
   - And more…
2. Community Engagement
3. Policy and Regulatory
4. Site Suitability
5. Resilience and Recovery

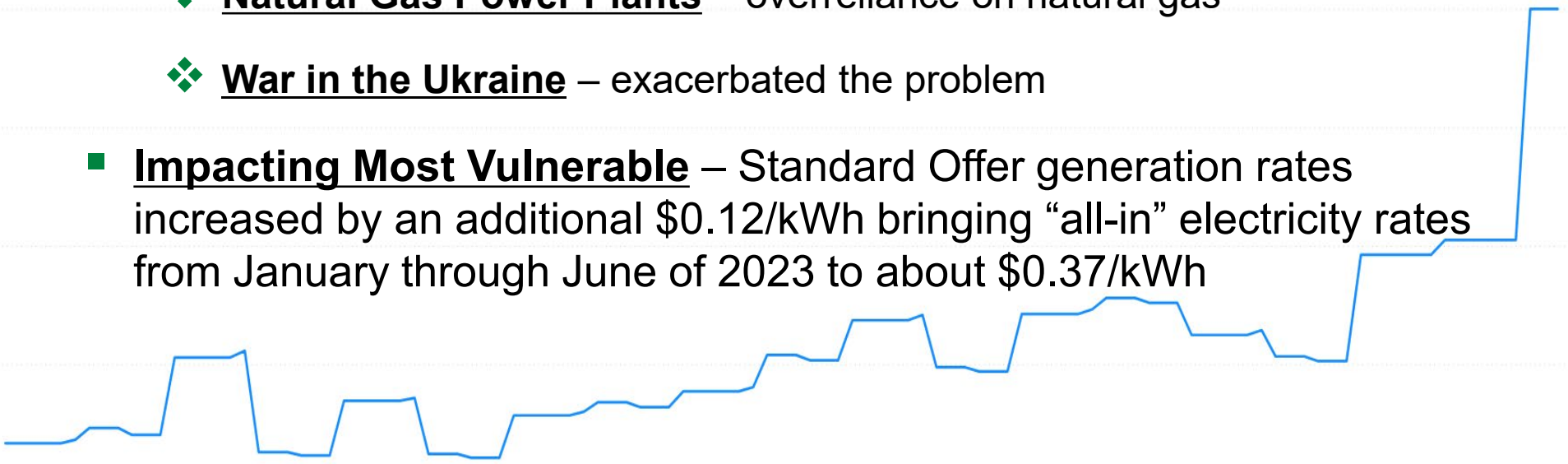
REFERENCES

Affordable and Accessible Solar for All: Barriers, Solutions, and On-Site Adoption Potential (nrel.gov)

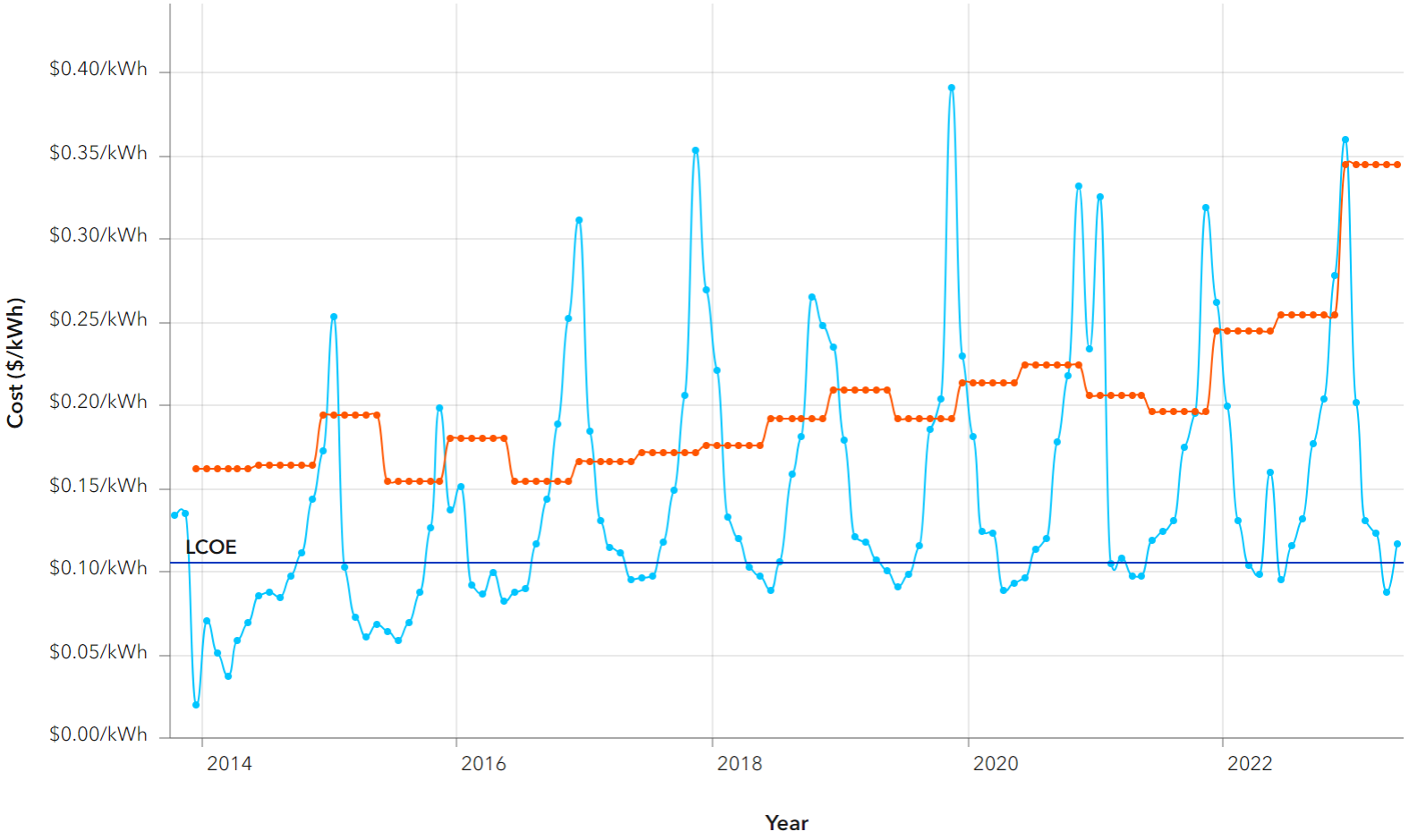
Electricity Rates vs. Equivalent Lease or PPA Rates

Residential Electricity Rates

- **Electricity Rates** – Connecticut has among the highest electricity rates in the continental United States
  - **Deregulation** – in the late 1990's separated generation from transmission and distribution
  - **Natural Gas Power Plants** – overreliance on natural gas
  - **War in the Ukraine** – exacerbated the problem
- **Impacting Most Vulnerable** – Standard Offer generation rates increased by an additional $0.12/kWh bringing "all-in" electricity rates from January through June of 2023 to about $0.37/kWh

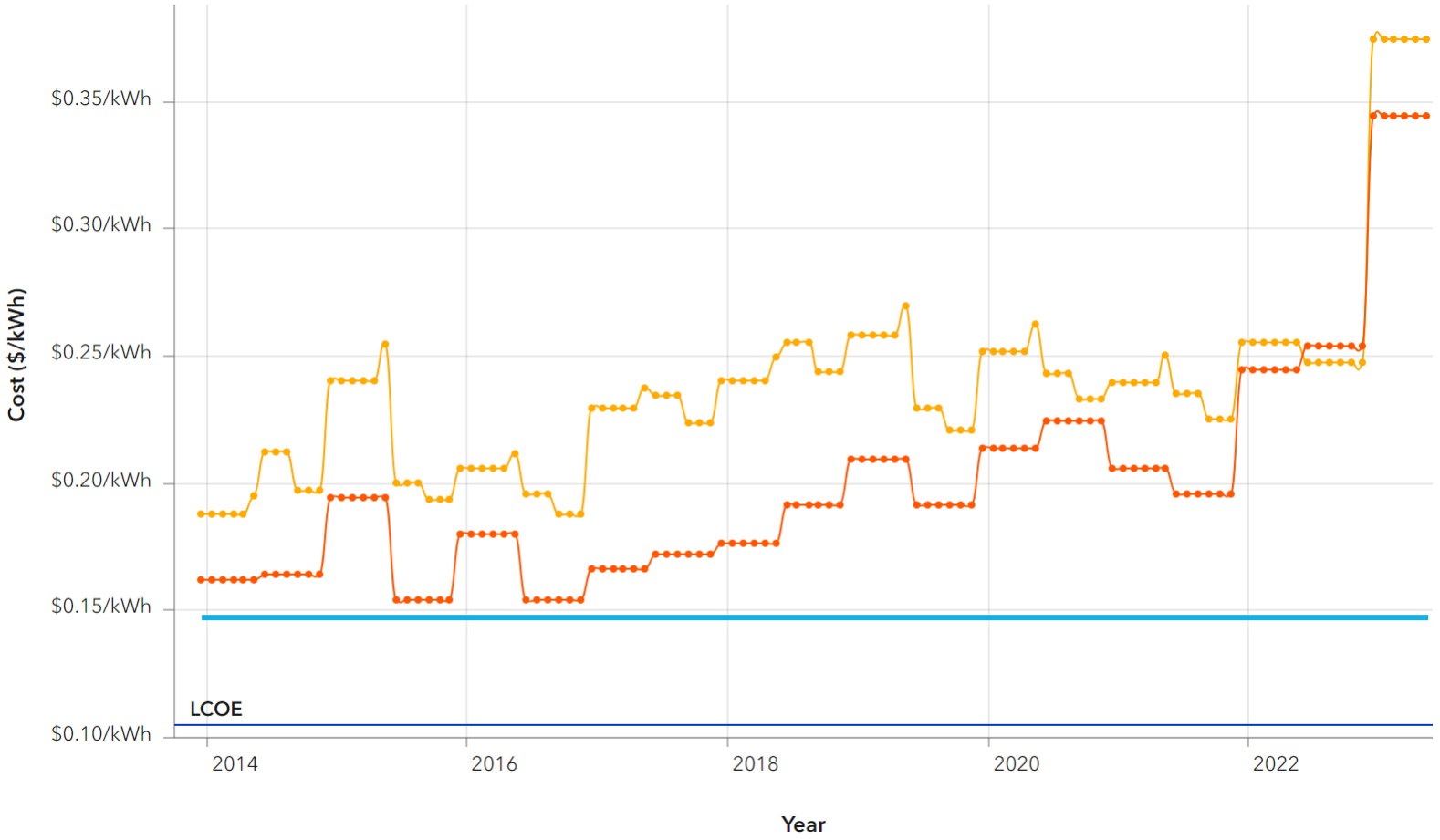


Electricity Rates vs. Equivalent Lease Rate



Leases are a financing mechanism to help households realize the economic benefits on a variable price basis from residential solar

Electricity Rates vs. PPA Rate



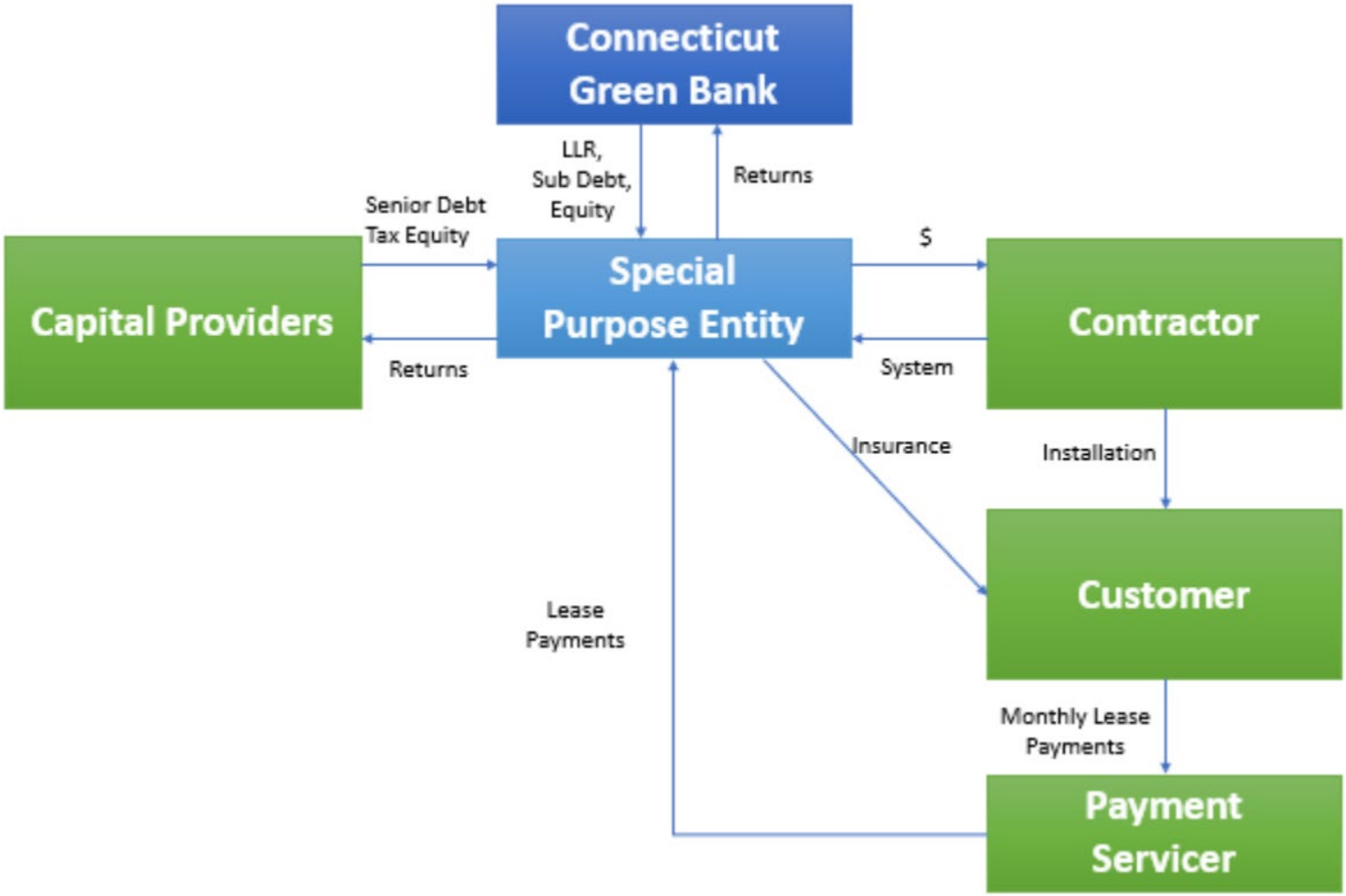
PPAs are a financing mechanism to help households realize the economic benefits on a fixed price basis from residential solar

Connecticut Solar Lease

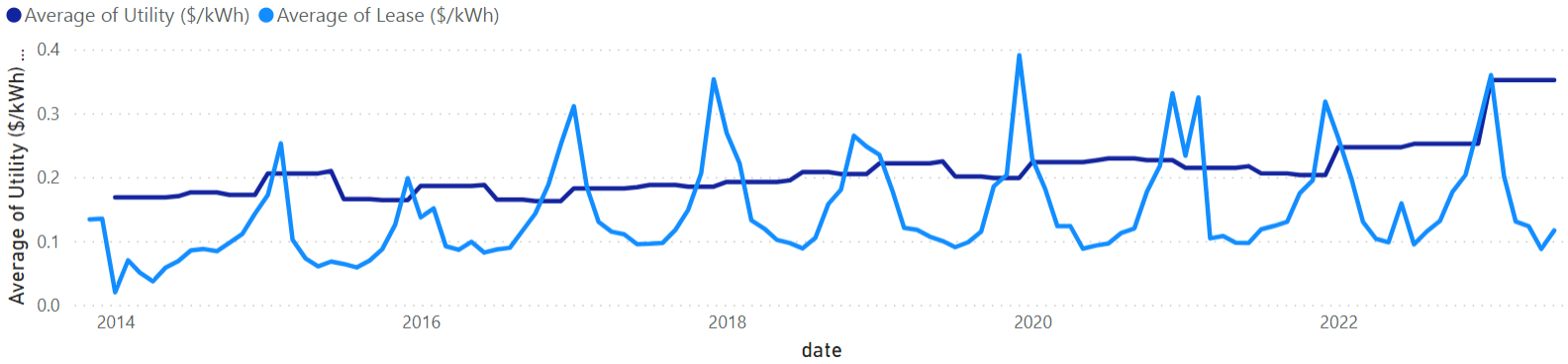
Connecticut Solar Lease

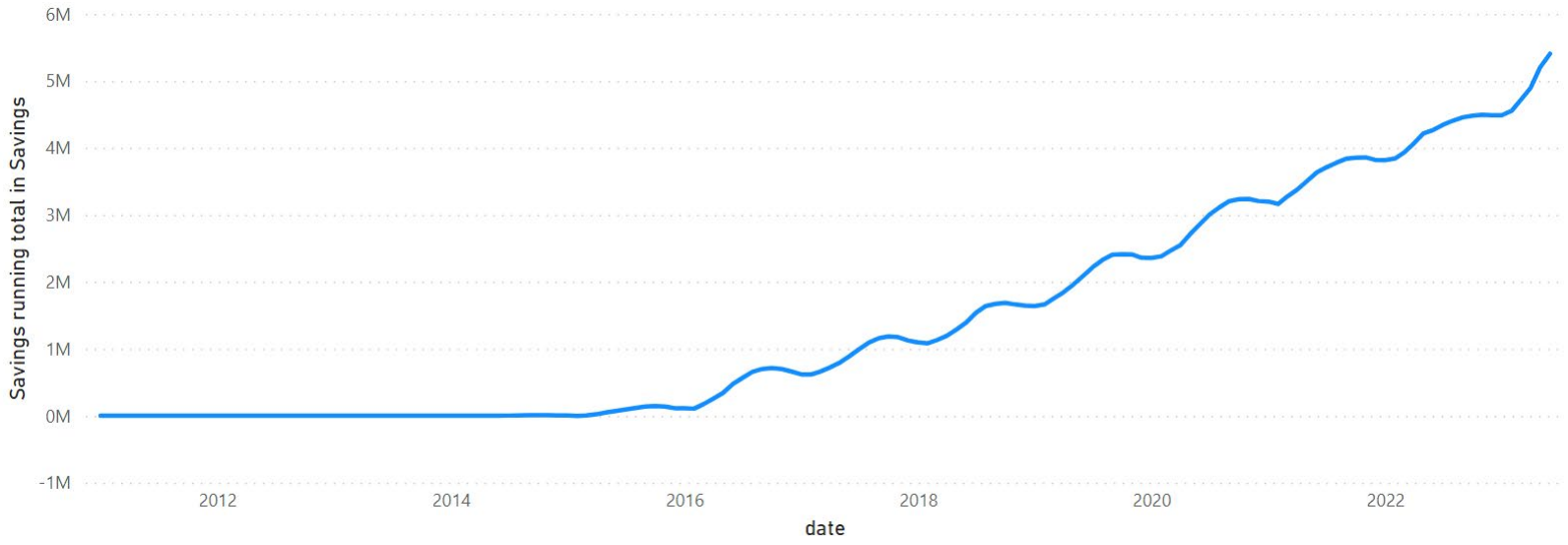
Market Segment	Residential Single Family
Product Summary	Provide local contractors with access to lease financing through PPP with tax equity and syndicate of local lenders.
Support Needed	▪ Local Contractors ▪ Investors – US Bank (Tax Equity), Webster Bank and Key Bank (Local Lenders) ▪ Subordinated Debt, Loan Loss Reserve, and Manager Equity ▪ RSIP Incentive
CT Results	1,189 projects totaling $43.2 million of investment and 9.6 MW of solar PV deployment.

Connecticut Solar Lease
Legal Structure and Flows of Capital



Connecticut Solar Lease
Electricity Rates vs. Equivalent Lease Rates



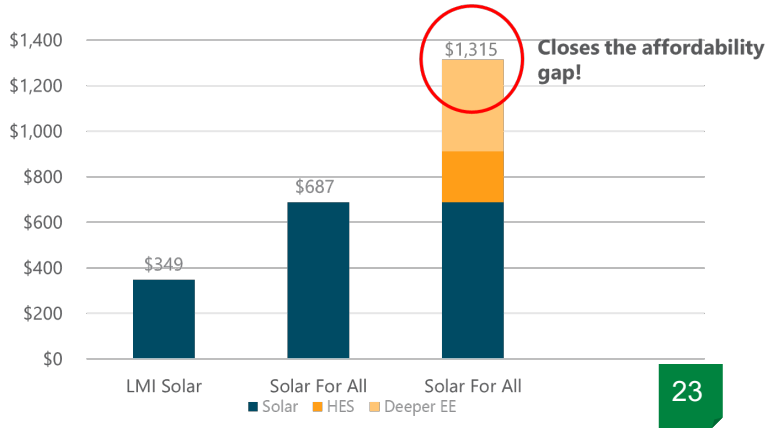


Solar For All

Solar for All

Market Segment	**Residential Single Family LMI** (Co-Investment)
Product Summary	Solar lease + energy efficiency package (fixed 20 years) to reduce energy burden with alternative underwrite/no credit score using community based marketing approach
Support Needed	▪ Good solar economics including tiered LMI incentive ▪ Municipal, community and nonprofit introductions ▪ Subordinated debt capital – if available, but not required
CT Results	4,546 leases for $128.1 MM investment, 30.3 MW solar PV, HES, and 66% weatherization – eliminates energy burden

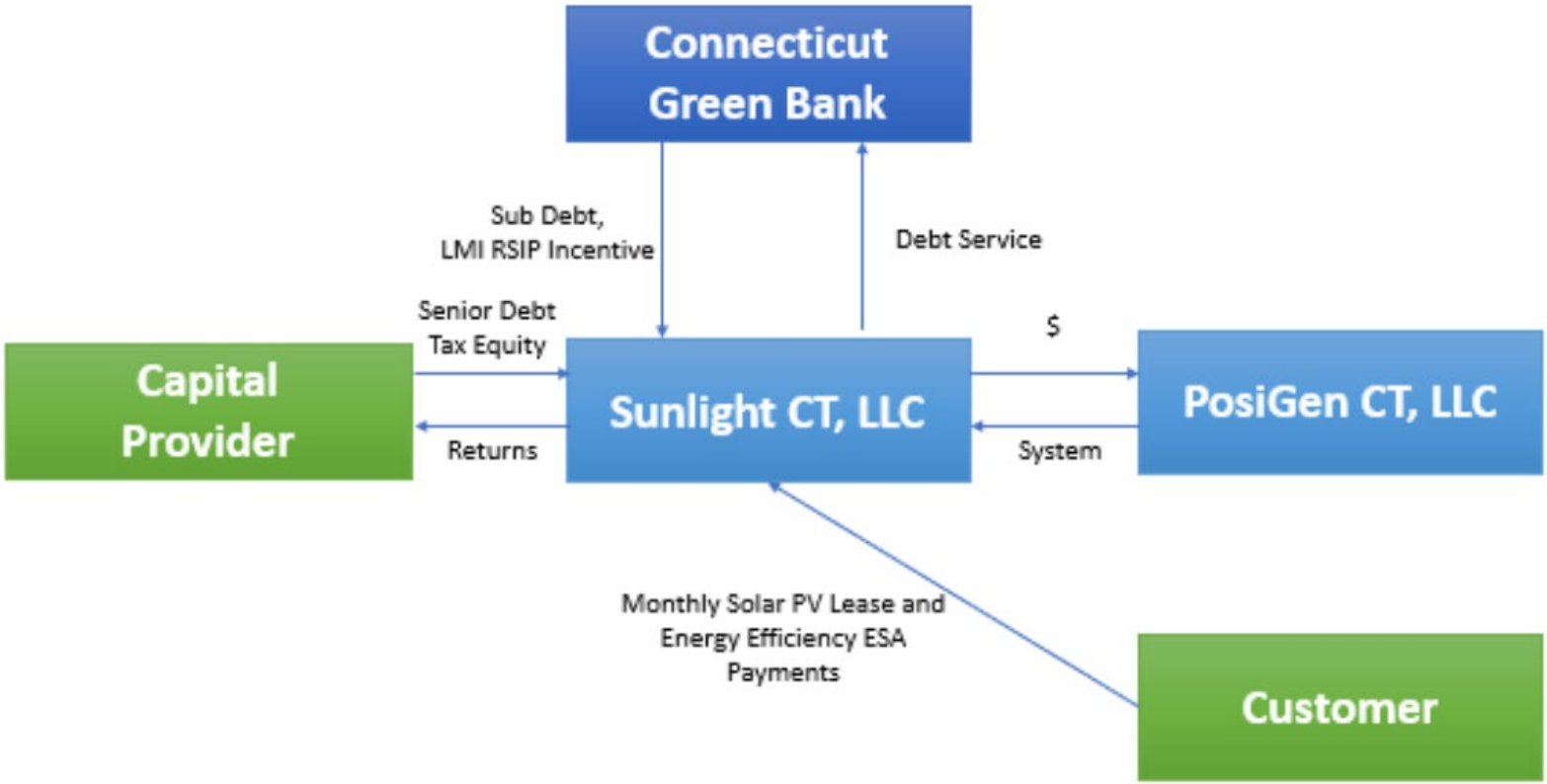
PosiGen Solar Solutions



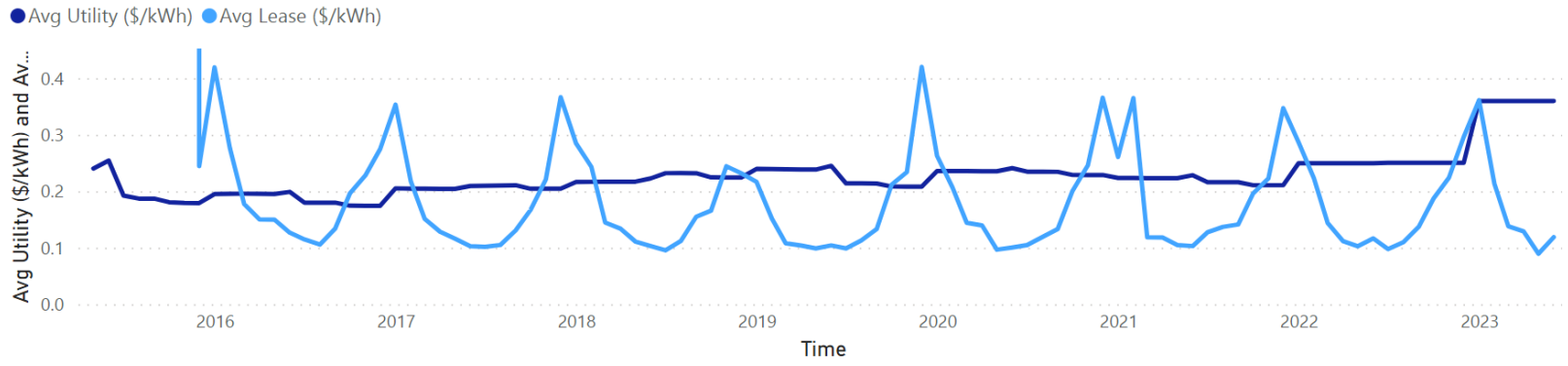
REFERENCES

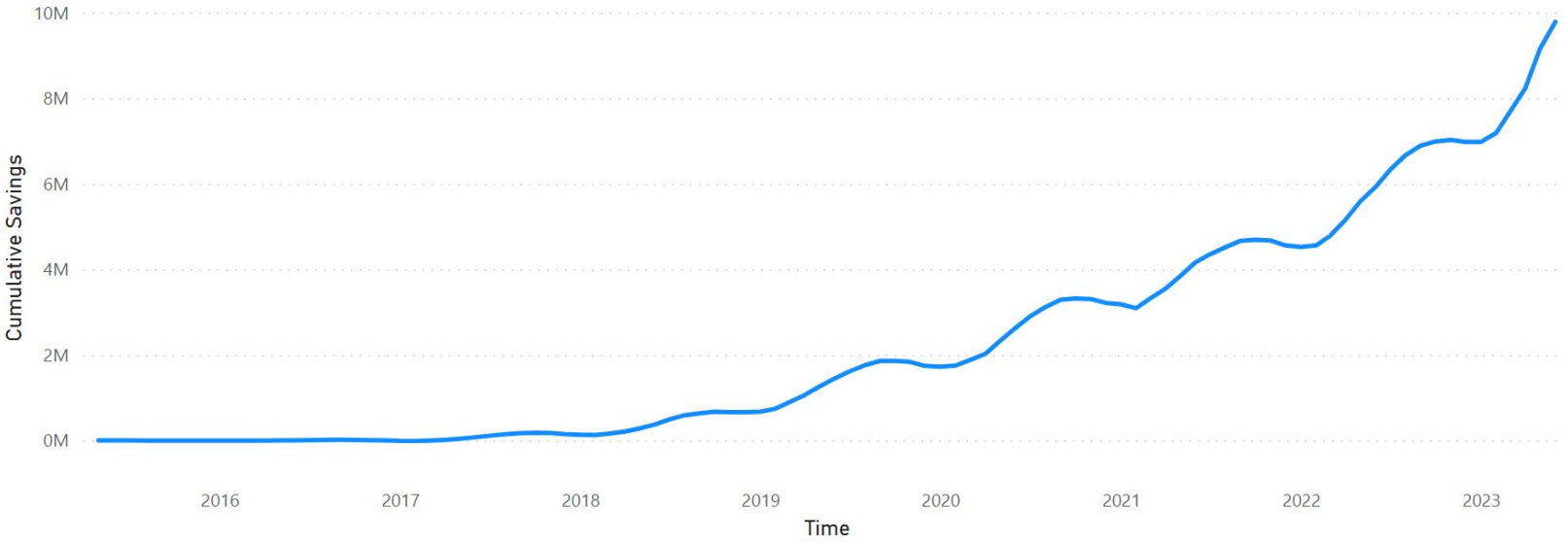
Annual Comprehensive Financial Report FY 2022

Solar for All
Legal Structure and Flows of Capital



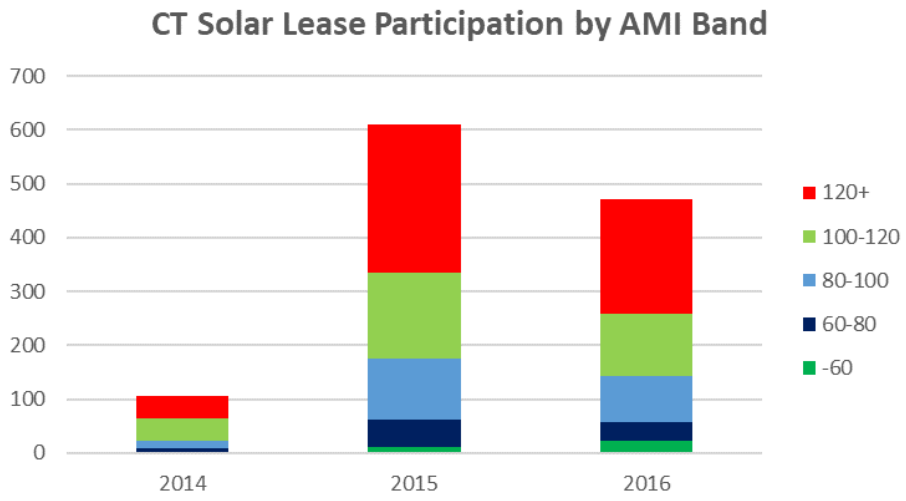
Solar for All
Electricity Rates vs. Equivalent Lease Rates

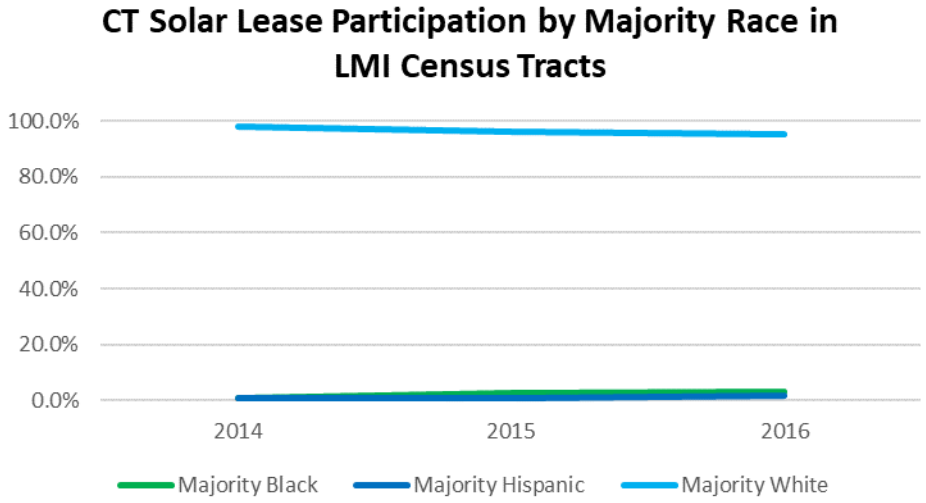


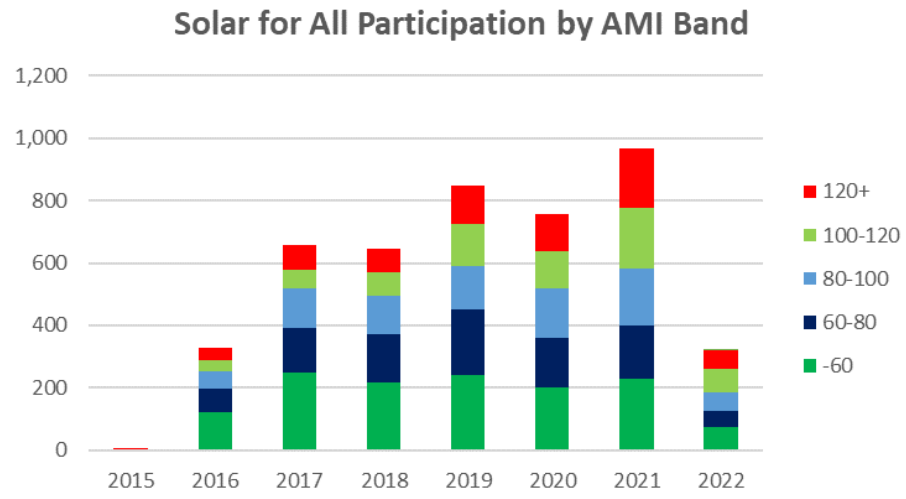


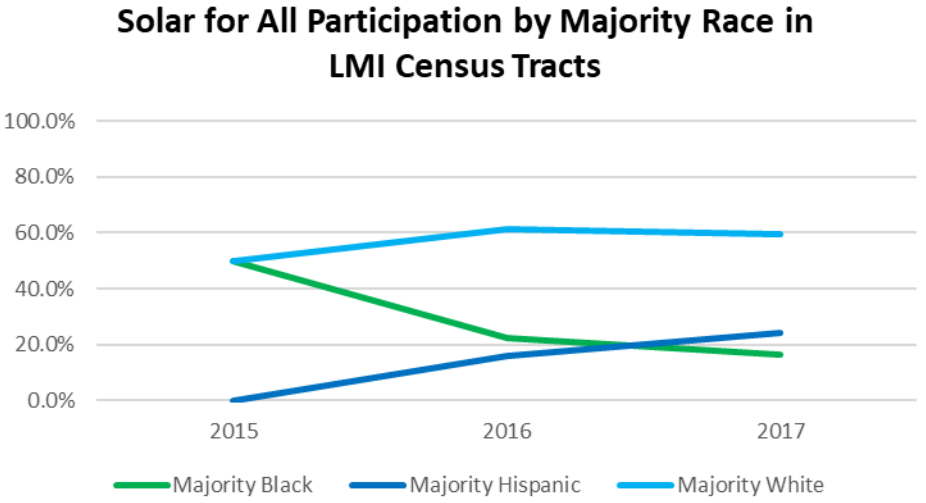
Comparison of Lease Products by Income and Race

Comparison of Lease Products Income and Race

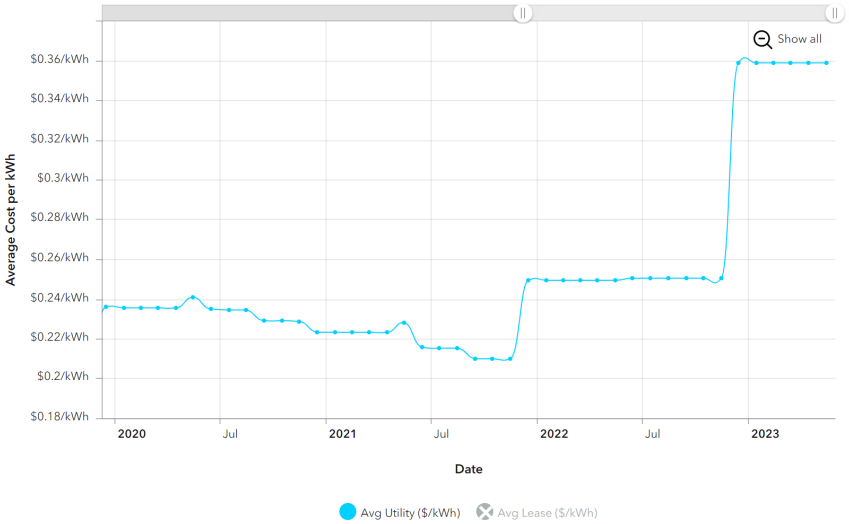


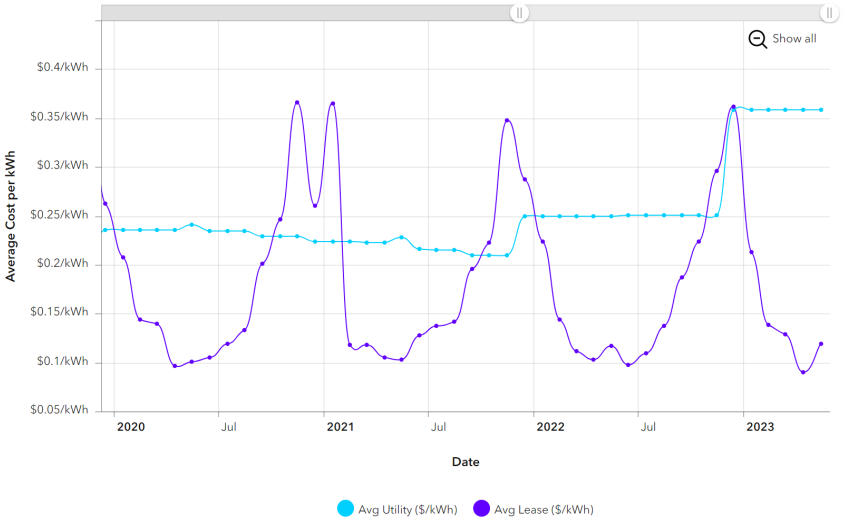






Treasurer Yellen Delivering Speech on Bidenomics at PosiGen in New Orleans, LA





Closing Thoughts

Additional Information

Spotlight on Residential Solar in Connecticut

Residential Solar Investment and Deployment in Connecticut

An In-Depth Review of an Incentive Program (2012-2022)

Connecticut Green Bank - May 5th, 2023

Financing Residential Solar in Connecticut #1

Insights into Loan Programs

Connecticut Green Bank - June 5th, 2023

Financing Residential Solar in Connecticut #2

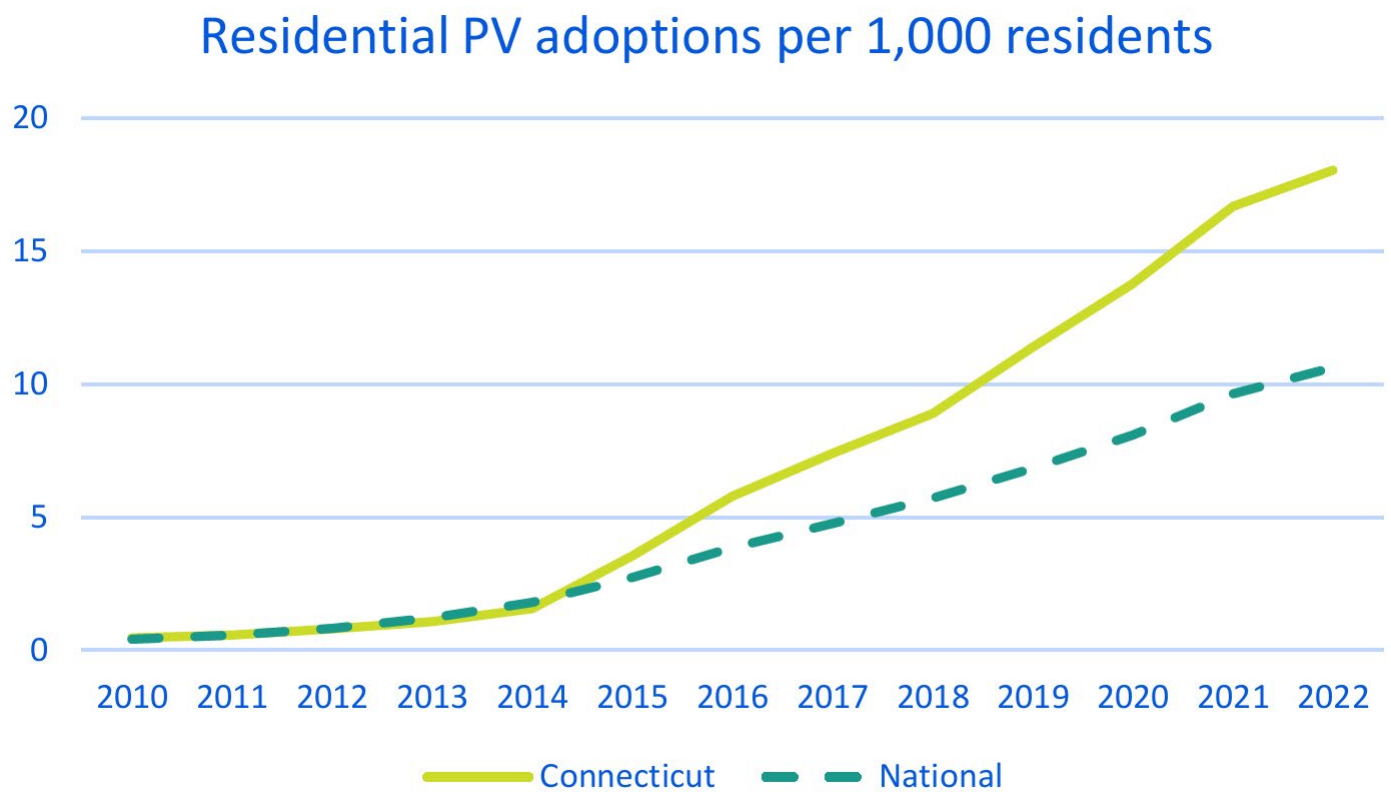
Insights into Lease and Third-Party Ownership Programs

Connecticut Green Bank - August 3rd, 2023

July 24, 2023

Webinar #4 Solar + Storage for All in Connecticut scheduled for Wednesday, September 13th at Noon.

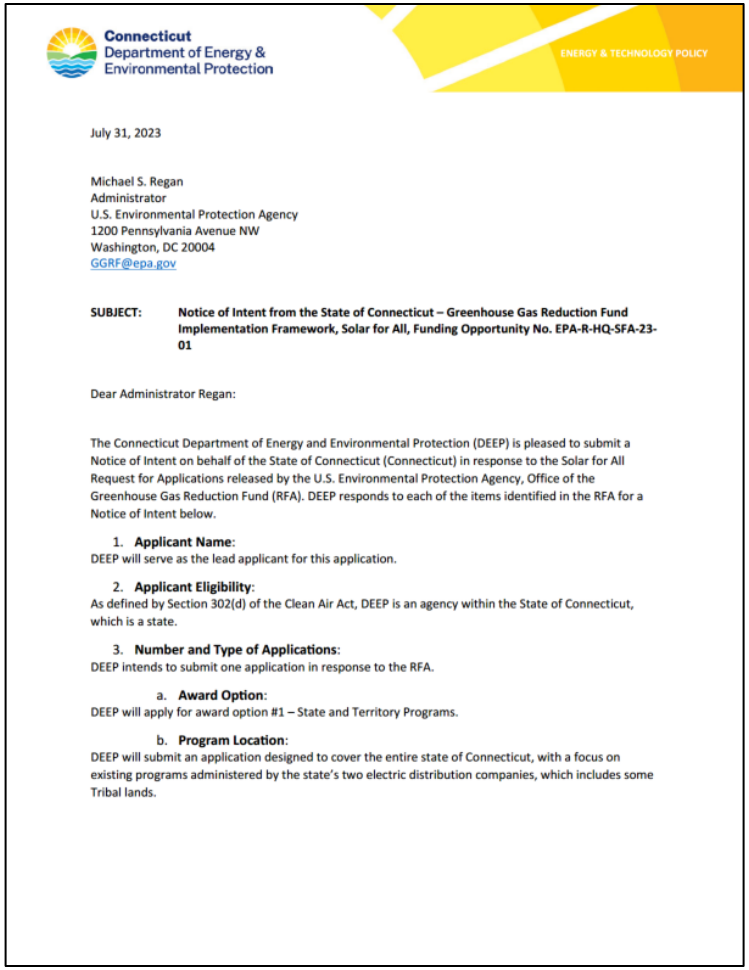
Residential Solar in Connecticut
Market by Adoption



REFERENCES
Residential Solar Investment Program (RSIP) – 2012 – 2022 Program Impact Evaluation and Future Recommendations by Slipstream (May 3, 2023)

Federal Engagement

Greenhouse Gas Reduction Fund – Solar for All



Connecticut
Department of Energy &
Environmental Protection

ENERGY & TECHNOLOGY POLICY

July 31, 2023

Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20004
GGRF@epa.gov

SUBJECT: **Notice of Intent from the State of Connecticut – Greenhouse Gas Reduction Fund Implementation Framework, Solar for All, Funding Opportunity No. EPA-R-HQ-SFA-23-01**

Dear Administrator Regan:

The Connecticut Department of Energy and Environmental Protection (DEEP) is pleased to submit a Notice of Intent on behalf of the State of Connecticut (Connecticut) in response to the Solar for All Request for Applications released by the U.S. Environmental Protection Agency, Office of the Greenhouse Gas Reduction Fund (RFA). DEEP responds to each of the items identified in the RFA for a Notice of Intent below.

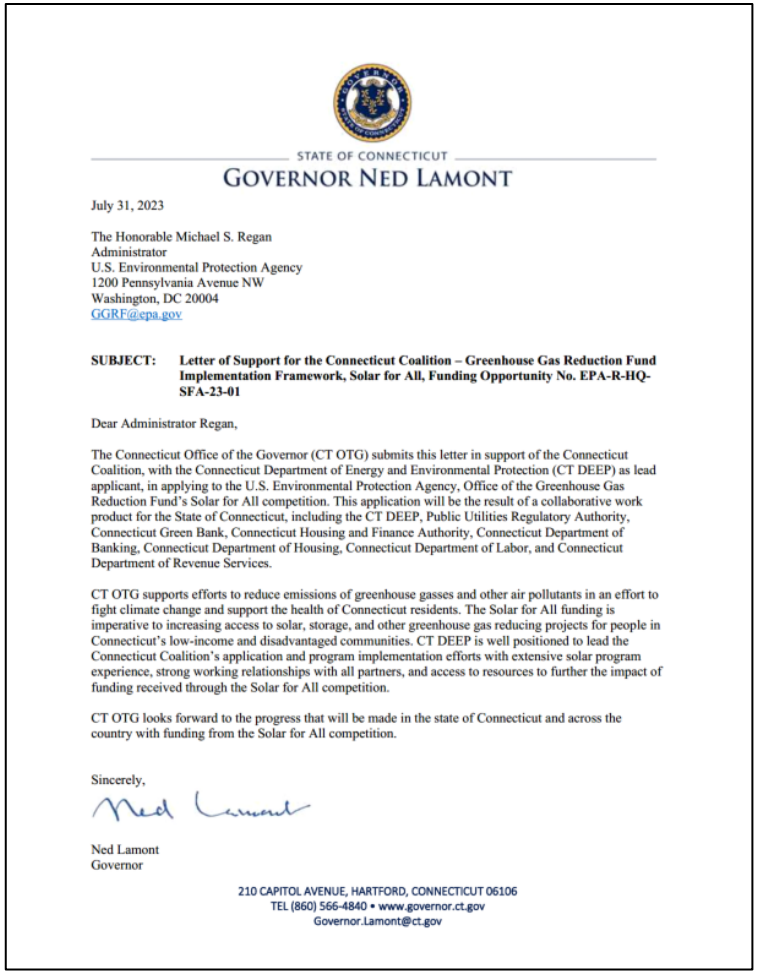
1. **Applicant Name**:
DEEP will serve as the lead applicant for this application.

2. **Applicant Eligibility**:
As defined by Section 302(d) of the Clean Air Act, DEEP is an agency within the State of Connecticut, which is a state.

3. **Number and Type of Applications**:
DEEP intends to submit one application in response to the RFA.

   a. **Award Option**:
DEEP will apply for award option #1 – State and Territory Programs.

   b. **Program Location**:
DEEP will submit an application designed to cover the entire state of Connecticut, with a focus on existing programs administered by the state's two electric distribution companies, which includes some Tribal lands.



STATE OF CONNECTICUT
GOVERNOR NED LAMONT

July 31, 2023

The Honorable Michael S. Regan
Administrator
U.S. Environmental Protection Agency
1200 Pennsylvania Avenue NW
Washington, DC 20004
GGRF@epa.gov

SUBJECT: **Letter of Support for the Connecticut Coalition – Greenhouse Gas Reduction Fund Implementation Framework, Solar for All, Funding Opportunity No. EPA-R-HQ-SFA-23-01**

Dear Administrator Regan,

The Connecticut Office of the Governor (CT OTG) submits this letter in support of the Connecticut Coalition, with the Connecticut Department of Energy and Environmental Protection (CT DEEP) as lead applicant, in applying to the U.S. Environmental Protection Agency, Office of the Greenhouse Gas Reduction Fund's Solar for All competition. This application will be the result of a collaborative work product for the State of Connecticut, including the CT DEEP, Public Utilities Regulatory Authority, Connecticut Green Bank, Connecticut Housing and Finance Authority, Connecticut Department of Banking, Connecticut Department of Housing, Connecticut Department of Labor, and Connecticut Department of Revenue Services.

CT OTG supports efforts to reduce emissions of greenhouse gasses and other air pollutants in an effort to fight climate change and support the health of Connecticut residents. The Solar for All funding is imperative to increasing access to solar, storage, and other greenhouse gas reducing projects for people in Connecticut's low-income and disadvantaged communities. CT DEEP is well positioned to lead the Connecticut Coalition's application and program implementation efforts with extensive solar program experience, strong working relationships with all partners, and access to resources to further the impact of funding received through the Solar for All competition.

CT OTG looks forward to the progress that will be made in the state of Connecticut and across the country with funding from the Solar for All competition.

Sincerely,

Ned Lamont
Governor

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Governor.Lamont@ct.gov

https://www.ctgreenbank.com/engagement-on-iija-ira/

Questions & Answers

Thank You

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www.ctgreenbank.com

www.greenlibertybonds.com