

# SOLAR MAP

Municipal  
Assistance  
Program

**Darien 5/11/2021**

**Mackey Dykes**, VP of Financing Programs, CT Green Bank  
**Fiona Stewart**, Senior Manager, CT Green Bank  
**Allen Sabins**, Managing Partner at CSW Energy



# SOLAR MAP

Municipal  
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Program



A quasi-public state agency and trusted partner to municipalities, is using solar to put towns and cities in charge of their energy costs. With the Green Bank's 'Green Bank Solar PPA,' municipalities can go solar, enjoying peace of mind and other benefits.



CSW Energy is experienced in working with municipalities to develop solar PV projects. Green Bank is working with CSW Energy to help municipalities to analyze their portfolio of buildings and identify opportunities for solar, get connected with a contractor.

# Connecticut Green Bank



**Help ensure Connecticut's energy security and community prosperity by realizing its environmental and economic opportunities through clean energy finance and investments.**

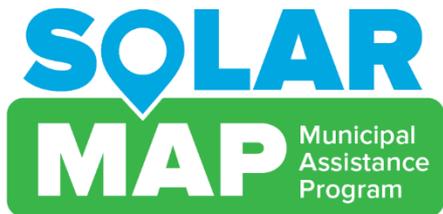


**Support the Governor's and legislature's energy strategy to achieve cleaner, cheaper and more reliable sources of energy while creating jobs and supporting local economic development**

## Less work. More benefits. Now even easier for towns and cities.

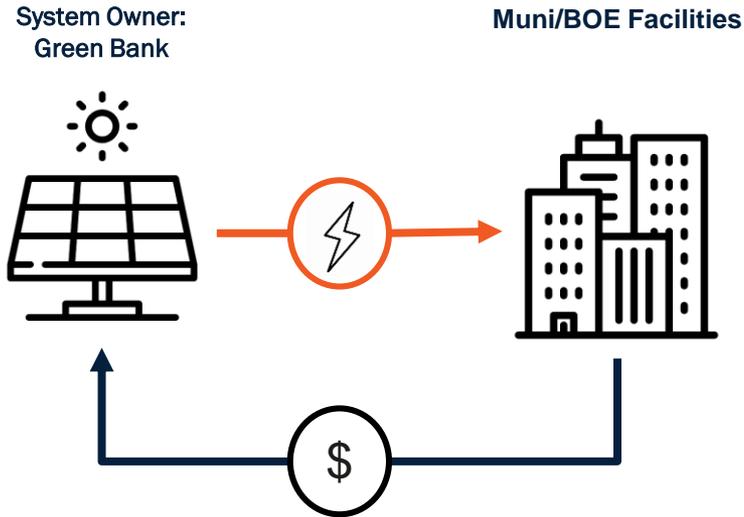
- Makes it even easier for municipalities to access renewable energy and achieve energy savings using the Green Bank Solar PPA
- Provides technical assistance support that simplifies every step of the process





- 1 Engage.** The SolarMAP team will meet with you to understand your municipality's goals, **gather information** and identify key participants, and explain the SolarMAP process in more detail.
- 2 Design.** Using the information you provide, the SolarMAP team will perform analysis of municipal sites, review energy demand, and **develop system designs**.
- 3 Review.** After you review the system designs, the SolarMAP team will **secure the utility incentives** (ZRECs) needed for each project and **solicit proposals** from qualified solar contractors and select the best proposal.
- 4 Execute.** Once a proposal has been selected and incentives secured, the SolarMAP team will work with you to **execute the PPA** and begin construction of the solar project(s).

# What is a Power Purchase Agreement (“PPA”)?



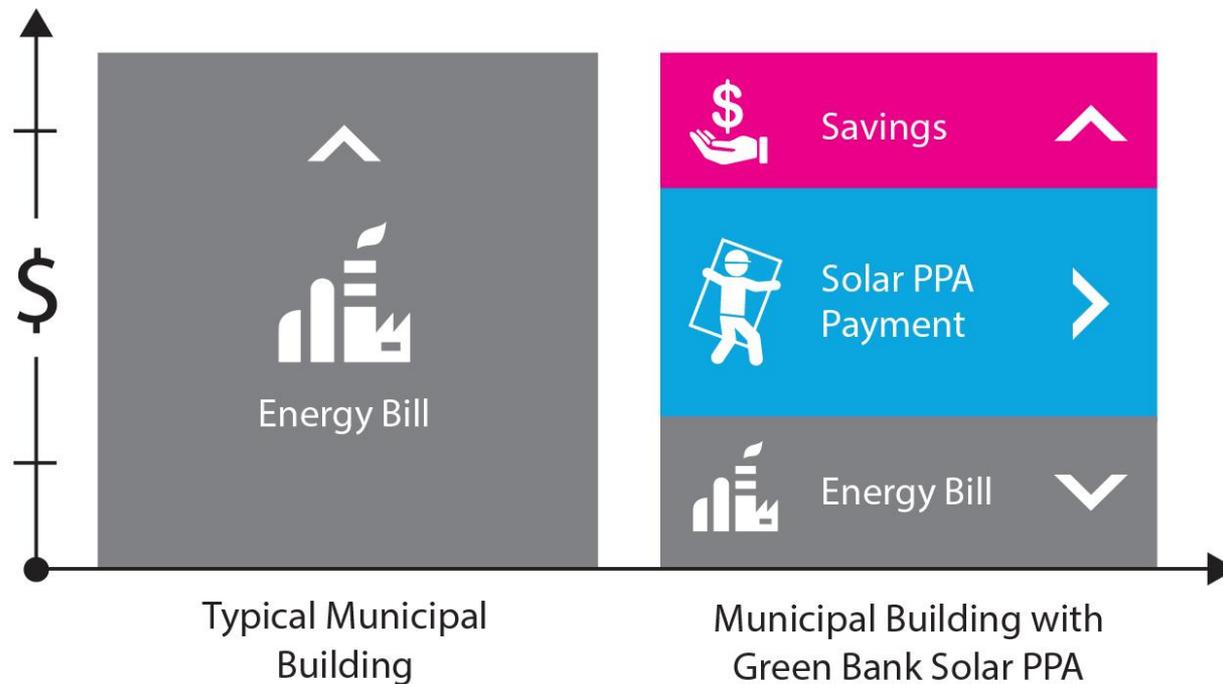
Contract between Seller (generates electricity) and Buyer (purchases electricity)

Green Bank is Seller:  
Oversees development, construction, & asset management

Municipality is Buyer:  
Purchases electricity from solar installed on property

# What are the Benefits of a PPA?

The value of solar PV comes from electricity cost savings!



# What are the Benefits of a PPA?



No upfront costs

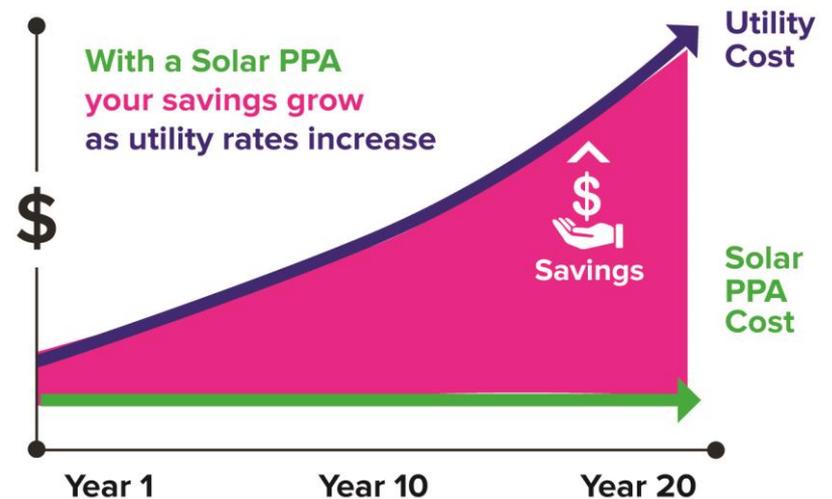
Lock in low electricity rate

Positive cash flow

No operations & maintenance costs

Preserve capital & credit lines

Managed by a third-party solar system owner



# Town of Coventry: Green Bank Solar PPA Case Study



- 8 solar PV systems (over 580 kW) financed with the Green Bank Solar PPA
- Includes Town Hall, Police Headquarters, Radio Tower Annex, and five Board of Education buildings including schools and warehouse space
  - Six roof mounted solar PV systems and two carport solar PV systems



# Round 1 Results



5

**Municipalities**

16

**Projects in Total**

3.5

**Megawatts (dc) of Solar**

22% -  
59%

**Year 1 Discount from  
Current Utility Rate**

\$4

**Million in Term Savings**

# Darien

# Desktop Review (first look)

## Darien Schools



7 / 8

Passed / Total Sites

Can the roof: fit a 50kWac installation? >>>	Is the roof free from: roof pitches, HVAC units, etc. that could inhibit a solar installation?	Is the roof free from: any impact from tree shading, other buildings, etc.?	<<< If the roof is not viable: any potential for a ground-mount and/or carport installation?	Results from: Roof Size Obstructions Shading Ground/Carport	Utility bill review: does the site have the minimum kWh usage to meet the program system size requirements?
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Site Name	Site Address	Roof Size	Roof Obstructions	Shading	Ground or Carport	CSW Desk Review	CSW Usage Review
Darien High School	80 High School Lane, Darien, CT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pass	Pass
Middlesex Middle School	204 Hollow Tree Ridge Road, Darien, CT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pass	Pass
Hindley Elementary School	10 Nearwater Lane, Darien, CT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pass	Pass
Holmes Elementary School	18 Hoyt Street, Darien, CT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pass	Pass
Ox Ridge Elementary School	395 Mansfield Avenue, Darien, CT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pass	Pass
Royle Elementary School	133 Mansfield Avenue, Darien, CT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pass	Pass
Tokeneke Elementary School	7 Old Farm Road, Darien, CT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Pass	Pass
Central Office Building	35 Leroy Avenue, Darien, CT	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Fail	

### Next Steps:

- CSW Desktop Review
- Utility Bills
- Third-party Supply\*
- Introductions

# Next Steps and Timeline



Sign Letter of Intent and incentive paperwork	May 2021
Submit projects for Utility incentives (ZRECs)	June 2021
RFP for Contractors	Fall 2021
Execute PPA	Q4 2021
Construction Start	Q1 2022



Questions?

# Thank you!

Contact:

Emily Basham, Senior Manager, CT Green Bank

[Emily.Basham@ctgreenbank.com](mailto:Emily.Basham@ctgreenbank.com)

860-258-7839

<https://www.ctgreenbank.com/solarmap-townsandcities>

# Appendix

# Desktop Review (first look)

## Darien Schools



Facility Information				Utility Information	
Facility ID	Facility Name	Facility Address	Roof Age (optional)	Account Number	Billing Zip Code
1	Darien High School	80 High School Lane, Darien, CT	17 years old	5110 267 2060	6820
2				5127 467 2054	
3	Middlesex Middle School	204 Hollow Tree Ridge Road, Darien, CT	22 years old	5158 257 2012	6820
4					
5	Hindley Elementary School	10 Nearwater Lane, Darien, CT	New: 08/20/21	5160 557 2080	6820
6					
7	Holmes Elementay School	18 Hoyt Street, Darien, CT	New: 08/20/21	5140 727 2079	6862
8					
9	Ox Ridge Elementary School	395 Mansfield Avenue, Darien, CT	New: 06/01/22	5192 866 2097*	6820
10					
11	Royle Elementary School	133 Mansfield Avenue, Darien, CT	New: 08/20/22	5145 986 2025	6820
12					
13	Tokeneke Elementary School	7 Old Farm Road, Darien, CT	11 years old	5111 263 4027	6820
14					
15	Central Office Building	35 Leroy Avenue, Darien, CT	7 and 1 year old	5152 244 6053	6820
16					
17					
18	* Old building, new building under construction				

# Green Bank Solar PPA

## *BOEs and Municipal*



- Ashford
- Bethany
- Bloomfield
- Branford
- Bridgeport
- Chaplin
- Coventry
- Darien
- Deep River (regional)
- Eastford
- Easton
- Ellington
- Essex
- Fairfield
- Falls Village
- Hampton
- Harwinton (regional)
- Lebanon
- Manchester
- Mansfield
- New Fairfield
- New Haven
- Newtown
- Orange
- Portland
- Ridgefield
- Salisbury
- Union
- Voluntown
- Woodbridge

## Program Benefits

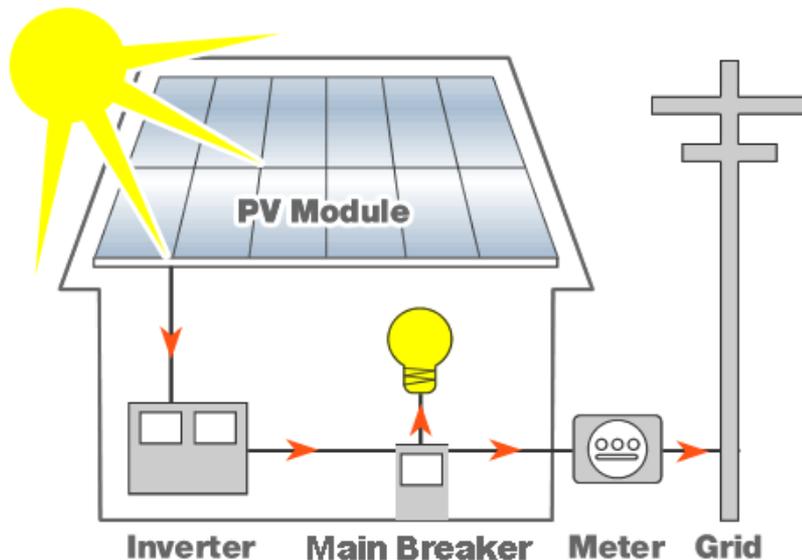
-  Trusted partner in the CT Green Bank, a quasi-state agency
-  Take advantage of the final year of the utility incentive program
-  Group your town's projects with other participating towns to receive competitive pricing
-  Support from start to finish developing any projects you choose to move forward with

# Solar PV systems use net metering



Solar PV systems are located **behind the meter**, meaning electricity is intended for onsite use

**Net metering** is a billing mechanism allowing electricity in excess of customer usage to be banked at the full retail rate and credited on an annual basis



- At year end, excess electricity generation for the year is reimbursed at wholesale rate
- Wholesale rate generally much lower than retail electricity tariff