Public Utilities Commission

Local Energy Solutions Conference

Solar for All:
Group Net Metering,
Municipal Solar & Beyond

Concord, New Hampshire

November 15, 2019
NH Electricity Basics: By the Numbers

- 4 franchised electric companies
- 710,0000 electric customers served
- 10.8 million MWh annual retail use
- $1.75 billion annual retail sales
- 5 municipal electric companies
  - Not subject to Commission regulation

Eversource (PSNH)  
NH Electric Coop  
Liberty (Gr. St. Elec.)  
Unitil  
Municipal
Net Metering Basics

How Net Metering Works
Photovoltaic Solar Example

1. Solar panels convert energy from the sun into electricity.

2. An inverter converts the electricity produced by the solar panels from direct current (DC) to alternating current (AC) for use in your home, school or business.

3. The energy is used in your home, school or business.

4. A bi-directional meter measures energy used and excess energy produced.

Excess energy from your solar panels not used in your home goes back to the electrical grid.

Energy used in your home from the electrical grid.
Electric Rates – Bill Components

- Delivery
  - Customer Charge
  - Transmission (FERC)
  - Distribution (PUC)
    - NHEC as member-owned coop has minimal PUC rate regulation

- Energy
  - Varies by utility and time of year
  - Includes RPS and RGGI

- Other components
  - System Benefits Charge, Stranded Cost

Eversource Electric Rate Components
Resident Using 625 kWh/month
Total Bill: $126.72

- Energy, $56.52, 44.6%
- System Benefits, $3.66, 2.9%
- Stranded Cost, $12.92, 10.2%
- Transmission, $12.74, 10.1%
- Distribution, $25.88, 20.4%
- Customer Charge, $12.69, 10.0%
- RPS, $2.31, 1.8%

Based on rates in effect January 2019; Components vary by utility; RPS is forecasted
For ease of reference, **NEM 1.0** (Standard NEM) refers to the net metering tariff in effect prior to September 1, 2017 and **NEM 2.0** (Alternative NEM) refers to the net metering tariff in effect beginning September 1, 2017.

<table>
<thead>
<tr>
<th>Bill Component</th>
<th>NEM 1.0 (Standard NEM)</th>
<th>NEM 2.0 (Alternative NEM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Customer Charge</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Demand Charge (if applicable)</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Default Service (Energy)</td>
<td>Full Credit</td>
<td>Full Credit</td>
</tr>
<tr>
<td>Distribution</td>
<td>Full Credit</td>
<td>25% Credit</td>
</tr>
<tr>
<td>Transmission</td>
<td>Full Credit</td>
<td>Full Credit</td>
</tr>
<tr>
<td>System Benefits</td>
<td>Full Credit</td>
<td>No Credit</td>
</tr>
<tr>
<td>Stranded Cost</td>
<td>Full Credit</td>
<td>No Credit</td>
</tr>
<tr>
<td>Storm Recovery</td>
<td>Full Credit</td>
<td>No Credit</td>
</tr>
<tr>
<td>Credit Mechanism (end of each billing cycle)</td>
<td>Net kWh Carried Forward</td>
<td>kWh converted to monetary credit. Monetary credit carried forward as a bill credit.</td>
</tr>
</tbody>
</table>

**Volumetric charges based on kWh**

**“Non-bypassable Charges”**
Under NEM 2.0 Tariff, these charges are applied to **all kWh imports**.

No credit is given for exported kWh.
For ease of reference, **NEM 1.0** (Standard NEM) refers to the net metering tariff in effect prior to September 1, 2017 and **NEM 2.0** (Alternative NEM) refers to the net metering tariff in effect beginning September 1, 2017.
Group Net Metering Basics

- **RSA 362-A:9, XIV** permits net-metered renewable energy facilities (customer-generators) to share the proceeds from net excess electricity generation with other electric utility customers.
  - The customer-generator is the “Host”.
  - The utility customers that are part of the Host’s Group are “Members”.

- **Rules and Requirements to qualify for Group Net Metering (GNM):**
  - Total load of Host plus all Members must be greater than or equal to annual system generation.
  - Members must be located in the same distribution utility as the Host.
  - The Host and the Members may purchase energy from a competitive supplier*.
  - Members may not have net metered renewable energy facilities.
  - GNM agreement must be in place between Host and Members.

- Host must submit an application for group host registration to the PUC and Utility using Form 909.09, or information required in Puc 909.09.
  - Application may be submitted electronically.
  - Application available for download at:

* Purchasing energy from a competitive supplier may impact net metering compensation.
“Traditional” Group Net Metering

HOST

DISTRIBUTION UTILITY
Excess generation is valued based on applicable net metering tariff.

Utility pays Host monthly for excess generation.

GNM Agreement between Host & Members

MEMBERS
Municipal/School Building(s)

and/or
Business(es)

and/or
Residential Customer(s)

Host pays Members based on terms defined in GNM agreement between the Host and Members

Within Single Distribution Utility Service Territory

November 15, 2019

NEW HAMPSHIRE PUBLIC UTILITIES COMMISSION
Recent Changes to Group Net Metering

Senate Bill 165 (2019) effective July 1, 2019:

- On-Bill Crediting is now an option for all existing and new groups
  - Monthly net excess generation converted to a monetary value based on applicable net metering tariff.
  - Distribution utility applies monetary bill credits the Host and to each Group Member based on percentage allocations defined by Host.

- Adder for Low-Moderate Income (LMI) Community Solar Project
  - Available to LMI Group Net Metering projects interconnected after July 1, 2019.
  - "Low-moderate income community solar project" means ground-mounted or rooftop solar arrays that directly benefit a group of at least 5 residential end-user customers, where at least a majority of the residential end-user customers are at or below 300 percent of the federal poverty guidelines. No more than 15 percent of the projected load for such project shall be attributable to non-residential end-user customers.
  - LMI “Adder”:
    - $0.030/kWh until July 1, 2021, and
    - $0.025/kWh thereafter

- Rules (Puc 900 Administrative Rules) currently under development for On-bill Crediting and LMI Adder
Group Net Metering Options

Legend
Yellow shading—GNM prior to SB 165 (2019)
Blue shading and Green shading—GNM after SB 165 (2019)
Blue—On-bill Credits
Green—LMI Adder
DISTRIBUTION UTILITY
Excess generation is valued based on applicable net metering tariff.
Utility applies on-bill monetary credit on Member and/or Host electric bills each billing cycle based on pre-defined percentage allocations.

HOST
On-bill Credits to Host & Members
Host assigns allocation to Host and each Member as a % of total monetary credit

MEMBERS
Municipal/School Building(s)
and/or
Business(es)
and/or
Residential Customer(s)

Within Single Distribution Utility Service Territory
On-bill Credit Example

- **Group Net Metering Registration**
  - Host defines % allocations:
    - Host = 50%
    - Municipal Building = 20%
    - Business = 20%
    - Residential Customer = 10%

- **Monthly Process by Utility:**
  - Monthly excess generation = 1,000 kWh
  - 1,000 kWh is multiplied by the applicable net metering tariff
    - For example, net metering tariff = $0.10/kWh
    - 1,000 kWh x $0.10/kWh = $100
    - **Total Net Metering Credit = $100**

- Apply predefined % allocation and provide on-bill monetary credit to Host and Members
  - Host = $50 ($100 x 50%)
  - Municipal Building = $20 ($100 x 20%)
  - Business = $20 ($100 x 20%)
  - Residential Customer = $10 ($100 x 10%)
On-bill Credit Example

HOST

On-bill Credits to Host & Members

Host assigns allocation to Host and each Member as a % of total monetary credit

DISTRIBUTION UTILITY

Excess generation is valued based on applicable net metering tariff. Ex. 1,000 kWh x $0.10/kWh = $100

Utility applies on-bill monetary credit on Member and/or Host electric bills each billing cycle based on predefined percentage allocations.

MEMBERS

- Municipal/School Building(s)
- Business(es)
- Residential Customer(s)

$50 bill credit
$20 bill credit
$10 bill credit

Within Single Distribution Utility Service Territory
LMI Community Solar Project
(Group Net Metering – LMI Adder with On-bill Crediting)

HOST
- Must meet all requirements for LMI community solar projects
- Host must elect On-bill Crediting
- LMI Adder applies to all excess generation

MEMBERS
- Municipal Bldgs, Schools, & Businesses
  (Maximum 15% load)
- Affordable Housing
- Residential Customers
  (minimum 5, majority LMI)

DISTRIBUTION UTILITY
- Excess generation is valued based on applicable alternative net metering tariff + LMI Adder.
- Utility applies on-bill monetary credit on Member and/or Host electric bills each billing cycle based on predefined percentage allocations.

Within Single Distribution Utility Service Territory
LMI Community Solar Project Example

(Group Net Metering – LMI Adder with On-bill Crediting)

LMI Community Solar Project (HOST)

DISTRIBUTION UTILITY
Monthly excess generation = 1,000 kWh

1,000 kWh is multiplied by the applicable net metering tariff plus LMI Adder.
Example:
NEM Tariff $0.10/kWh
LMI Adder + $0.03/kWh
Total = $0.13/kWh

Net Metering Credit
1,000 kWh x $0.13/kWh = $130

MEMBERS

<table>
<thead>
<tr>
<th>% Allocation</th>
<th>MEMBERS</th>
<th>On-bill Credit</th>
</tr>
</thead>
<tbody>
<tr>
<td>10%</td>
<td>LMI Member 1</td>
<td>$13</td>
</tr>
<tr>
<td>10%</td>
<td>LMI Member 2</td>
<td>$13</td>
</tr>
<tr>
<td>10%</td>
<td>LMI Member 3</td>
<td>$13</td>
</tr>
<tr>
<td>10%</td>
<td>Member 4</td>
<td>$13</td>
</tr>
<tr>
<td>10%</td>
<td>Member 5</td>
<td>$13</td>
</tr>
<tr>
<td>20%</td>
<td>Municipal Bldg</td>
<td>$26</td>
</tr>
<tr>
<td>20%</td>
<td>Affordable Housing</td>
<td>$26</td>
</tr>
</tbody>
</table>
Group Net Metering Reporting

- Annual reporting
  - Host is required to file an annual report with the PUC and Utility
    - Annual report is not required for residential systems less than 15 kW in capacity (size)
- Report includes:
  - Actual annual load of members
  - Actual annual generation of system
  - Additional required information for LMI Community Solar Projects
Thank you

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Useful Links

- **RSA 362-A:9**: NH statute on net metering
- **Puc 900 Administrative Rules**: Rules governing net metering and GNM
  - Group Net Metering: See section 909
  - Net Metering Tariffs: See section 903.02
- **Puc 900 Administrative Rule Making Docket** (DRM 19-158)
- **PUC Group Net Metering webpage**
  - Form 909.09 – Group Net Metering Registration Form
  - Annual Report Form
- Utility tariffs available at: [Eversource](#), [Liberty](#), [Unitil (Residential)](#), [Unitil (Commercial)](#)
- **PUC page on historical residential electricity prices, default service rates, & information on PPA escalation rates**