SOLAR MAP Municipal Assistance Program

Darien 5/25/2021

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Sustainable CT
Local Actions. Statewide Impact.

CSW ENERGY

CONNECTICUT GREEN BANK

SOLAR MAP Municipal Assistance Program

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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

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

SOLAR MAP Municipal Assistance Program

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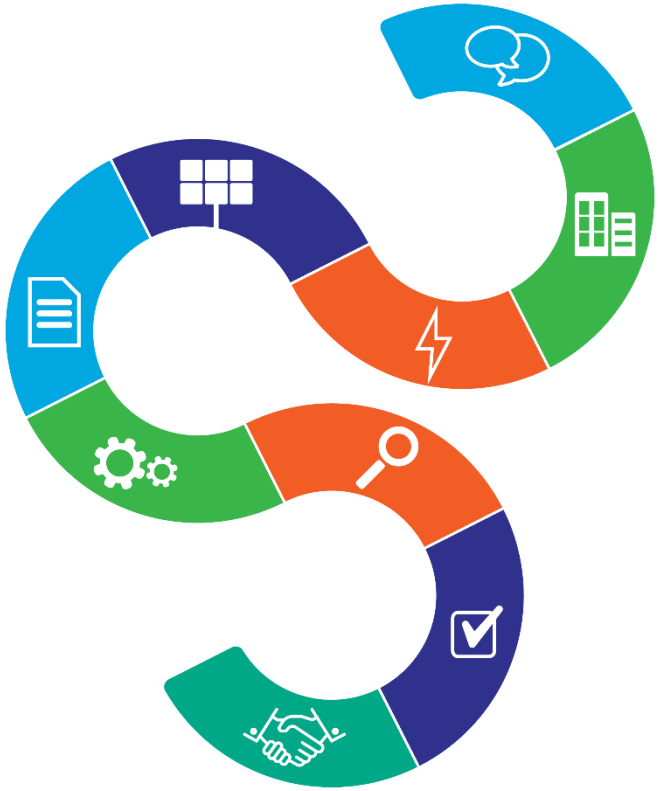
Less work. More benefits.
Now even easier for towns and cities.

- 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



SOLAR MAP Municipal Assistance Program

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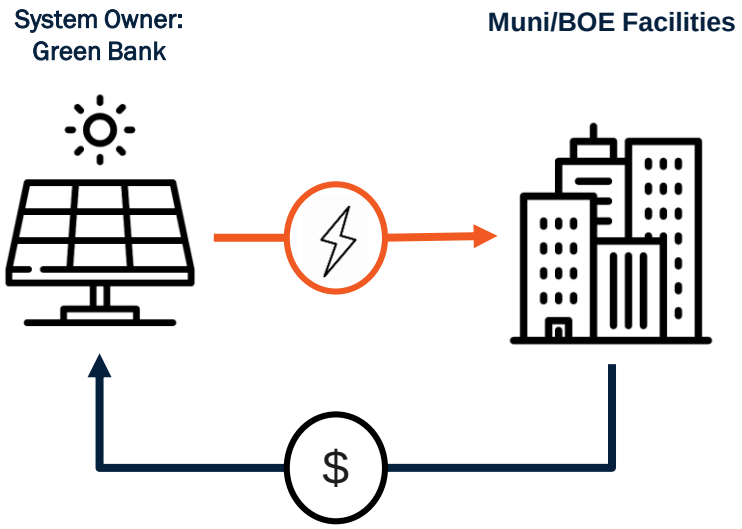
1. **Engage.** The SolarMAP team will meet with you to understand your municipality's goals, **gather information** and identify key participants, and explain the SolarMAP process in more detail.

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")?



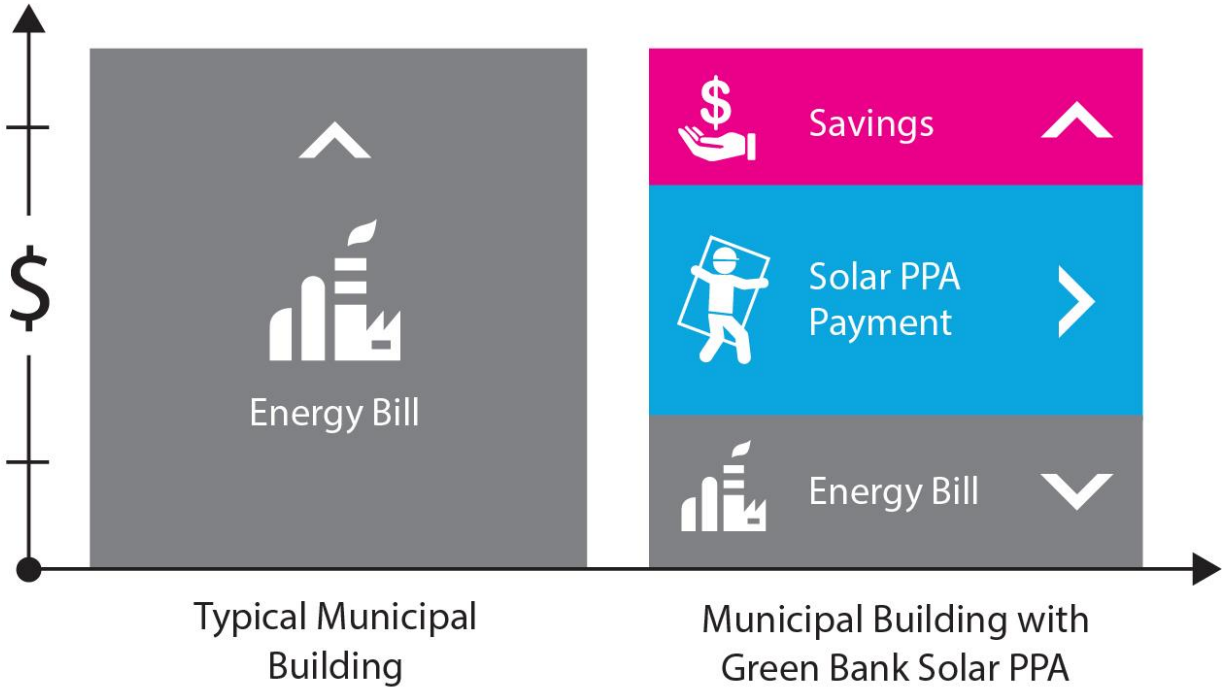
Contract between Seller (generates electricity) and Buyer (purchases electricity)

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!



*Representative project for illustrative purposes only

What are the Benefits of a PPA?

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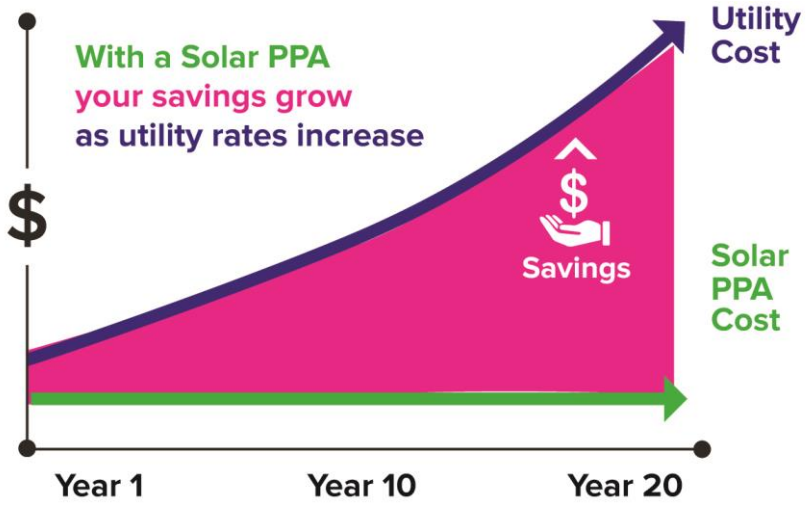
- No upfront costs
- Lock in low electricity rate
- Positive cash flow
- No operations & maintenance costs
- Preserve capital & credit lines
- Managed by a third-party solar system owner



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

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SOLAR MAP Municipal Assistance Program

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

Hindley Elementary School

Project Details	
Project size (kW DC)	55
Estimated Annual Production (kWh)	67,399
Effective Utility Rate	$0.107
Savings Feasibility	
Met preliminary 10% discount threshold	Yes
% Solar Offset to Utility	25%

Hindley Elementary School

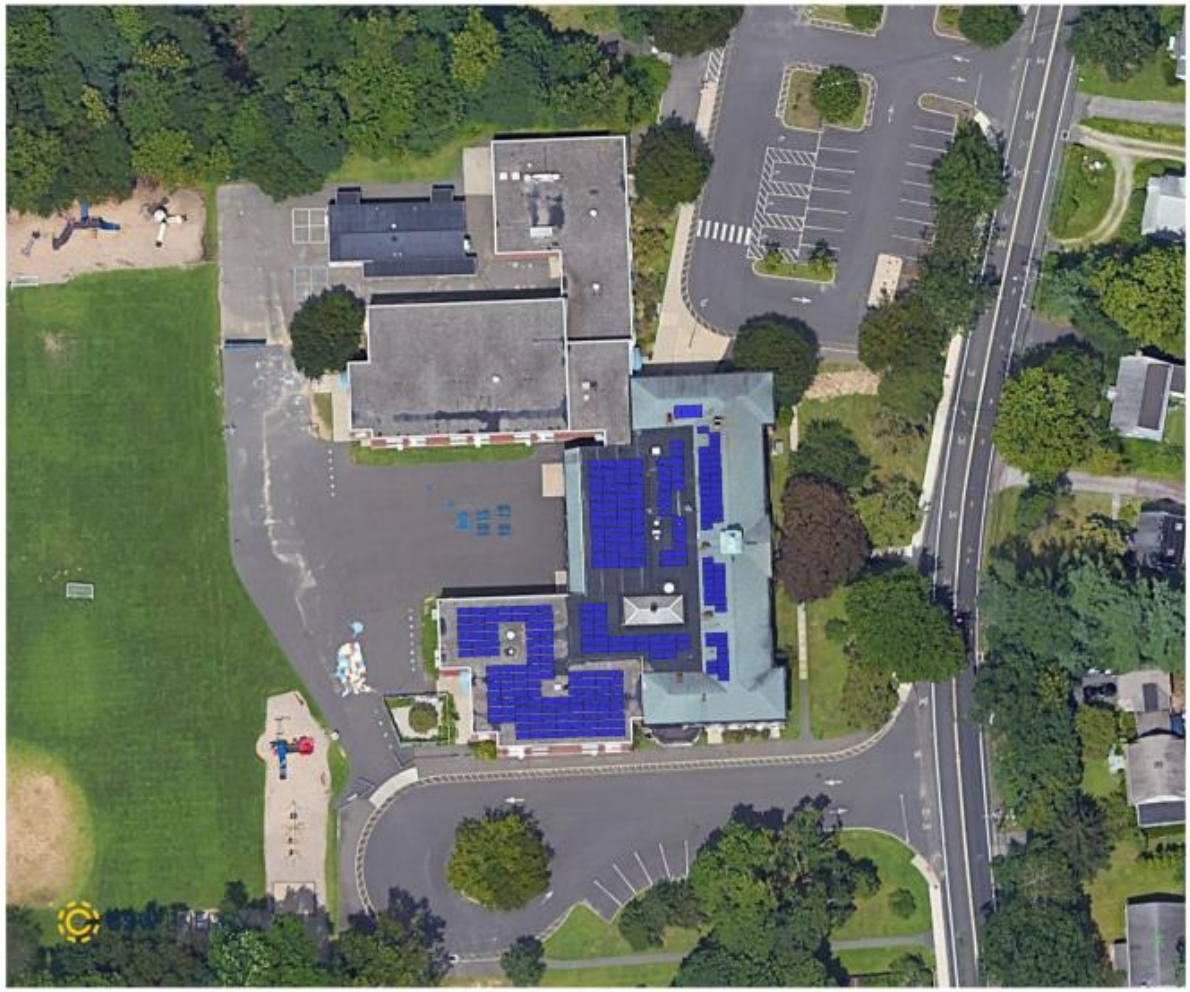
Minimum Savings 15% discount

Savings		
Term Savings	$	48,851
Average Annual Savings	$	2,443
First Year Savings	$	1,082
Operations & Maintenance Cost Included		

Model and Finance Assumptions	
System Size kW	55 kW
Solar Energy Generated	67,399 kWh
Annual Solar System Degradation	0.64%
Solar Energy PPA Price	$0.091 /kWh
Solar Energy Escalator	0.00%
Utility Energy Price	$0.107 /kWh
Utility Energy Escalator	2.00%

Holmes Elementary School

Project Details	
Project size (kW DC)	109
Estimated Annual Production (kWh)	127,335
Effective Utility Rate	$0.182
Savings Feasibility	
Met preliminary 10% discount threshold	Yes
% Solar Offset to Utility	59%



Holmes Elementary School

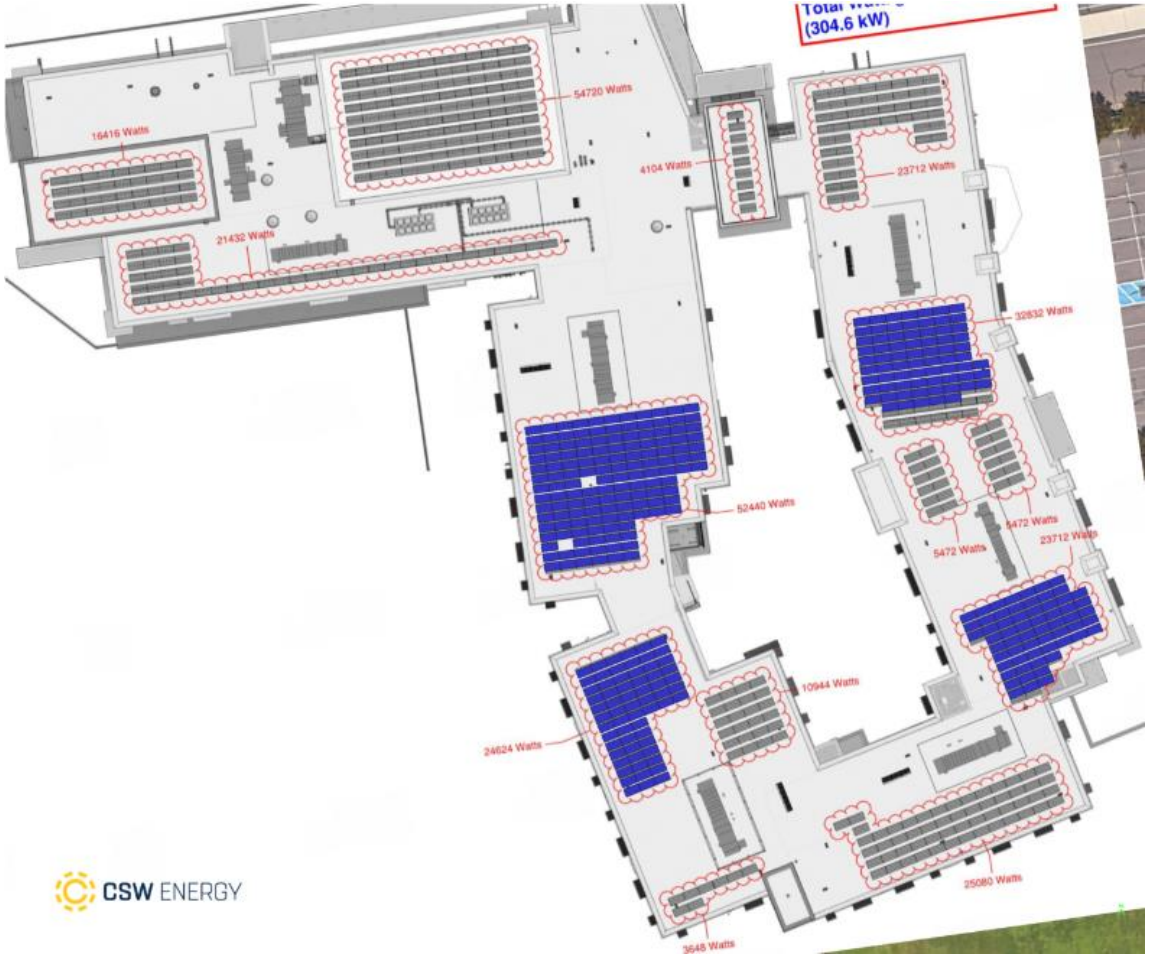
Minimum Savings 15% discount

Savings		
Term Savings	$	157,073
Average Annual Savings	$	7,854
First Year Savings	$	3,478
Operations & Maintenance Cost Included		

Model and Finance Assumptions	
System Size kW	109 kW
Solar Energy Generated	127,336 kWh
Annual Solar System Degradation	0.64%
Solar Energy PPA Price	$0.155 /kWh
Solar Energy Escalator	0.00%
Utility Energy Price	$0.182 /kWh
Utility Energy Escalator	2.00%

Ox Ridge Elementary School

Project Details	
Project size (kW DC)	135
Estimated Annual Production (kWh)	166,693
Effective Utility Rate	TBD
Savings Feasibility	
Met preliminary 10% discount threshold	TBD
% Solar Offset to Utility	TBD



Royle Elementary School

Project Details	
Project size (kW DC)	135
Estimated Annual Production (kWh)	165,884.6
Effective Utility Rate	$0.182
Savings Feasibility	
Met preliminary 10% discount threshold	Yes
% Solar Offset to Utility	70%

Royle Elementary School

Minimum Savings 15% discount

Savings		
Term Savings	$	204,624
Average Annual Savings	$	10,231
First Year Savings	$	4,531
Operations & Maintenance Cost Included		

Model and Finance Assumptions	
System Size kW	135 kW
Solar Energy Generated	165,885 kWh
Annual Solar System Degradation	0.64%
Solar Energy PPA Price	$0.155 /kWh
Solar Energy Escalator	0.00%
Utility Energy Price	$0.182 /kWh
Utility Energy Escalator	2.00%

Minimum Savings

Based on conservative preliminary 15% discount

Darien	First Year Savings	Avg Annual Savings	Term Savings
Hindley Elementary School	$ 1,082	$ 2,443	$ 48,851
Holmes Elementary School	$ 3,478	$ 7,854	$ 157,073
Royale Elementary School	$ 4,531	$ 10,231	$ 204,624
Ox Ridge Elementary School	tbd	tbd	tbd
Total	**$ 9,091**	**$ 20,528**	**$ 410,548**

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:

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

Appendix

Desktop Review (first look)
Darien Schools

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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?
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	☑	☑	☑	☐	Pass	Pass
Middlesex Middle School	204 Hollow Tree Ridge Road, Darien, CT	☑	☑	☑	☐	Pass	Pass
Hindley Elementary School	10 Nearwater Lane, Darien, CT	☑	☑	☑	☐	Pass	Pass
Holmes Elementay School	18 Hoyt Street, Darien, CT	☑	☑	☑	☐	Pass	Pass
Ox Ridge Elementary School	395 Mansfield Avenue, Darien, CT	☑	☑	☑	☐	Pass	Pass
Royle Elementary School	133 Mansfield Avenue, Darien, CT	☑	☑	☑	☐	Pass	Pass
Tokeneke Elementary School	7 Old Farm Road, Darien, CT	☑	☑	☑	☐	Pass	Pass
Central Office Building	35 Leroy Avenue, Darien, CT	☑	☑	☐	☐	Fail	

Next Steps:

- ☑ CSW Desktop Review
- ☑ Utility Bills
- ☐ Third-party Supply*
- ☐ Introductions

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

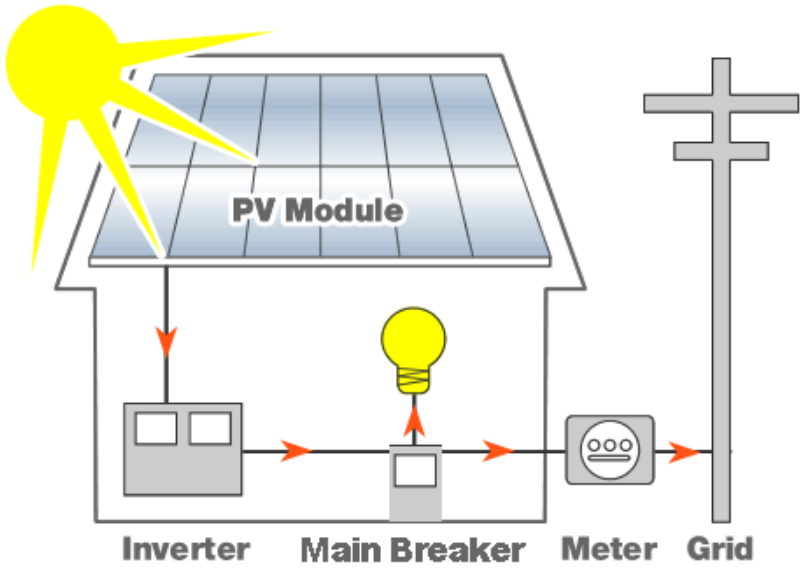
Program Benefits

- 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