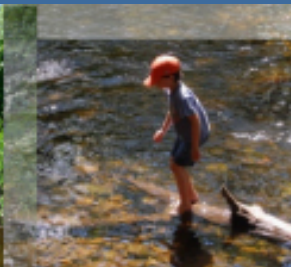
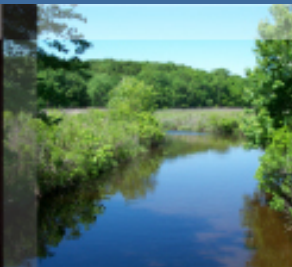
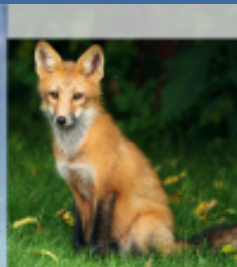




# Distributed Generation in Connecticut

December 15, 2017



Connecticut Department of  
**ENERGY &  
ENVIRONMENTAL  
PROTECTION**

# Overview

- The focus of this presentation will be to provide an update on the status of existing, new, and proposed programs/policies in Connecticut, which are administered by DEEP, EDCs, and/or Connecticut Green Bank.



# Connecticut Programs/Policies



RSIP/SHREC (Green Bank)
LREC/ZREC
DEEP Small Scale Procurement
Shared Clean Energy Facility Pilot Program (SCEF)
Net Metering
Virtual Net Metering
Renewable Energy Tariff Proposal (draft CES)
Expansion of RPS (draft CES - 30% by 2030)
Executive Order 59/ Public Act 17-3
Microgrid Program Round 4



# Connecticut Procurement Programs

Legislation	Program	Description
Public Act 11-80; Public Act 15-194	RSIP/SHREC	PA 15-194 allows the CT Green Bank to install up to 300 MW of residential PV; RECs can now be sold as long term PPAs to CT EDCs.
Public Act 11-80, Sec. 107/110	LREC / ZREC	Procurement of Renewable Energy Credits
Public Act 15-107, Sec. B	Small Scale Procurement	Allows DEEP to procure clean energy for up to 5% of Electric Load; DEEP may procure up to 10% of the state's Electric load (combined with Sec C); Projects must have capacity ranging from 2-20MW
Public Act 15-113; Public Act 16-116	Shared Clean Energy Facility Pilot Program	Pilot Program to procure up to 6 MW of Class 1 technologies for community clean energy with multiple subscribers.



# Connecticut Net Metering Programs

Legislation	Program	Funding Cap	Description
C.G.S. 16-243h	Net Metering	No Cap	For any customer with a DG Unit <2MW
Public Act 11-80; Public Act 16-216	Virtual Net Metering	\$10 million/year; however, an additional \$6 million was allowed for retroactive qualification of municipal VNM customers.	State, Municipal and Agricultural customers who operate behind-the-meter generation (Customer Host) can assign surplus production from their generator to other metered accounts that are not physically connected. Customers can use VNM for DG units less than 3MW.



# Existing Programs Update – Part 1 of 3

- RSIP/SHREC:** Pursuant to Public Act 15-194, the Green Bank is authorized to enter into contracts with the EDCs to sell RECs under long term PPAs. Further the Green Bank is authorized to install up to 300 MW of Residential PV by 2022. The Green Bank anticipates that it will meet that goal by 2019.

Calendar Year	Completed Projects	PV Capacity (MW STC)	PV Capacity (MW AC)
2005-2012	2,525	17	15
2013	1,211	9	8
2014	2,933	21	20
2015	7,086	54	47
2016	6,211	49	43
2017***	3,389	28	26
2018 Estimated	4,384	35	31
2019 Estimated	4,965	39	35
2020 Estimated	4,801	38	34
2021 Estimated****	2,961	23	21
<b>Total Residential Solar</b>	<b>40,466</b>	<b>313</b>	<b>281</b>

\*\*\* Total 2017 numbers are estimated. Actual data through 12/6/17 is 3,157 completed projects (25,944 kW STC/24,072 kW AC). In addition, there are 3,227 projects (25 MW STC/22.5 MW AC) in progress as of 12/6/17.



# Existing Programs Update – Part 2 of 3

- LREC/ZREC: The EDCs have solicited RECs for the first 6 years of the LREC/ZREC program.

- Year 6 consisted of two separate solicitations (Round 1 and Round 2)

- The preliminary results from Round 1 have been filed with PURA.
- The results from Round 2 have not been filed with PURA yet

- Year 7 is not yet under solicitation, but the RFP is expected to be released in 2018. Funding maximum is \$8 million to be split evenly between LREC and ZREC.

ZREC Capacity In Service (Thru Nov 1, 2017)

EDC	Large ZREC (MW)	Medium ZREC (MW)	Small ZREC (MW)	Total
Eversource	30.6	25.0	19.5	75.2
UI	TBD	TBD	TBD	TBD
Total	TBD	TBD	TBD	TBD

Year 6 – Round 1 (Solar Capacity Only)

EDC	LREC (MW)	Medium ZREC (MW)	Large ZREC (MW)	Total
Eversource	0.0	10.7	15.1	25.8
UI	0.0	3.4	3.8	7.2
Total	0.0	14.1	18.9	33.0

Weighted Average Price of Bids (\$/REC) (All Technologies)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6 (Round 1)
LREC	67	53	56	50	43	37
Large ZREC	107	90	62	57	69	55
Medium ZREC	146	92	74	75	90	84
Small ZREC	161	105	82	82	99	TBD



# Existing Programs Update - Part 3 of 3

- Public Act 15-107/ Public Act 13-303: Authorized the DEEP Commissioner to direct the EDCs to enter into long term PPAs for clean energy to meet a total of 15% of Connecticut’s Electric Load.
  - Discussion of Small Scale Procurement ONLY:
    - Small Scale Procurement
      - PURA approved the Small Scale Projects. There is only one solar project 5MW or less that is still plans to come online in 2020.

Project Name	Project Size	Location	In service Date
GRE-15-NORTH HAVEN-CT	5 MW	North Haven, CT	2020

- Shared Clean Energy Facility Pilot Program (SCEF): DEEP selected three solar projects.

Project Name	Project Size	Location	In service Date
CHIP Fund 5 – Riverside Thompson	2.0 MW	Thompson, CT	November 2018
Clean Energy Collective – Bloomfield Board of Education	1.62 MW	Bloomfield, CT	July 2018
US Solar Corp – USS Shelton	1.6 MW	Shelton, CT	September 2019
Total	5.22 MW		





# New Programs/Policies - Part 1 of 3

- Draft Comprehensive Energy Strategy

Policy	Description
Renewable Energy Tariff	Restructure net energy billing and implement renewable energy tariffs for both the energy and RECs for these resources. A renewable energy production tariff would allow the EDC to pay a fixed price, in cents/kWh, for each kWh produced by the renewable project for the set term of the agreement.
Expansion of RPS	Increase the Class I RPS requirement by 1 percent each year between 2020 and 2030, reaching 30 percent by 2030. Also, establish a cap on behind the meter generation to 0.25% of Connecticut's electric load per year. By 2030, the behind the meter portion would represent an additional 2.5 percent of Connecticut's electric load.



# New Programs/Policies – Part 2 of 3

- **Executive Order Number 59**
  - Issued by Governor Malloy on July 25, 2017
  - In part calls for evaluation of the role of existing nuclear facilities and other zero-carbon resources in meeting environmental and reliability requirements; an assessment of the best mechanisms to ensure continued progress to meet such requirements; and a determination of whether and how such mechanisms should be utilized.
- **Public Act 17-3, An Act Concerning Zero Carbon Solicitation and Procurement**
  - DEEP and PURA must conduct an appraisal of nuclear power generating facilities assessing: the current and projected economic condition of those facilities, and the impact on the electric markets, fuel diversity, energy security, grid reliability, the state's greenhouse gas emissions, and the state, regional and local economy if those facilities retire.
  - DEEP and PURA submit appraisal and a determination on whether to conduct a procurement for nuclear power generating facilities to the Connecticut General Assembly by February 1, 2018. If that report demonstrates that action is necessary, DEEP may issue one or more solicitations for zero carbon generation facilities, such as nuclear power, hydropower, Class I renewable energy sources, and energy storage. If DEEP finds any proposals submitted in response to a solicitation are in the best interest of ratepayers, DEEP may direct the EDCs to enter into long-term agreements with those resources and submit any agreements to PURA for review and approval.
- **DEEP and PURA will issue one set of findings and conclusions to satisfy the requirements of both the Act and Executive Order 59.**
  - Expected release date is February 2018



# New Programs/Policies – Part 3 of 3

- CT Microgrid Program – Round 4
  - Applications are being accepted until January 1, 2018
  - Allows \$250/kW in matching funds for Class I resources; up to \$4 million/project
  - No further details on the amount of PV that may be funded



# Questions?

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