



## VIRTUAL NET METERING UPDATE

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### "TRADITIONAL" VS "VIRTUAL" NET METERING

Traditional net metering allows a renewable energy system's owner to receive billing credits for power generated by the system, in effect running the meter "backwards." If the system produces more power than the owner used in a billing period, the credits can be applied to future bills.

With virtual net metering, the system's owner can share these excess credits "virtually" with other owner-designated accounts, thus running their meters backwards too.

For additional information comparing traditional and virtual net metering see OLR Report [2013-R-0390](#).

### ISSUE

This report describes the virtual net metering program, including data on (1) projects that are currently operational or approved but waiting to proceed, (2) the value of distributed virtual net metering credits, and (3) the program's costs. It updates OLR Report [2015-R-0264](#) with additional information about individual virtual net metering projects.

### SUMMARY

Virtual net metering generally allows a renewable energy system's owner to share the billing credits that are generated when the system produces more power than the owner uses. In Connecticut, the law limits virtual net metering to municipal, state agency, and agricultural customers who meet certain requirements ([CGS § 16-244u](#)). Among other things, the law specifies (1) which types of renewable energy systems can

participate for each customer type, (2) generating capacity limits, (3) the types of accounts that can share virtual net metering billing credits with the host facility, and (4) that credits are calculated at the wholesale power generation rate plus a portion of the electric company's transmission and distribution rates which decreases from 80% to 40% over three years.

The law also caps total virtual net metering credits at \$10 million per year, divided between the state's electric distribution companies (EDCs, Eversource and United Illuminating (UI)) in proportion to their respective consumers' electrical load



(\$8 million for Eversource and \$2 million for UI). Within that total, each eligible customer type (municipal, state agency, and agricultural) is further limited to 40% of the allowed credits.

According to the EDCs, there are currently two operational virtual net metering projects in the state. Both are agricultural projects in Eversource's service area. Eversource has approved six other agricultural projects and 11 municipal projects that are not yet operational. Three other municipal projects are on the company's waiting list because the 11 approved projects are expected to hit the \$3.2 million credit cap for municipal projects. As of October 2015, Eversource has distributed \$21,504 in credits to the two operational agricultural projects and incurred an additional \$183 in host account net metering costs for a total of \$21,687 in costs. The company's additional administrative and billing-related expenses are not included in this total.

UI has approved three municipal projects in its service area that are not yet operational. Although the three municipal projects have been allotted the maximum \$800,000 in credits allowed by law, no projects are currently waiting due to credit cap limits. With no operational projects, the company has not distributed any virtual net metering credits to date and has not incurred any direct costs. It broadly estimates its non-direct costs, such as legal expenses and internal labor, at roughly \$100,000 for 2015.

## **VIRTUAL NET METERING**

### ***Eligibility Criteria***

By law, virtual net metering is open to (1) municipalities and state agencies with class I (e.g., solar or wind) or class III (cogeneration) energy systems and (2) agricultural customers with class I energy systems. In either case, the system must be served by an EDC and cannot have a generating capacity over three megawatts. An agricultural customer must own the system on land he or she owns or controls. Municipal and state agency customers can alternatively lease or enter into a long-term contract for the system and there are no restrictions on its location. As with traditional net metering, the electric company must connect the system to the grid and provide metering equipment.

### ***Beneficial Accounts***

Virtual net metering allows a participating customer (the "host") to transfer the billing credits generated when it produces excess power to customer-designated "beneficial accounts." The beneficial accounts must be customers of the same EDC as the customer host. Municipal or state hosts can designate up to five beneficial

accounts that are related to the municipal or state agency and up to five additional non-state or municipal beneficial accounts that are critical facilities (e.g., hospitals and commercial areas of municipalities) connected to a microgrid. Agricultural hosts can designate up to ten beneficial accounts, each of which must (1) use electricity for agriculture, (2) be a municipality, or (3) be a noncommercial critical facility (e.g., a police or fire station). The administering EDC must allocate the credits among the beneficial accounts in proportion to their consumption for the previous 12 billing periods.

### ***Credits***

Energy produced by the host is first used to reduce the host's electricity consumption. Surplus production is then assigned "virtually" to reduce the electric bills of the host's beneficial accounts. The EDC must assign a virtual net metering credit to the host's beneficial accounts for the month after the host generates the excess power. Unlike traditional net metering, the credit is less than the full retail rate. Specifically, the credit is calculated as the generation service component (the wholesale cost of power) plus a decreasing portion of the beneficial accounts' transmission and distribution charges. The credit is for 80% of transmission and distribution charges during a facility's first year operating, 60% during its second year, and 40% for every year after.

If the host generates more power than the host and its beneficial accounts use in a billing period, the excess "unassigned" credits accumulate and are applied to future electric bills within the calendar year. At the end of each year, the company must compensate the host for any unassigned credits at its standard service rate (the generation rate charged to customers who do not choose a retail electric supplier) plus the applicable portion of the transmission and distribution charges. In practice, pursuant to the Public Utilities Regulatory Authority's (PURA) decision in [Docket 13-08-14](#), the annual compensation for unassigned credits is provided as a credit to the host's electric bill and not an annual "cash out."

### ***Credit Caps***

The law required PURA to develop the administrative processes and specifications for the virtual net metering program, which it has done through [Docket 13-08-14](#) and its subsequent re-opened proceedings. By law, these specifications include an annual \$10 million cap for credits provided to beneficial accounts and the year-end compensation provided to the customers participating in the program. The cap is apportioned between Eversource and UI based on their respective consumers' load, which in practice, amounts to roughly an \$8 million cap for Eversource and \$2 million cap for UI.

Each category of eligible customers (municipal, state, and agricultural) is also capped so that it can receive no more than 40% of the total credits. Thus, within Eversource's \$8 million credit cap, participating municipal customers cannot receive virtual net metering credits totaling more than \$3.2 million annually. Under PURA's procedures, each approved project is assigned an annual virtual net metering cap allotment within its customer category based on information provided during the application process. Projects that are approved but not yet operational must become operational within one year after the approval or receive a one-time, six-month extension. Failure to do so results in denial of the application so that the EDC can assign the project's assigned credit cap allotment to other applicants waiting for approval.

### **VIRTUAL NET METERING PROJECTS**

As shown in the tables below, there are currently two operational virtual net metering projects in the state. Both are agricultural projects in Eversource's service area. Eversource has approved six other agricultural projects which, combined with the two operational projects, have been allotted almost \$2.3 million of a maximum \$3.2 million in virtual net metering credits. The company has approved 11 municipal projects that are not yet operational. Three other municipal projects are on the company's waiting list because the 11 approved projects are expected to hit the \$3.2 million credit cap for municipal projects. Since there are currently no state projects, Eversource can still allot roughly \$2.5 million in credits to agricultural and state projects, although only \$900,000 of those credits may be allotted to agricultural projects.

UI has no agricultural or state projects in its service area to date. It has approved three municipal projects that are not yet operational. These three projects have been allotted all \$800,000 of the credits allowed under the credit cap, although there are currently no other municipal projects on the company's waiting list. Since municipal projects have reached their credit cap, \$1.2 million in credits remain for agriculture and state projects to share. By law, neither sector can be allotted more than \$800,000 of this amount.

Tables 1 and 2 below show Eversource's and United Illuminating's virtual net metering projects to date.

Table 1: Eversource Virtual Net Metering Projects

Sector	Approved	Facility Type	Capacity (kW)	Credit Cap Allotment (\$)	In-Service
Agriculture (1)	Yes	Solar	100	20,363	YES
Agriculture (2)	Yes	Solar	2,400	482,885	No
Agriculture (3)	Yes	Solar	56	8,943	YES
Agriculture (4)	Yes	Solar	60	4,775	No
Agriculture (5)	Yes	Solar	1,000	297,637	No
Agriculture (6)	Yes	Solar	2,000	595,572	No
Agriculture (7)	Yes	Solar	1,200	337,494	No
Agriculture (8)	Yes	Solar	3,000	723,875	No
Agriculture (9)	Under review	Solar	2,000	N/A	No
Agriculture (10)	Under review	Solar	200	N/A	No
<b>Total Agriculture</b>	<b>Approved: 8</b>  <b>Under Review: 2</b>	<b>Approved: 8 Solar</b>  <b>Under Review: 2 Solar</b>	<b>Approved: 9,816 kW</b>  <b>Under Review: 2,200 kW</b>	<b>\$2,271,544</b> (\$3.2 million cap)	<b>2</b>
Municipal (1)	Yes	Solar	1,000	231,764	No
Municipal (2)	Yes	Solar	1,000	229,103	No
Municipal (3)	Yes	Solar	1,000	229,244	No
Municipal (4)	Yes	Fuel Cell	750	608,295	No
Municipal (5)	Yes	Solar	1,000	165,338	No
Municipal (6)	Yes	Solar	1,000	219,150	No
Municipal (7)	Yes	Solar	800	173,537	No
Municipal (8)	Yes	Solar	1,000	216,894	No
Municipal (9)	Yes	Solar	1,000	222,475	No
Municipal (10)	Yes	Hydro	192	139,947	No
Municipal (11)	Yes	Anaerobic Digester	1,100	763,019	No
Municipal (12)	Waiting list	Solar	2,000	N/A	No
Municipal (13)	Waiting list	Solar	2,000	N/A	No
Municipal (14)	Waiting list	Solar	1,000	N/A	No
<b>Total Municipal</b>	<b>Approved: 11</b>  <b>Waiting List: 3</b>	<b>Approved: 8 Solar 1 Fuel Cell 1 Hydro 1 Anaerobic Digester</b>  <b>Waiting List: 3 Solar</b>	<b>Approved: 9,842 kW</b>  <b>Waiting List: 5,000 kW</b>	<b>\$3,198,766</b> (\$3.2 million cap)	<b>0</b>
State	None	N/A	N/A	N/A	N/A

**Table 2: United Illuminating Virtual Net Metering Projects**

<b>Sector</b>	<b>Approved</b>	<b>Facility Type</b>	<b>Capacity (kW)</b>	<b>Credit Cap Allotment (\$)</b>	<b>In-Service</b>
Agriculture	None	N/A	N/A	N/A	N/A
Municipal (1)	Yes	Solar	980	294,323	No
Municipal (2)	Yes	Solar	896	196,381	No
Municipal (3)	Yes	Combined Heat & Power	1,045	309,295	No
<b>Total Municipal Approved</b>	<b>3</b>	<b>2 Solar 1 CHP</b>	<b>2,921</b>	<b>799,999</b> (\$800,000 cap)	<b>0</b>
State	None	N/A	N/A	N/A	N/A

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