CONNECTICUT GREEN BANK SM

Solar for Multifamily Housing Properties in Connecticut

February 21, 2020

Agenda

1. Market Trends
   - Installed solar capacity in CT
   - Solar Forecasts
   - Solar + Storage
2. Current Solar Policy in CT
   - Net Metering, State and Federal Incentives
3. Solar PV for Multifamily buildings
   - Financing Options
   - Challenges & Opportunities
4. CT Solar Policy Changes
   - End of net metering, new tariff structure
   - End of ZREC program

Connecticut Green Bank

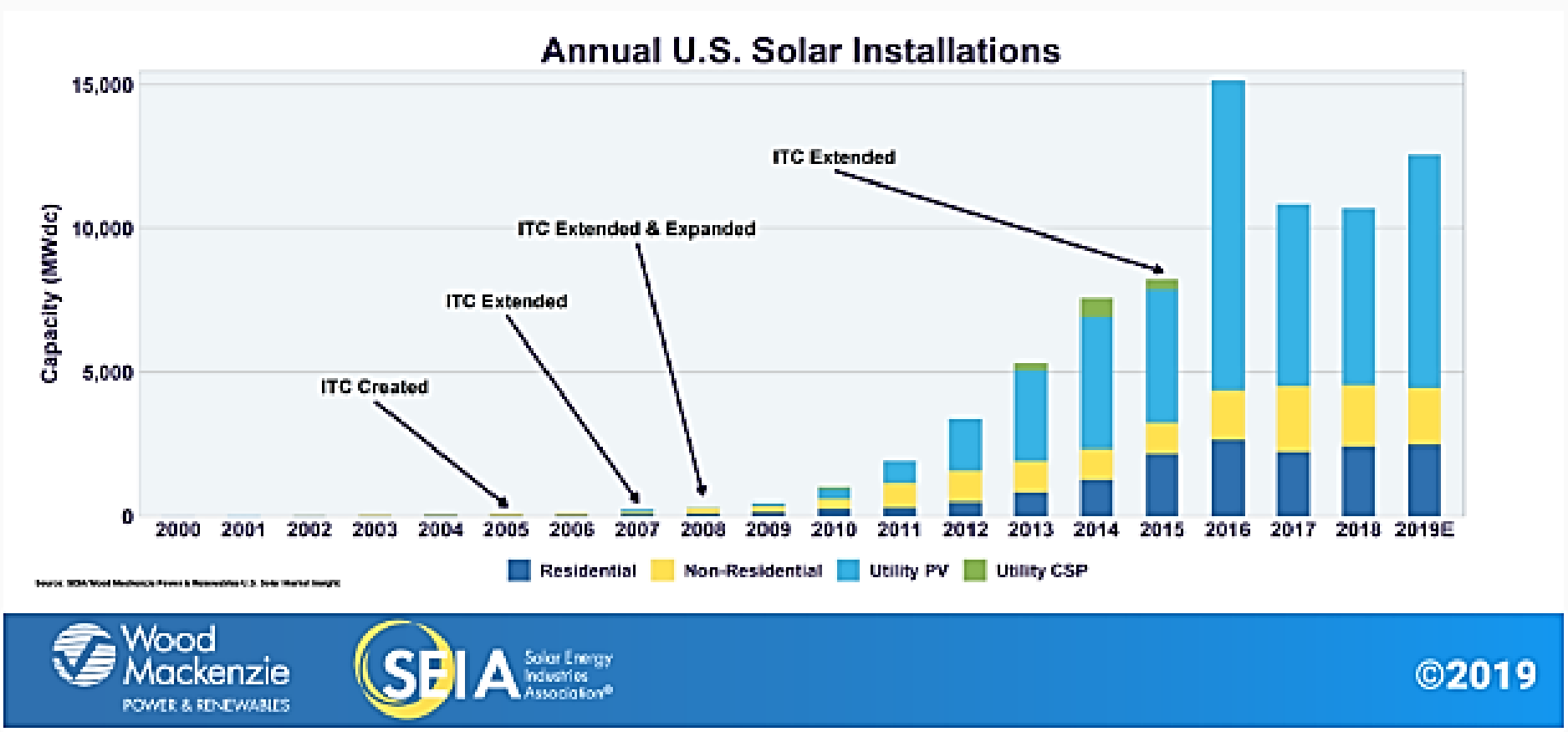
Mission Statement and Goals

Confront climate change and provide **all of society** a **healthier and more prosperous** future by **increasing and accelerating** the flow of **private capital** into markets that **energize the green economy**.

- Leverage limited public resources to scale-up and **mobilize private capital investment** in the green economy of Connecticut.
- Strengthen Connecticut's communities by **making the benefits of the green economy inclusive and accessible to all** individuals, families, and businesses.
- Pursue investment strategies that **advance market transformation in green investing** while supporting the organization's pursuit of financial sustainability.

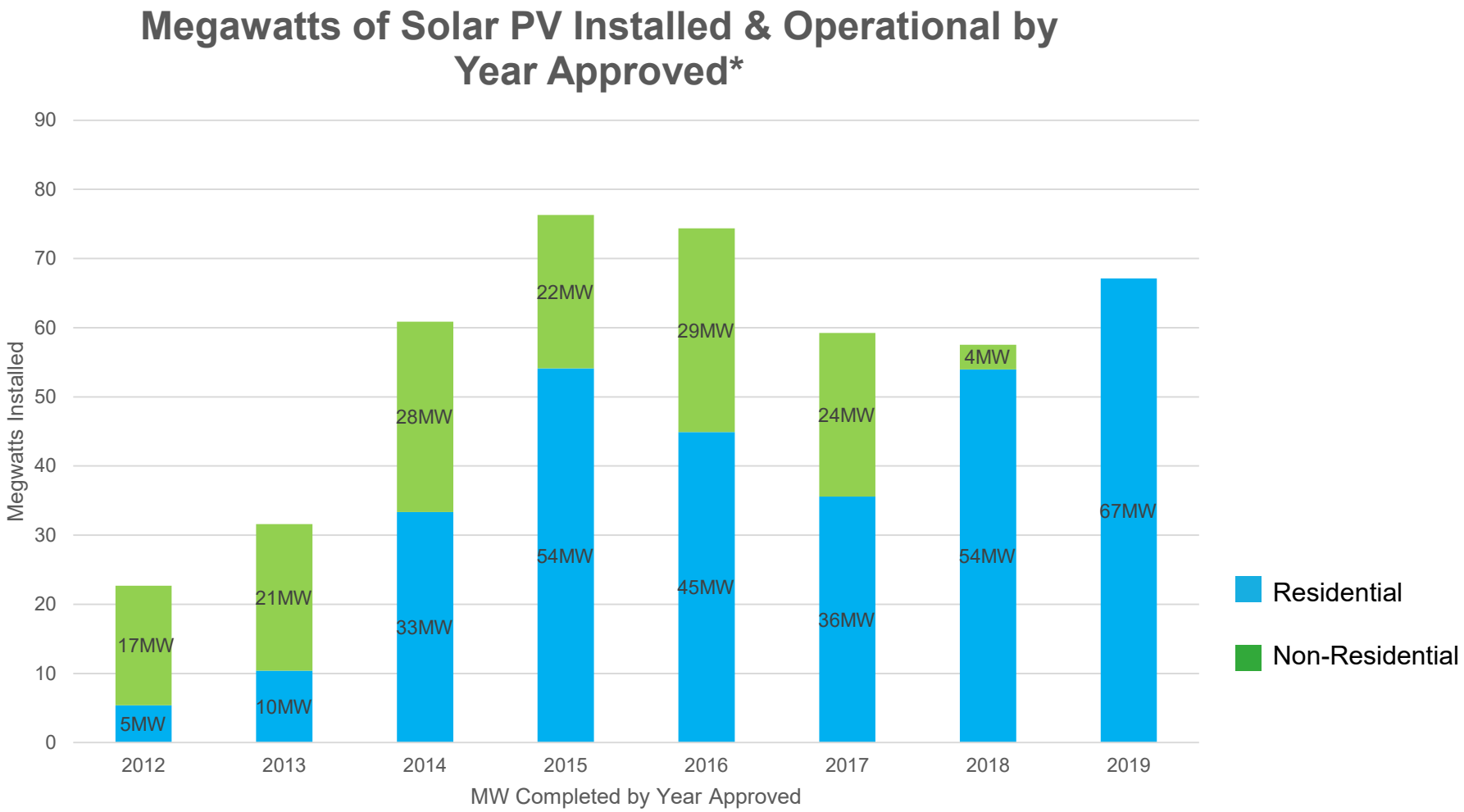
Solar PV Market Trends

Market Trends – National Growth



https://www.seia.org/solar-industry-research-data

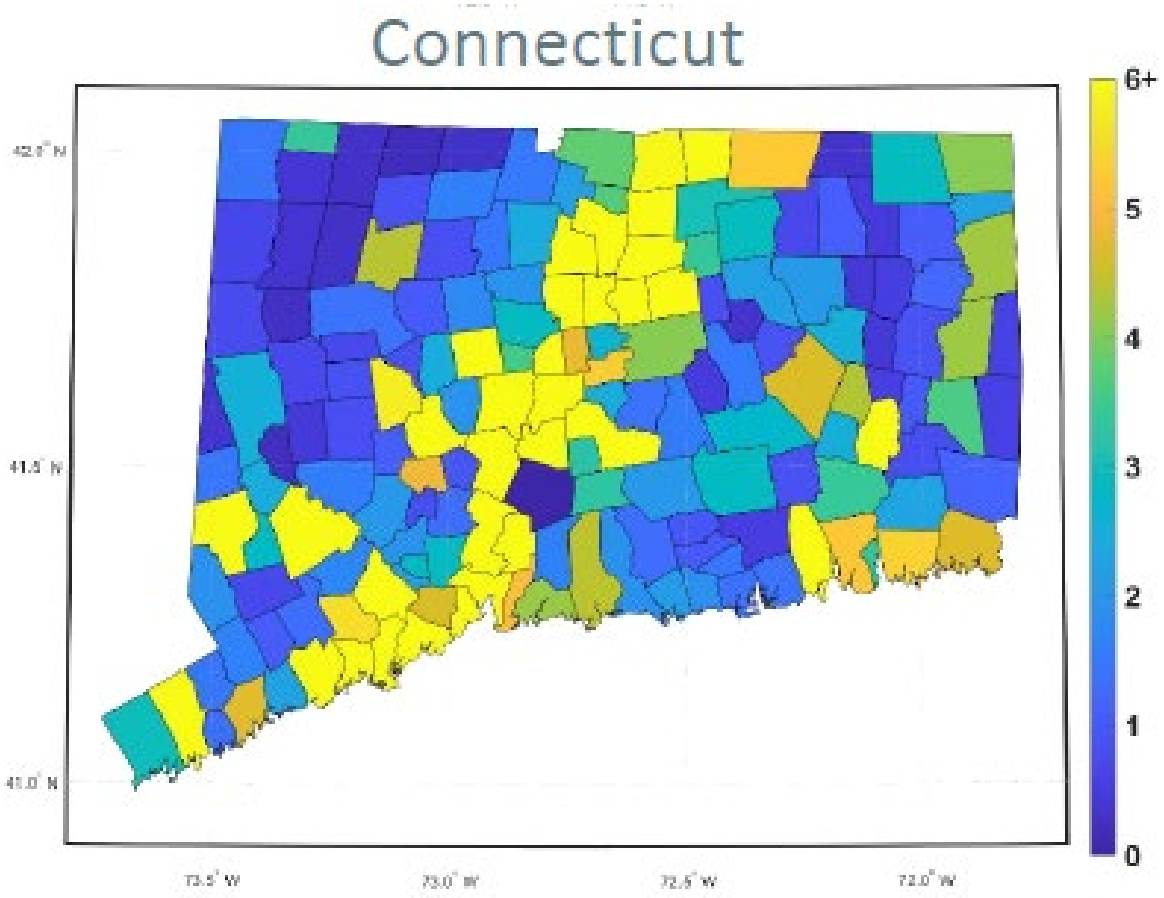
Market Trends – Solar PV in CT

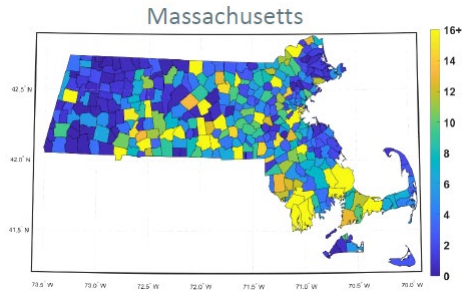


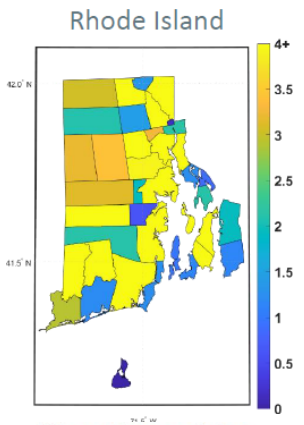
*United Illuminating projects not included

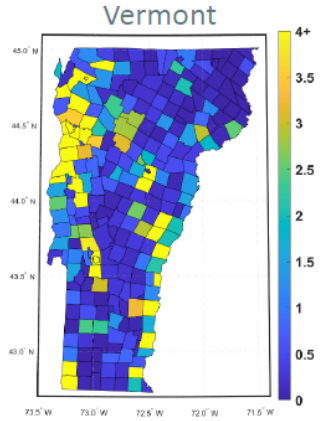
Source: CT Green Bank, Eversource

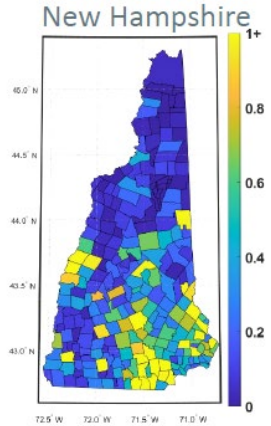
Market Trends – Solar PV in NE

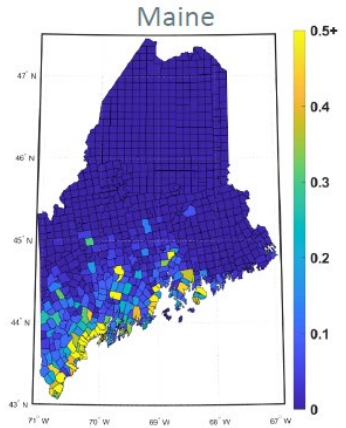












Note: Legend to the right of each state plot shows color scale of nameplate megawatts per town

Source: ISONE

Market Trends – NE PV Forecast

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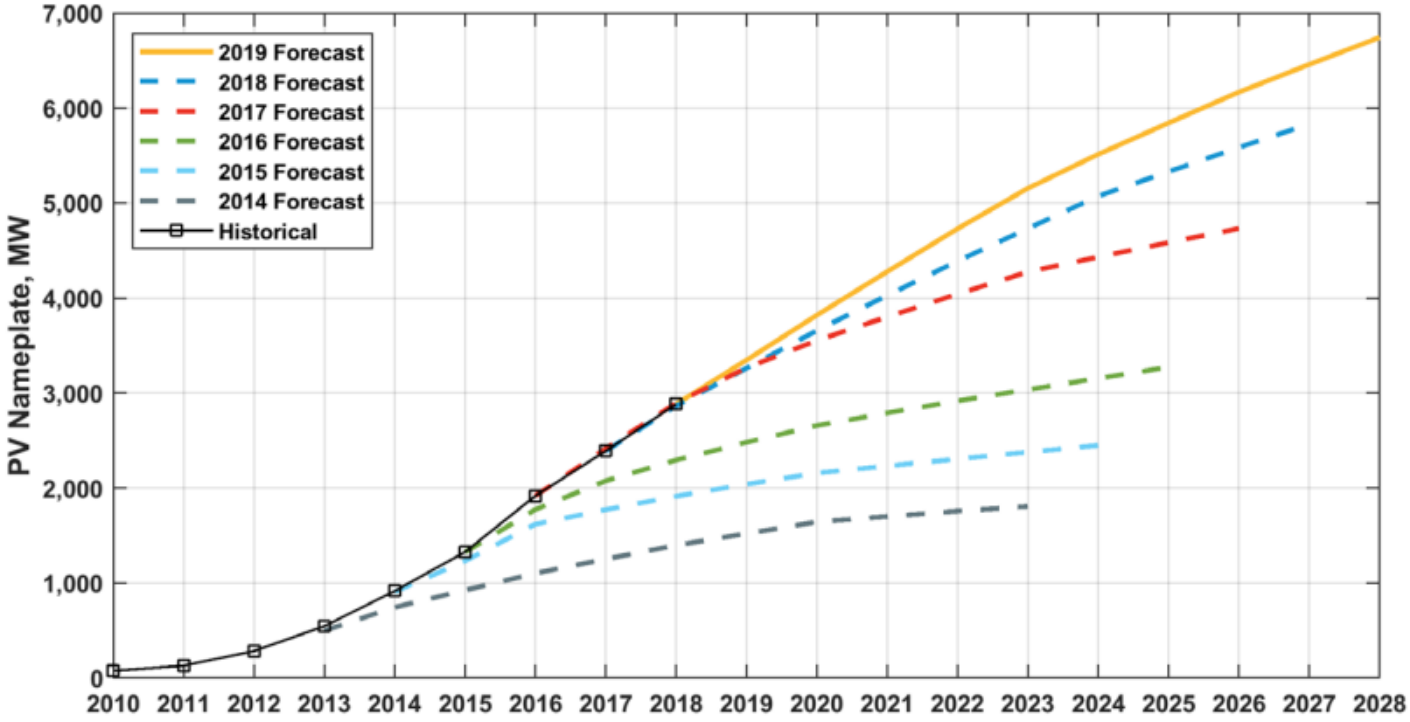
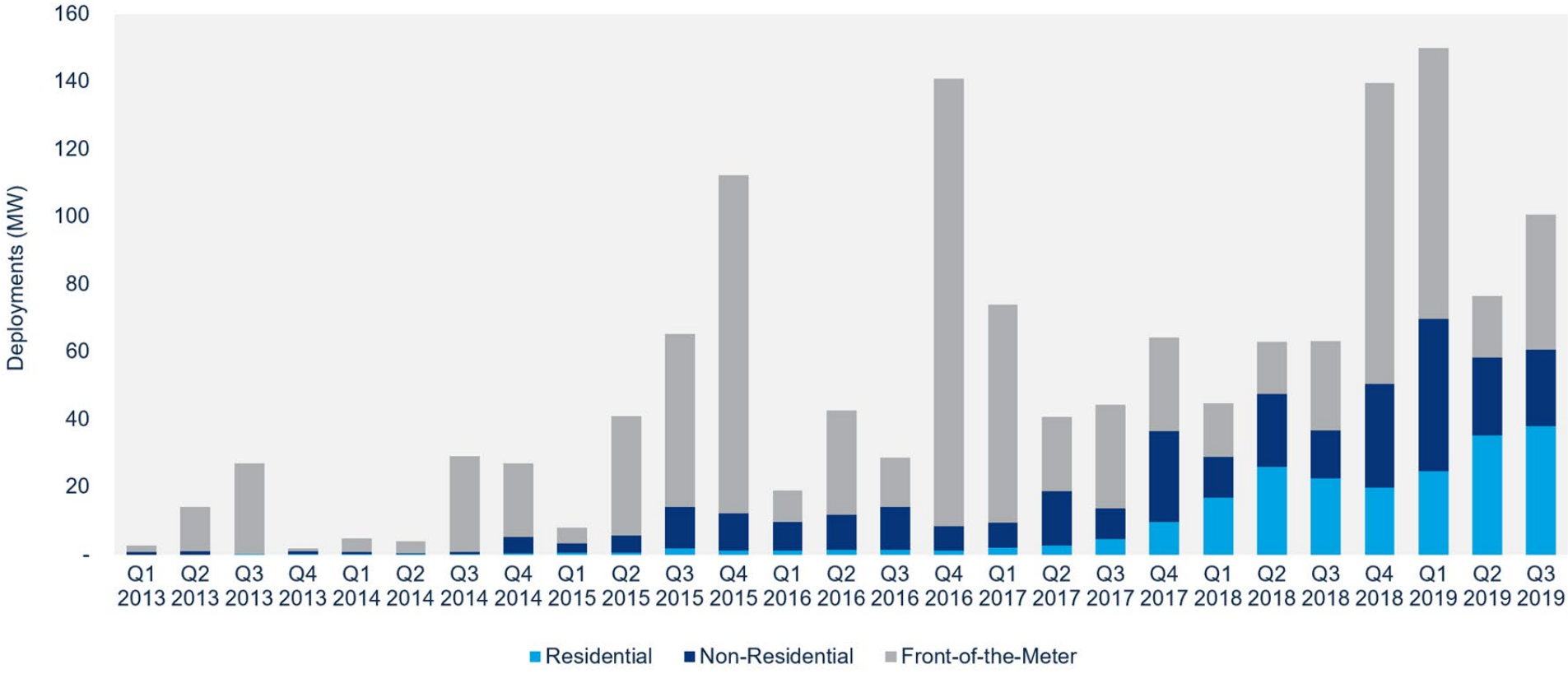
PV Growth: Reported Historical vs. Forecast



ISO New England Service Territory

Source: ISONE

Market Trends – Battery Storage



Source: Wood Mackenzie

Solar + storage is on the rise

Solar combined with storage can maximize the benefits of solar to the grid and increase resilience

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Solar 101

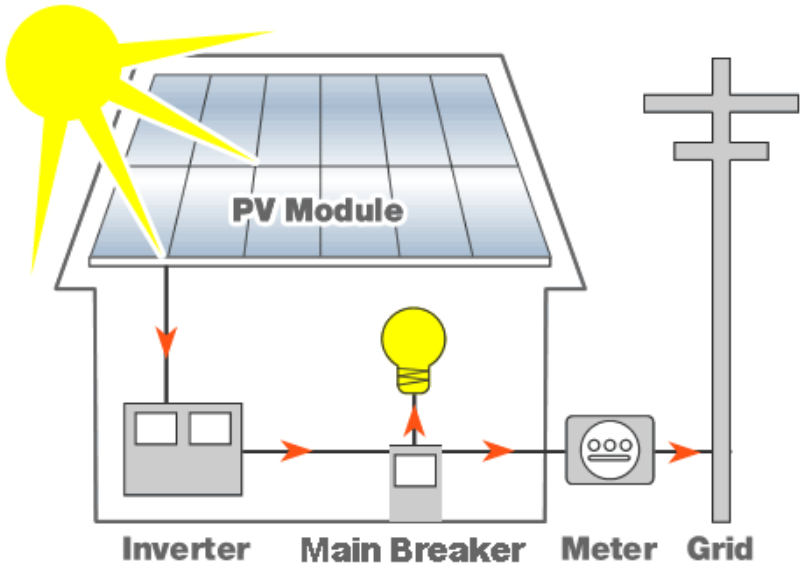
Current Revenue Streams for Solar PV

Net Metering	**State Policy**
ZREC	**State Policy**
Federal Tax Credits	**Federal Policy**

What is Net Metering?

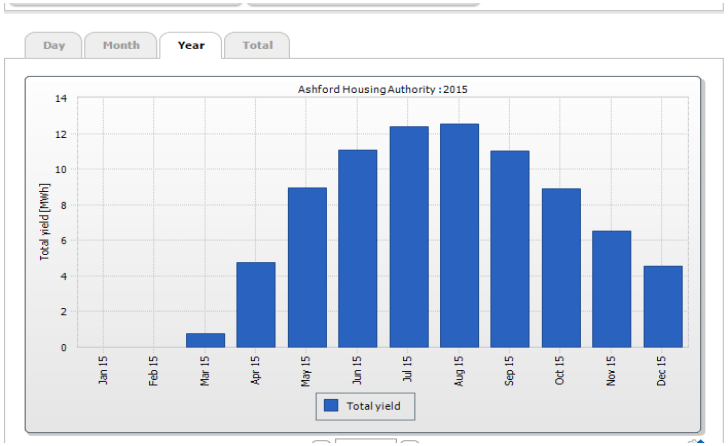
Solar PV systems that are located **behind the meter** are intended to generate electricity **for onsite use**

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



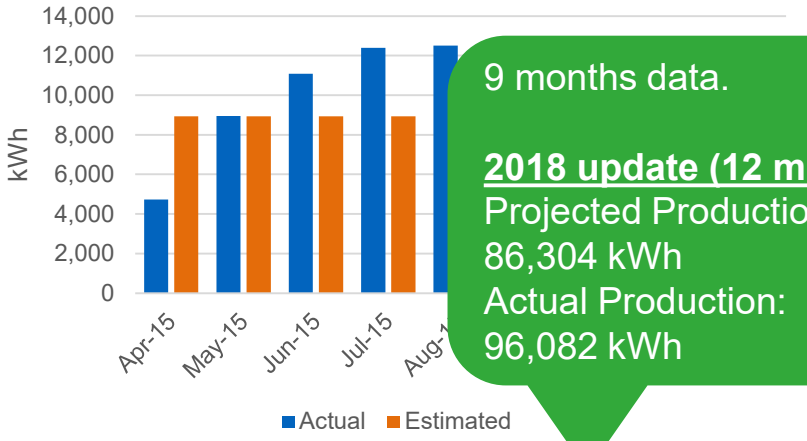
- At year end, excess electricity generation for the year is reimbursed at wholesale rate
- Wholesale rate generally much lower than retail electricity tariff

Net metering example – Ashford Senior Housing Center



13 Live dashboard view of metered electricity

Estimated vs. Actual Solar Power Generation
2015



9 months data.

<u>2018 update (12 mos):</u>
Projected Production: 86,304 kWh
Actual Production: 96,082 kWh

Estimated generation:	80,462 kWh
Actual generation:	80,724 kWh
Difference:	**262 kWh**

Note: Solar PV system is sized based on annual electricity usage

Two main types of incentives available in Connecticut

Of no financial benefit unless ITC owner has a federal tax liability

1. Federal Income Tax Credit (ITC) for PV owners
   a) 26% of qualified systems costs*
   b) Non-transferable and subject to 5-year recapture if sold or decommissioned
   c) Accelerated depreciation over 5-year period (MACRS)

2. State-level Renewable Energy Certificates (RECs)

   Solar PV generation qualifies for Class I RECs for under Connecticut's Renewable Portfolio Standard

   a) ZREC / LREC contracts between utilities and renewable energy project owners provide 15-year fixed compensation for each MWh of electricity generated

Type	System size	Allocation
Small ZREC	≤ 100 kW	Lottery
Medium ZREC	> 100 kW & < 250 kW	Reverse auction
Large ZREC	≥ 250 kW & ≤ 1000 kW	Reverse auction
LREC	Up to 2000 kW	Reverse auction

* For systems placed in service by 12/31/2020. Decreases to 22% of qualified costs thereafter until 12/31/2021, 10% of qualified costs thereafter

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Solar for Affordable Multifamily Properties

Definitions

"Multifamily"

- 5+ units
- Income eligible and market rate
- Private and non-profit owners
- Public housing authorities
- Senior / assisted living communities
- Condominiums
- Co-operatives

"Affordable"

- >60% of property's units must offer rents affordable to tenants earning <80% of area media income (AMI)
- Affordable rents assume <30% of household income is spent on housing costs
- Affordable rent figures include all utility costs
- For condos and co-ops, total housing costs are considered, rather than rents
  - Mortgage
  - Insurance
  - Taxes
  - Utilities
  - Association Fees

Product Comparison for Affordable MFH Properties

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Solar PPA	LIME Loan	C-PACE	SCEF
• Off-balance sheet • Ancillary project-related work may be financed (if identified prior to PPA execution) • Monetizes and passes along financial benefit of ITC to property owner	• Unsecured (UCC-1 filing) • Ancillary project-related work may be financed (as identified prior to loan document execution, subject to ESCR reqs) • ITC monetized by owner, independent of loan	• Secured to property (1st position lien) • Ancillary project-related work may be financed (as identified prior to loan document execution, subject to ESCR reqs) • ITC monetized by owner, independent of loan	• "Shared Clean Energy Facilities" • Solar is not sited on property • Does not utilize net metering • Bill credits are assigned to "subscribers" based on system production and subscription size

What is a Power Purchase Agreement ("PPA")?

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

Seller: Oversees development, financing, construction, & asset management

Customer is Buyer: Purchases electricity from solar installed on property, receives net metering credits

Who gets what with a PPA?

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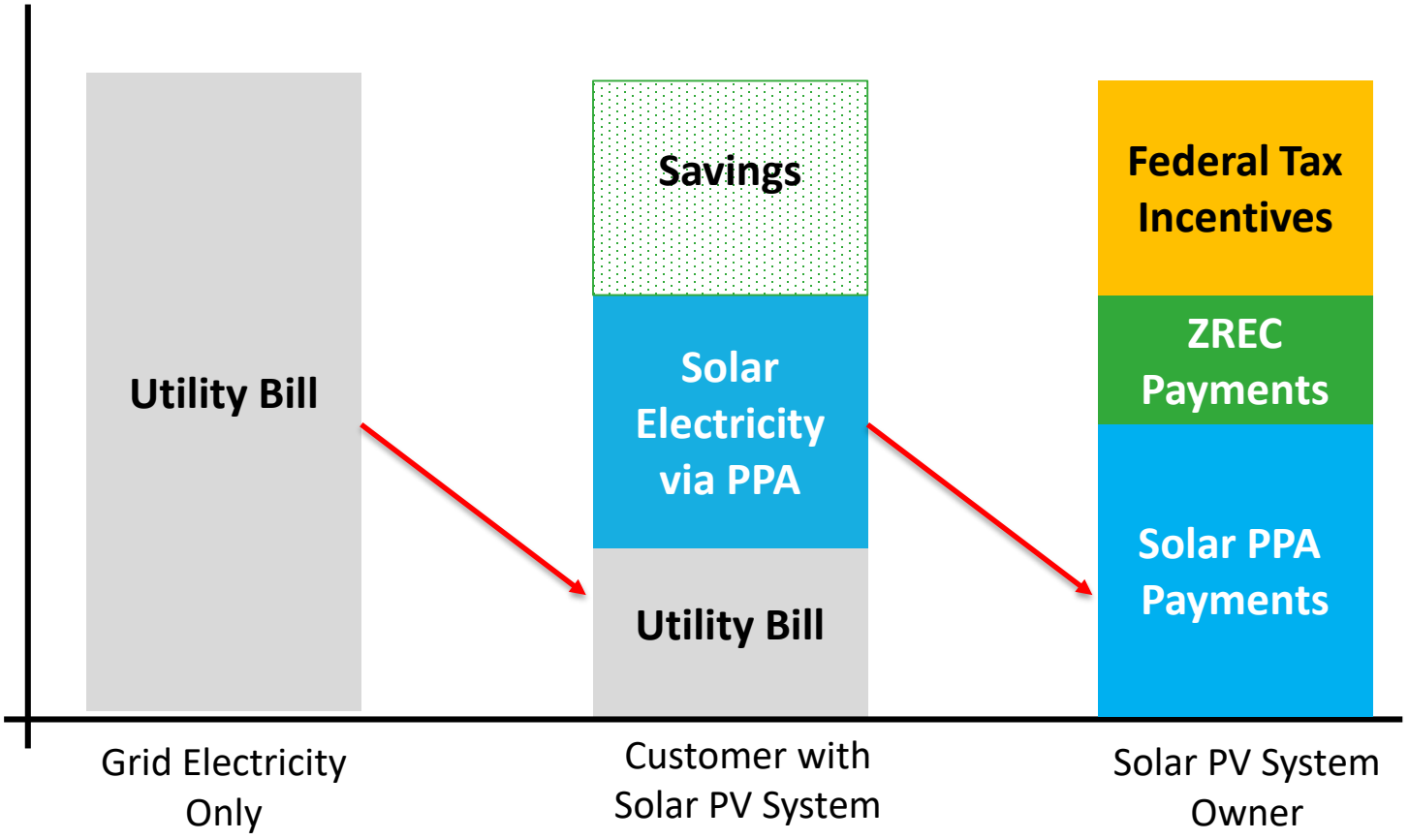
The value of solar PV to the customer comes from electricity cost savings!



What are the Benefits of a PPA?

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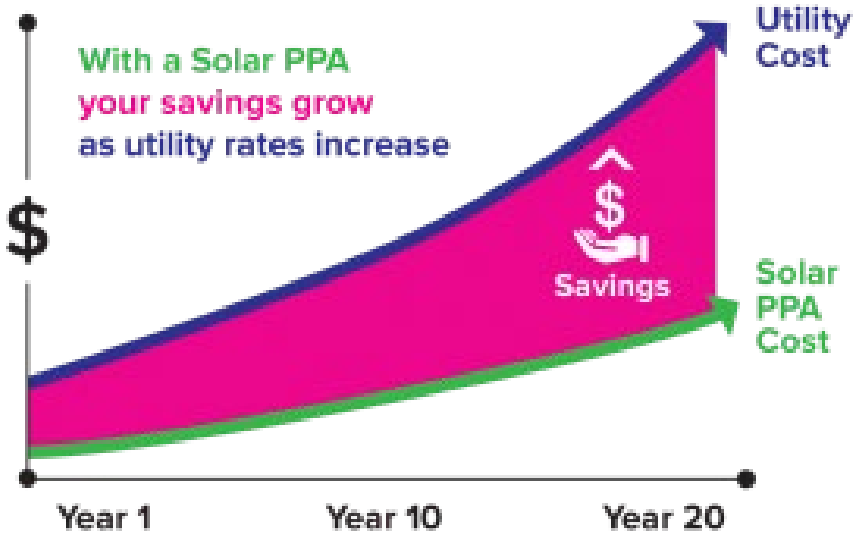
- No upfront costs
- Lock in low electricity rate
- Positive cash flow
- No operations & maintenance costs
- Preserve capital & credit lines
- Managed by a third-party solar system owner



Multifamily Challenges

Metering: Multi-metered buildings may not benefit as much from solar

- Only common areas and other electric loads paid for by the property owner can be offset by solar
- Master Metered for Electricity or large common areas are best opportunities

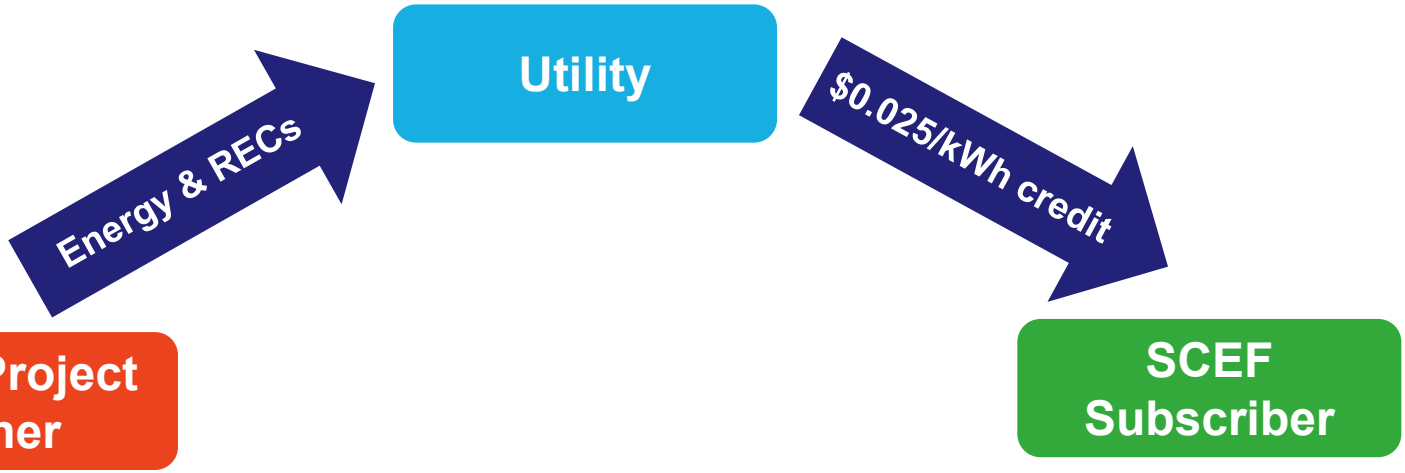
Health and Safety:

- Over 70% of residential units built before 1979 – in need of capital improvements that include health and safety
- H&S issues must often be addressed before energy improvements can be implemented
- Green Bank has a revolving Health and Safety Loan Fund to address these types of challenges

Other Opportunities: Shared Clean Energy Facilities

AKA "Community Solar"

- Utility procures up to 25MW a year of solar (or other clean energy systems)
- $0.025/kWh credit available to subscribers (Process to identify & enroll subscribers **TBD**)
- Eligible Subscribers/Subscriber requirements:
  - 20% Low Income households
  - 40% Low Income or Moderate-Income households, or Landlords of affordable housing facilities
  - 20% Small Businesses
  - 20% Any of the above or Gov't, Commercial or non-LMI households unable to install solar



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The Future of Solar in CT

Significant Changes to CT Solar Policy

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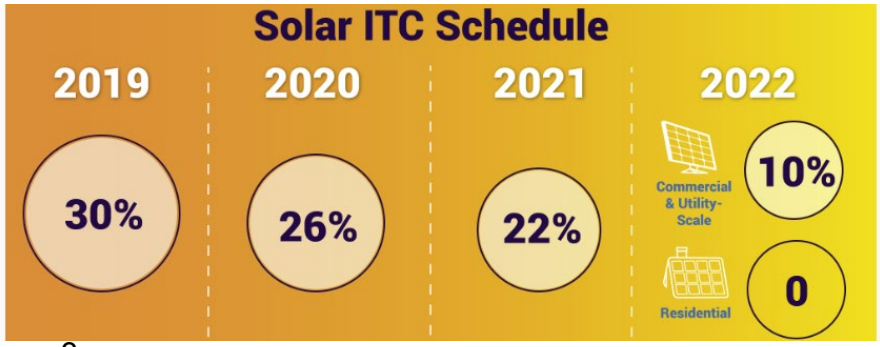
Many policies are phasing out

- Net Metering will end December 31, 2021. Existing systems will be grandfathered until 2041
- The final ZREC Auction will take place in 2021
- The Federal Investment Tax Credit will step down to 10% for non-residential systems by 2022

What will replace these programs?

- The state will transition to a tariff structure in 2022
- A tariff is a combined purchase price for the energy and the RECs generated by the solar PV system
- State regulators are currently working to determine what the tariff price will be



SCEF program just ramping up – first procurement in 2020, program will run for six years

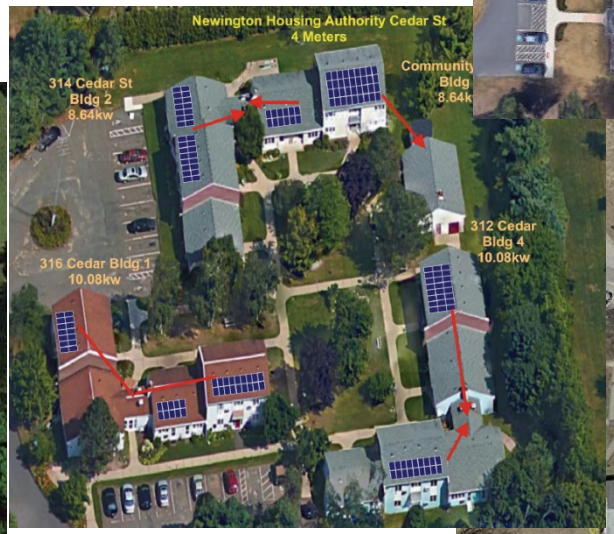
Questions?

Additional Information

- Solar PPA – 30 kW minimum system size
- Master Metered for Electricity or large common areas are best opportunities
- All MFH solar PPA projects will be required to have snow guards installed above property entryways as part of standard terms
- CT Green Bank developing snow guard solution for existing
- solar PPA lessees
- PPA projects have long development timelines – frequently 8 months or more. Fastest moving projects have an ***internal champion***
- 23 currently eligible installers – contact CT Green Bank for a list
- To get started, recommend seeking 2-3 project vendor quotes (like any home improvement)

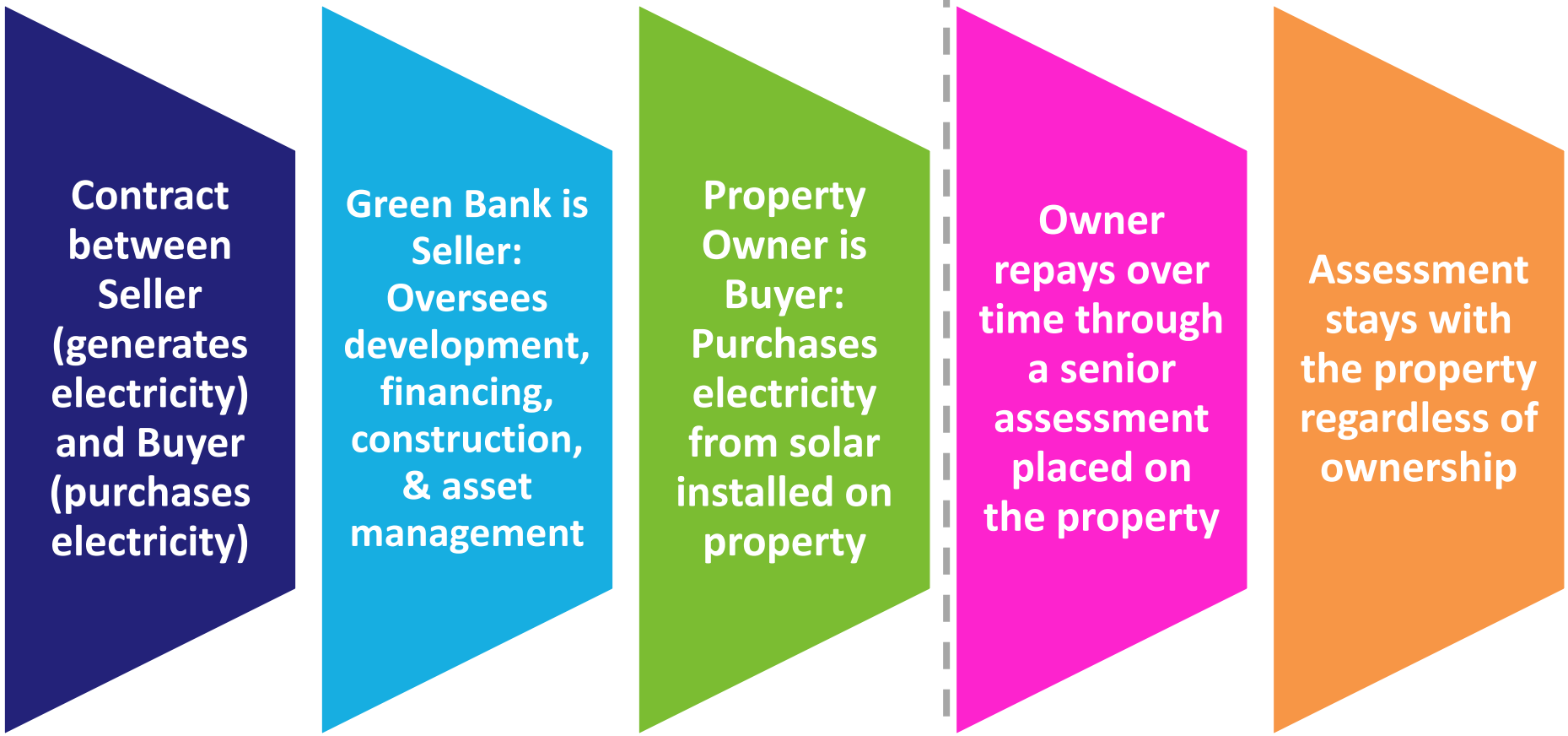
Green Bank MFH Solar Financing to-date*

- 30 solar projects
  - 19 PPAs
  - 11 LIME
- Average system size – 97 kW
- Average No. units - 70



* Last Updated April 2019

Green Bank CPACE-Secured Power Purchase Agreement



Relationships between Green Bank, Contractor, and Customer

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Development & Engineering	Construction	Operation & Payment
Green Bank develops financing agreement with **Municipality** Green Bank & **Contractor** develop & engineer project Green Bank & **Contractor** coordinate on documentation	PPA signed between Green Bank & **Municipality**; EPC signed between **Contractor** & Green Bank **Contractor** constructs project & receives construction payments from Green Bank	After Construction Completion, Green Bank operates & maintains solar system over the term of the agreement. **Municipality** pays the PPA on a monthly "actuals" basis directly to the Green Bank • "Actuals" = paying for exactly what is generated based off of the solar monitoring system

Relationships between Green Bank, Contractor, and Customer

CONNECTICUT GREEN BANK

Development & Engineering	Construction	Operation & Payment
Green Bank develops financing agreement with Customer Green Bank & Contractor develop & engineer project Green Bank & Contractor coordinate on documentation	PPA signed between Green Bank & Customer; EPC signed between Contractor & Green Bank Contractor constructs project & receives construction payments from Green Bank	After Construction Completion, Green Bank operates & maintains solar system over the term of the agreement. Customer pays the PPA through a CPACE Benefit Assessment Lien* on the property • Payment schedule is based on estimated annual production • Semi-annual payments paid to Town & Town remits payment to Green Bank • Annual “true-up” directly with Customer to allow payment only for electricity generated