

### What's the Deal with Shared Clean Energy?



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Today's Agenda



- I. What is a Shared Clean Energy Facility
- II. Examples of Shared Clean Energy
- III. UIL Strategy & Concerns
- IV. Recommendations
- V. Questions/Discussion





# Shared Clean Energy



- As per Public Acts No. 15-113 and No. 16-116, a "Shared clean energy facility" means a Class I renewable energy source, as defined in section 16-1 of the general statutes, that (A) is served by an electric distribution company, as defined in section 16-1 of the general statutes, (B) is within the same electric distribution company service territory as the individual billing meters for subscriptions, (C) has a nameplate capacity rating of four megawatts or less, and (D) has at least two subscribers
- Whatever you call it, "Community Solar", "Shared Renewable Energy", "Shared Solar", or "Community Renewables", these programs are intended to connect consumers to a local clean energy project with four guiding principles:
  - 1. Expand renewable energy access
  - 2. Produce tangible economic benefits on a customers' utility bill
  - 3. Remain flexible enough to account for energy consumers' preferences
  - 4. Be additive and supportive of existing renewable energy programs





### Examples of Shared Clean Energy



### CTCleanEnergyOptions\*

- "Many customers say that they would support clean energy if they had the chance"
- CTCleanEnergyOptions, a program approved by PURA, allows any Eversource or UI customer, the opportunity to support clean energy made from approved renewable resources such as wind, solar and biomass.
  - The clean energy suppliers will ensure that clean energy is delivered into the electric system in an amount matching the subscriber customer's usage.
  - <u>A small additional charge for the clean energy product</u> appears on the subscriber's electric bill
    - For a typical Connecticut home that uses 700 kilowatt-hours per month, purchasing clean energy will add about \$7.00 more per month to your electric bill
  - The program was launched more than 10 years ago and has 25,000 customers or 1.5% of CT electric customers

### Examples of Shared Clean Energy



### Utility Scale Community Renewables

- 2003 Project 150 and Section 127 of Public Act 11-80 yielded three notable renewable energy projects that produce tangible benefits for all CT ratepayers
- Competitive procurements with long-term power purchase agreements
  - 1. Bridgeport Fuel Cell facility
  - Owned by Dominion and operated by FuelCell Energy, began commercial operations in 2013, and produces 14.9 megawatts of clean energy
  - 2. East Lyme Solar Park
  - At 5 MW, among the largest solar installations in Connecticut. Completed in 2014 by Greenskies Renewable Energy
  - 3. Somers Solar Center
  - Completed in 2013 by HelioSage Energy. Covering 50 acres, this photovoltaic project also generates 5 MW of electricity with 23,150 solar panels





# UIL Utility Scale Community Renewables



- Public Act 11-80 also allowed UI to build, own and operate Class I renewable generation systems
- UI developed three fuel cell projects and a solar PV project
- Two additional fuel cell projects, including a micro grid are under development
- 2.2 MW on the Seaside Landfill in Bridgeport, CT



- The cost of the projects average \$0.04/kWh over their 20 year life and are shared equally among all ratepayers in UI's territory under a cost of service model
- The benefits from the UIL projects, including the energy output, suppressed capacity and transmission costs, diversity of supply, energy security, and the value of Renewable Energy Credits are equally realized by all UI ratepayers





# UIL Clean Energy Strategy



#### **1.** Work with Policy Makers and others to be an Enabler, not an Impediment:

- UI supports Connecticut's clean energy goals and is committed to help the State meet them
- Together, establish a framework to fulfill the changing need of customers in balance with rate and system impacts

#### 2. Manage Rate Impacts:

- Reduce inequities by encouraging equitable changes to rate structures
- Encouraging policies that pursue the most economical / cost-effective DER

### 3. Mitigate System Reliability Impacts:

- Support for safe and timely interconnection of strategically located distributed energy resources (DERs)
- Pursue preemptive electric system investments that enable larger quantities of DER and mitigate its reliability impacts





### **UIL Cost-Shifting Concerns**



#### A Tale of Three Residential Customers







	Customer I	customer z	customer 3
Monthly Consumption (kWh)	700	700	700
Ave. Monthly On-site Production (kWh)*	0	520	0
Monthly Billed kWh	700	180	700 - 520 = 180
Cost to Provide Service**			
Generation (std. offer \$0.1077/kWh) & REC's	\$75	\$19	\$75-\$16-\$26*** = \$33
Transmission (\$0.025/kWh)	\$18	\$18	\$18
Distribution – Fixed component	\$17	\$17	\$17
Distribution – kWh component (\$0.086/kWh)	\$60	\$60	\$60
Misc. & Benefits (\$0.04/kWh)	\$28	\$28	\$28
Tota	al \$198	\$142	\$156
Monthly Billed Amount**			
Generation (std. offer \$0.1077/kWh)	\$75	\$19 <mark></mark>	\$19
Transmission (\$0.025/kWh)	\$18	\$5	\$5
Distribution – Fixed component	\$17	\$17	\$17
Distribution – kWh component (\$0.086/kWh)	\$60	\$15	\$15
Misc. & Benefits (\$0.04/kWh)	\$28	\$8	\$8
Tota	al \$198	\$64	\$64****
Cost-Shifted to Other Ratepayer	rs \$0	\$78	\$92

\* Based on CT Clean Energy Fund average kWh output from a 5KW solar PV system in CT

\*\* Average Residential Rate (w/ S.S.) as of January 1, 2016

\*\*\* (March 1 – November 30, 2015) Average hourly CT Load Zone Real-Time full LMP - \$0.03142/kWh, REC value @ \$38/REC = \$26

\*\*\*\* Assumes credit at full retail value for 520 kWh (Quantity of "shared solar" participation)



### Recommendations



- As we look at DER activity in other areas there are lessons to be learned (good & bad).
- The development of energy policy should be built on factual data and information.
  - A need exists to determine the appropriate value of renewable resources and broader cost of service issues related to DERs
- The CT energy delivery companies are engaged and invested in developing solutions that meet changing needs
  - Investment in grid modernization capable of supporting DER
  - Continued involvement in the development of large-scale clean energy facilities
- Constructive & collaborative dialogue will produce informed outcomes that consider the interests of all constituents.





# Questions/Discussion







