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Connecticut Green Bank -
Solar Financing for Affordable Multifamily Properties

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Presenters

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CT Green Bank
- 1st Green Bank in US

Mission and Goals

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

- Attract and deploy private capital to finance the clean energy goals for Connecticut
- Leverage limited public funds with multiples of private investment, returning and reinvesting public funds for further clean energy deployment
- Develop and implement strategies that bring down the cost of clean energy in order to make it more accessible and affordable to consumers
- **Support affordable and healthy buildings in low-to-moderate income communities by reducing their energy burden and addressing health and safety issues**

Definitions

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“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

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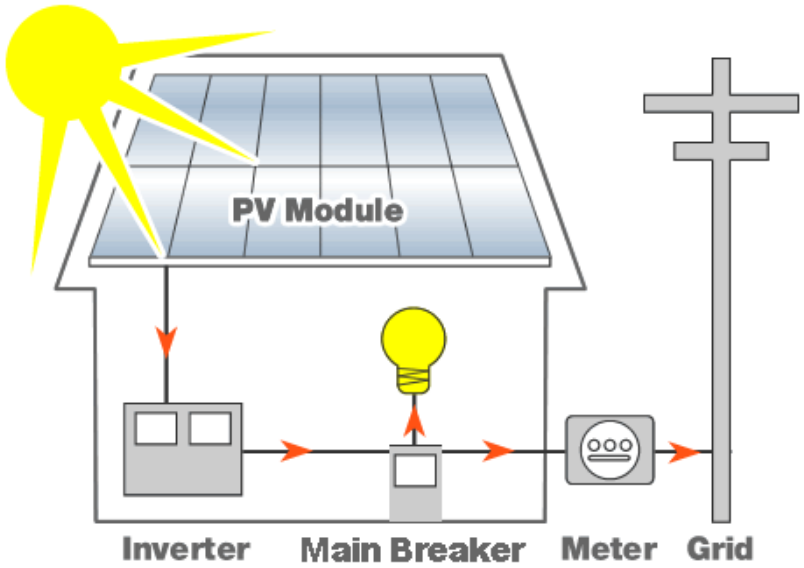
Solar 101

Solar PV systems use net metering

For multifamily properties, Solar PV systems are located **behind the meter**, meaning electricity is intended for onsite use, displacing grid consumption.

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

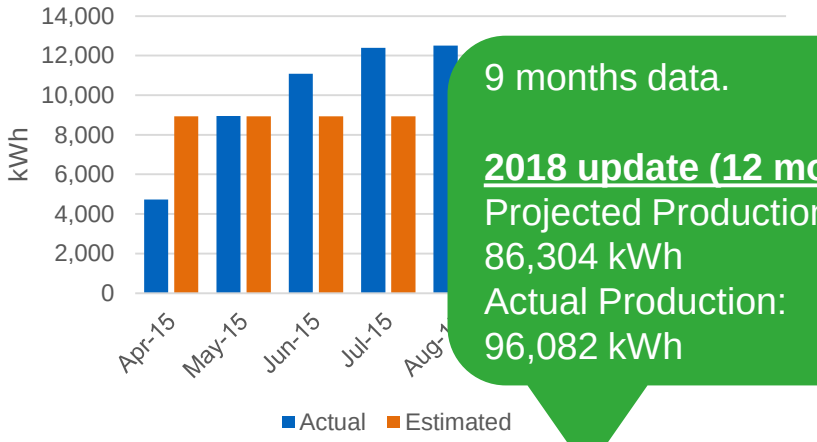


- At year end, excess electricity generation for the year is reimbursed at wholesale rate
- Wholesale rate generally much lower than retail electricity tariff

Net metering example – Ashford Senior Housing Center

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) 30% 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 12/31/2019. Decreases to 26% of qualified costs thereafter until 12/31/20, 22% of qualified costs thereafter until 12/31/21

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Solar Financing Programs

Solar Financing Programs

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Solar PPA

Type	Solar projects
Rate	Fixed or escalating price
Term	20 years
Criteria	10%+ Year 1 Variable Electric Rate Savings

LIME

Type	Affordable MFH
Rate	6.00-7.00%
Term	5-20 years
Criteria	1.1x+ project Energy Savings Coverage Ratio*

C-PACE

Type	Market-rate projects
Rate	5.00-6.50%
Term	5-25 years
Criteria	1.0x+ Energy Savings Coverage Ratio

* For solar projects; efficiency projects must be 1.3x+

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Solar PPA

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

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

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

[ ] is Buyer: Purchases electricity from solar installed on property

What are the Benefits of a PPA?

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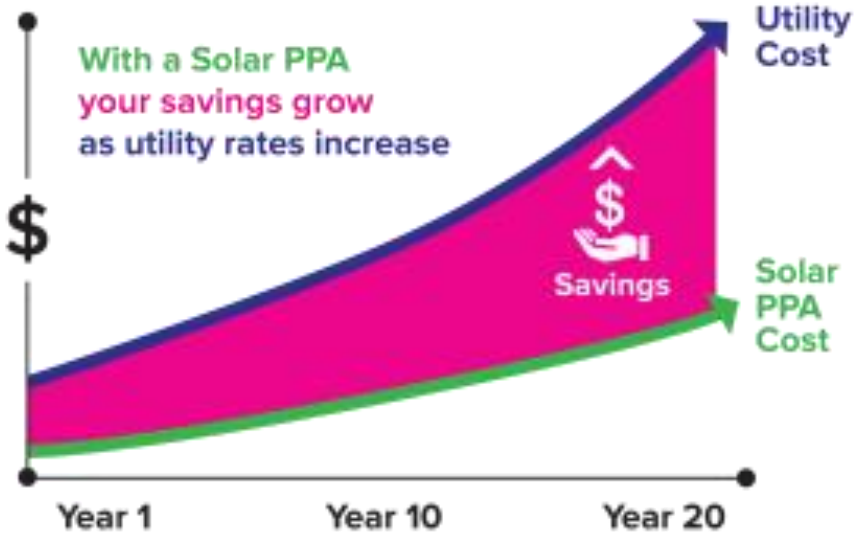
- **No upfront costs (for PV system)**
- **Lock in discounted electricity rate**
- **Positive cash flow**
- **CGB owns operations & maintenance costs**
- **Preserve capital & credit lines**
- **Monetizes value of federal ITC**



What are the Benefits of a PPA?

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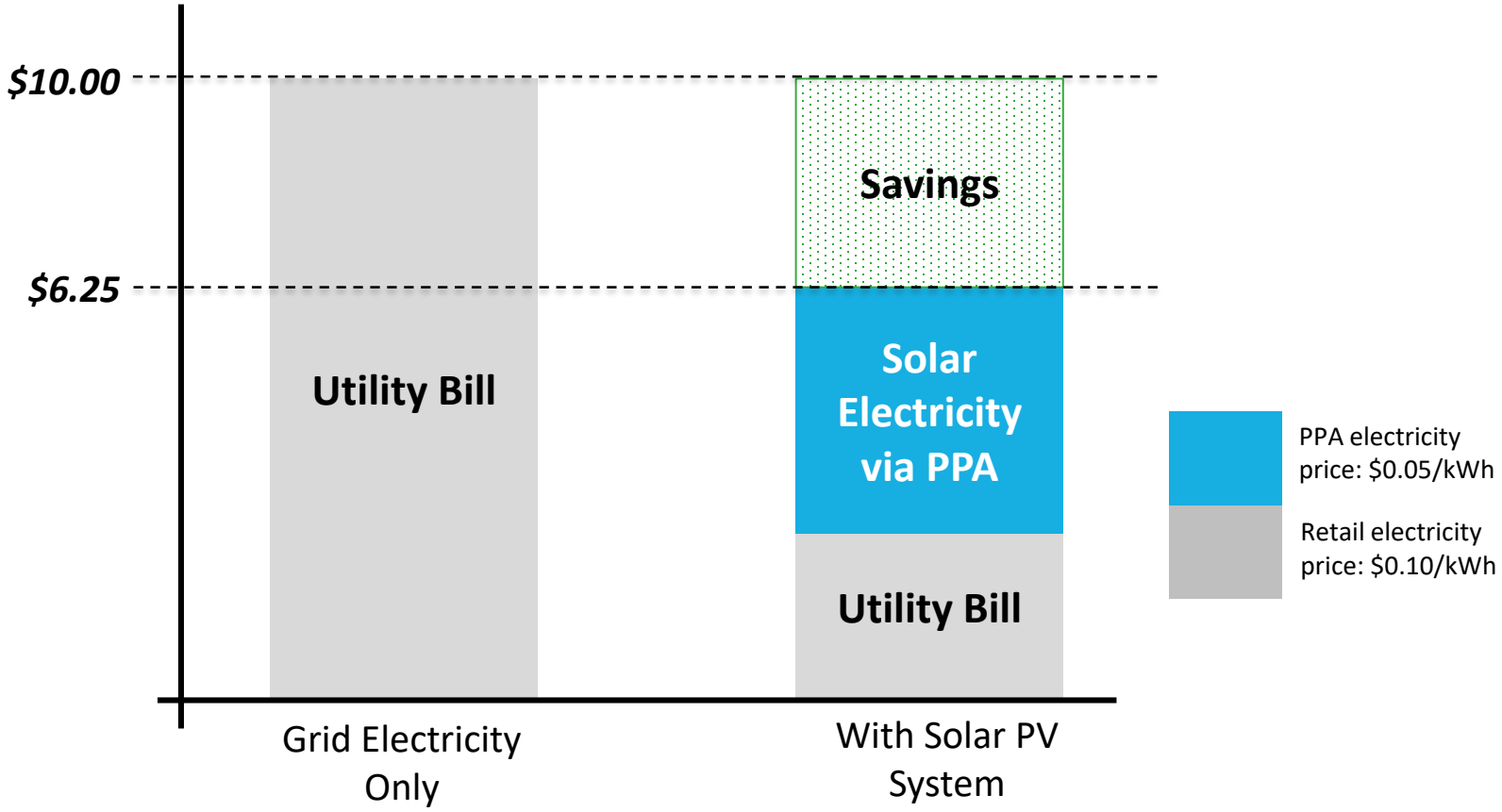
The value of solar PV comes from electricity cost savings!



*Representative project for illustrative purposes only

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Loans – LIME & C-PACE

LIME Loan
Willington Woods

Description:	40.3 kW Solar PV system
Project Cost:	$170,000
Loan Amount:	$84,415
Estimated 2018 ROI	10.9%
Financing Terms:	10 years, 6.50%
Payback Period:	9.17 years

C-PACE Solar (not MFH, for reference only)

CREST MECHANICAL

LOCATION:
41 Walnut Street
Hartford, CT

BUILDING SIZE:
34,500 square feet

YEAR BUILT: 1925

TOTAL PROJECT COST:
$145,000

C-PACE FINANCING: $145,000

ENERGY UPGRADE: 55 kW roof mounted solar photovoltaic system

TERM: 20 years

ANNUAL C-PACE ASSESSMENT:
$11,904

ANNUAL ENERGY COST SAVINGS:*
$20,897

LIFETIME ENERGY COST SAVINGS:
$417,938

ANNUAL ENERGY SAVINGS:
203 MMBtu

*over the financing term

"The C-PACE program allowed me to access low-cost and long-term financing to further support our desire to deploy solar energy and stabilize our energy costs over the longterm."

– PAUL BREGLIO

Product Comparison for Affordable MFH Properties

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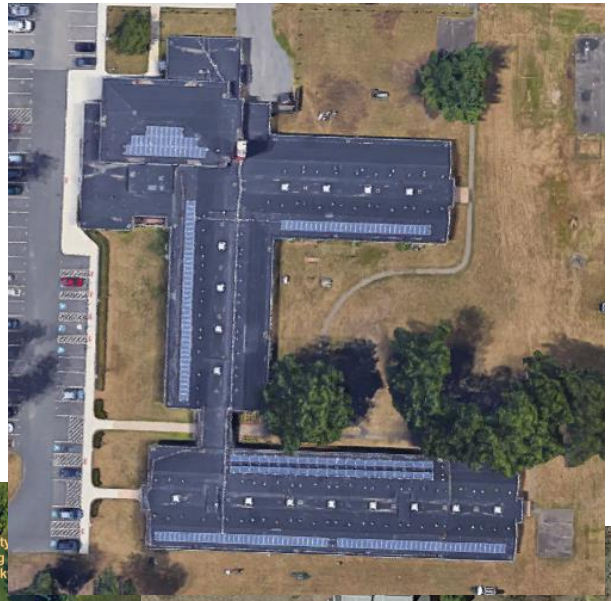
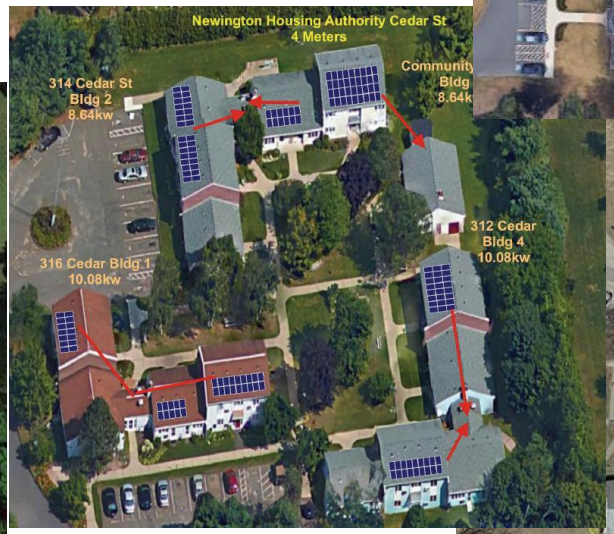
Solar PPA	LIME Loan	C-PACE
• Off-balance sheet . . • Ancillary project-related work may be financed (if identified prior to PPA execution) . . • Monetizes and passes along financial benefit of ITC to property owner	• Unsecured (UCC-1 filing) . • Ancillary project-related work may be financed (as identified 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

Green Bank MFH Solar Financing to-date

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





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)

Questions?

Contact Us:

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