

# New Hampshire Policies Supporting Distributed Generation

ISO-NE Distributed Generation Forecast Working Group  
December 16, 2016

Karen Cramton, Director  
New Hampshire Public Utilities Commission  
Sustainable Energy Division

# Topics

- New Hampshire Policies and Programs
  - Current and Recent Legislative Actions
  - Possible Legislation
- Net Metering Data(all technologies)
  - Production Data
  - Installed
  - Trend - Capacity and Estimated Generation
  - Projections

## Disclaimer

Content reflects staff observations and analysis, and does not necessarily reflect the position of the State of New Hampshire, the Public Utilities Commission(PUC), or the PUC Commissioners.

New Hampshire Public Utilities Commission  
Sustainable Energy Division

# State Policies and Programs Promoting Growth in DG

- New Hampshire's Renewable Portfolio Standard (RPS) - RSA 362-F
  - Rebates and Grants supported by the Renewable Energy Fund (REF)
  - Renewable energy certificates (RECs) awarded to eligible, certified, renewable generators
- New Hampshire's Net Metering & Group Net Metering - RSA 362-A:9

# NH Renewable Portfolio Standard (RPS) Obligations

Renewable Portfolio Standard Obligations						
Calendar Year	Total Requirement	Total Class I	Thermal Class I	Class II	Class III	Class IV
2016 *	16.70%	6.90%	1.30%	0.30%	0.50%	1.50%
2017 *	17.60%	7.80%	1.40%	0.30%	8.00%	1.50%
2018	18.50%	8.70%	1.50%	0.30%	8.00%	1.50%
2019	19.40%	9.60%	1.60%	0.30%	8.00%	1.50%
2020	20.30%	10.50%	1.70%	0.30%	8.00%	1.50%
2021	21.20%	11.40%	1.80%	0.30%	8.00%	1.50%
2022	22.10%	12.30%	1.90%	0.30%	8.00%	1.50%
2023	23.00%	13.20%	2.00%	0.30%	8.00%	1.50%
2024	23.90%	14.10%	2.00%	0.30%	8.00%	1.50%
2025 and thereafter	24.80%	15.00%	2.00%	0.30%	8.00%	1.50%

## Notes:

- Class II = new solar
- Docket DE 16-850 - open at the Commission to consider delaying the RPS 2016 Class I Thermal requirement and modifying 2017 Class III Requirement

# Rebate Programs – Cumulative Results

REF Rebate Program	Number of Applications Received	Number of Rebates Awarded	Rebate funds disbursed	Rebate Funds Reserved or In-Process	Aggregate Applicant Investment (rounded to nearest thousand)
Residential Electrical Renewable Energy (PV and Wind)	3,319	2,792	\$10,780,204	\$1,033,583	\$75,900,000
Residential Solar Water Heating	505	485	\$998,700	\$3,200	\$3,232,000
Residential Wood Pellet Boiler/Furnace*	317	301	\$1,666,590	\$60,000	\$3,549,000
C & I Solar Technologies (Electric and Thermal)	543	284	\$4,941,560	\$4,743,780	\$21,782,000
C&I Wood Pellet Boiler/Furnace	61	43	\$1,227,625	\$215,077	\$3,553,000
<b>Totals</b>	<b>4,745</b>	<b>3,905</b>	<b>\$19,614,679</b>	<b>\$6,055,640</b>	<b>\$108,016,000</b>

# Net Metering

Net metering statute enacted in 1998  
(RSA Section 362-A:9)

- Requires electric utilities to offer net metering to customers who own or operate renewable electric or CHP generating facilities
- Establishes statewide cap
  - Individual utility caps calculated by multiplying statewide cap by utility's share of "total 2010 annual coincident peak energy demand."
- Establishes 4 MW statewide cap for CHP
- 1 MW cap on individual electric generators

# Net Metering – 2016 Legislative Update

## House Bill 1116 - Enacted May 2, 2016

- Expanded program limit from 50 MW to 100 MW
- Allocated the additional 50 MW among the three regulated utilities
- Further allocated the 50 MW based on system size
  - 80% to projects less than or equal to 100 kW capacity
  - 20% to projects larger than 100 kW but less than or equal to 1 MW
- Directed the Commission to initiate a proceeding to develop new alternative net metering tariffs, which may include other regulatory mechanisms and tariffs for customer-generators
- Commission decision due by March 2, 2017 (10 months from adoption)
- Grandfathered existing systems until 2040

## Net Energy Metering (NEM) Allocations to Electric Utilities per Statute (RSA 362-A as amended by HB1116)

Electric Utility	2010 Peak Load (MW)	Portion of 2010 Peak Load	NEM Amount of Original 50MW	ADDT'L 50 MW of NEM Portion	ADDT'L 50 MW of NEM Amount	New Amount (MW) to projects <=100kW (80%)	New Amount (MW) to projects >100 kW (20%)	Total NEM Amount (MW)
Liberty Utilities	189	8.71%	4.12	9.24%	4.62	3.70	0.92	8.74
New Hampshire Electric Cooperative	124	5.72%	3.16					3.16
Eversource Energy	1588	73.21%	36.55	77.65%	38.83	31.06	7.77	75.38
Unitil Energy Systems, Inc.	268	12.36%	6.17	13.11%	6.55	5.24	1.31	12.72
<b>Total</b>	<b>2,169</b>	<b>100%</b>	<b>50</b>	<b>100%</b>	<b>50</b>	<b>40</b>	<b>10</b>	<b>100</b>
<i>* Projects under development</i>								



## Net Metering Docket (DE 16-576)

- May 19, 2016 - Order of notice was issued to initiate the proceeding
- June 10, 2016 - Pre-hearing conference
- June through October – initial discovery and stakeholder technical sessions
- October 21, 2016 - Initial Filings and Supporting Testimony submitted
- November – Discovery on Initial Filings
- December 16, 2016 – Rebuttal Testimony Filings Due

## Net Metering Docket (DE 16-576)

- Parties in general agreement that more time is needed to ensure a comprehensive record
- Motion pending that requests Commission adopt an interim alternative net metering tariff
  - Preserves status quo for net metering
  - Additional time to complete proceeding
  - Decision on motion expected in December
- If motion is approved, procedural schedule will be extended with hearing dates planned for March 2017 and Commission decision by June 2017
- Procedural schedule will include opportunities for potential settlement negotiations

# Group Net Metering

- In 2013, net metering statute was amended to allow a customer-generator to become a group host for the purpose of lowering the bills of customers without their own generation
- Group members must be customers of the utility serving the group host
- KWh credits generated by host system are shared with group members. Value of credit varies depending on size of group host system (i.e., above or below 100 kW)
- Utility sends monthly check to group host for the value of electricity generated. Group host responsible for distributing cash to group members

## RPS & Net Metering – Legislative Update

### ➤ 2017 Potential Legislation

#### (Legislative Service Requests Filed)

- Relative to electric renewable energy classes (LSR 16-0119)
- Repealing the RPS (LSR 16-0329)
- Relative to minimum electric renewable portfolio standards (LSR 16-0681)
- Relative to including hydroelectric in renewable energy classes (LSR 16-0683)
  
- Relative to credits for net metering (LSR 16-0259)
- Relative to community net metering (LSR 16-0655)
- Relative to credits for surplus electricity generated by utility customers (LSR 16-0662)
- Eliminating the cap on net metering and relative to the price of surplus energy (LSR 16-0680)
  
- Relative to access for low income ratepayers to renewable energy incentives and benefits (LSR 16-0732)

# Net Metering Data

- Net Metering (all technologies)
  - Production Data
  - Installed
  - Trend - Capacity and Estimated Generation
  - Projections

# Production Data

- Data Available
  - NEPOOL GIS
  - REC Data
  - Utility Interconnection Data (EIA 826)
  - Annual Net Metering Credit for Class I and Class II
  - Accounts for interconnected solar that is not REC certified
  
- Data Not Available
  - Production Meters not required
  
- Estimation Alternatives
  - Software Tools (e.g. PV Watts)
  - Simple Calculation (i.e. Capacity \* Capacity Factor \* 8760)

## Net Metered Facilities (all technologies) – December 2016 (estimated)

Electric Utility	Total Installs to Date*	Total Capacity to Date (MW)*	Allowed Net Metered Capacity (MW)**
Liberty Utilities	371	2.63	8.74
New Hampshire Electric Cooperative	731	5.77	3.16
Eversource Energy	4,124	56.52	75.38
Unitil Energy Systems, Inc.	561	4.99	12.72
<b>Total Net Metered Facilities</b>	<b>5,787</b>	<b>69.9***</b>	<b>100</b>

\*Based on the utility reports to DOE (EIA Form 826) and includes system expansions. (September 2016 EIA data and 12/09/16 data for Eversource and Liberty Utilities from respective website)

\*\*Based on the share of 2010 peak load pursuant to Puc 900 and RSA 362-A:9

\*\*\* Includes State Adjustment

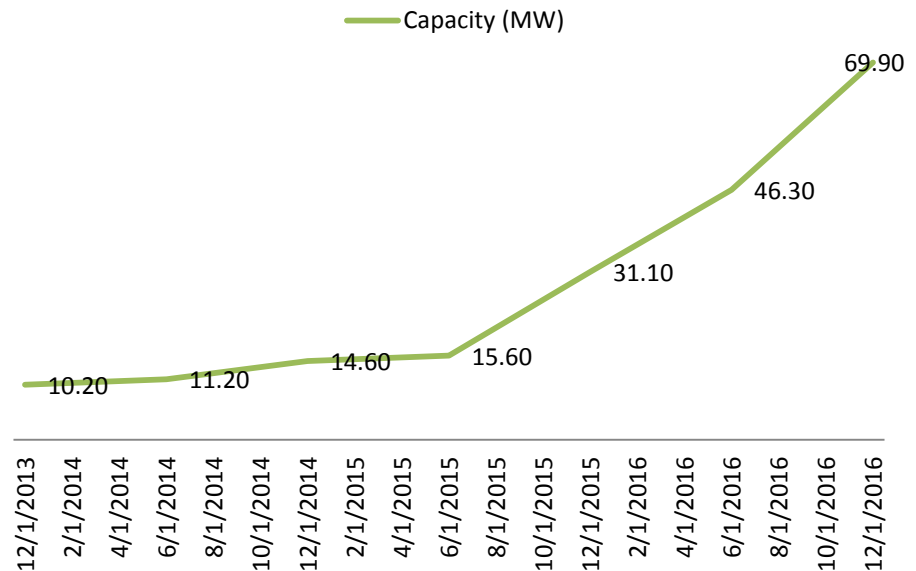
# Net Metering Trends Capacity (all technologies)

## Net Metered Capacity (all technologies)

### Installed Statewide:

- 10.2 MW (December 2013)
- 11.2 MW (June 2014)
- 14.6 MW (December 2014)
- 15.6 MW (June 2015)
- 31.1 MW (December 2015)
- 46.3 MW (June 2016)
- ~69.9 MW (December 2016  
-- estimate)

## Net Metered Capacity (MW) (all technologies)





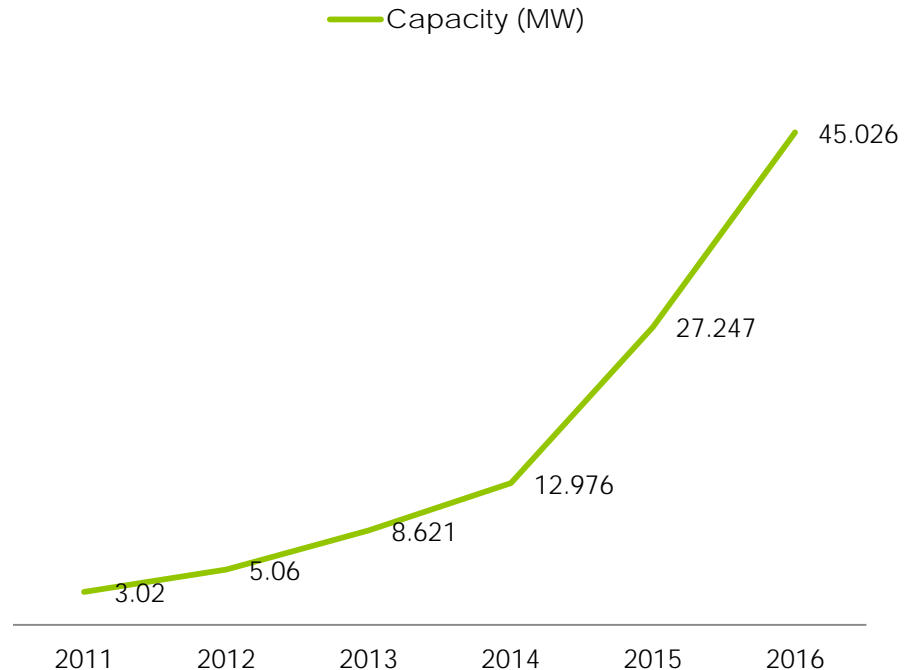
# Net Metering Trends Capacity (Solar only)

## Net Metered Capacity (Solar)

### Installed Statewide:

3.02 MW (December 2011)  
5.06 MW (December 2012)  
8.621 MW (December 2013)  
12.976 MW (December 2014)  
27.247 MW (December 2015)  
45.026 MW (September 2016)

## Net Metered Solar Capacity (MW)



# Net Metering Trends

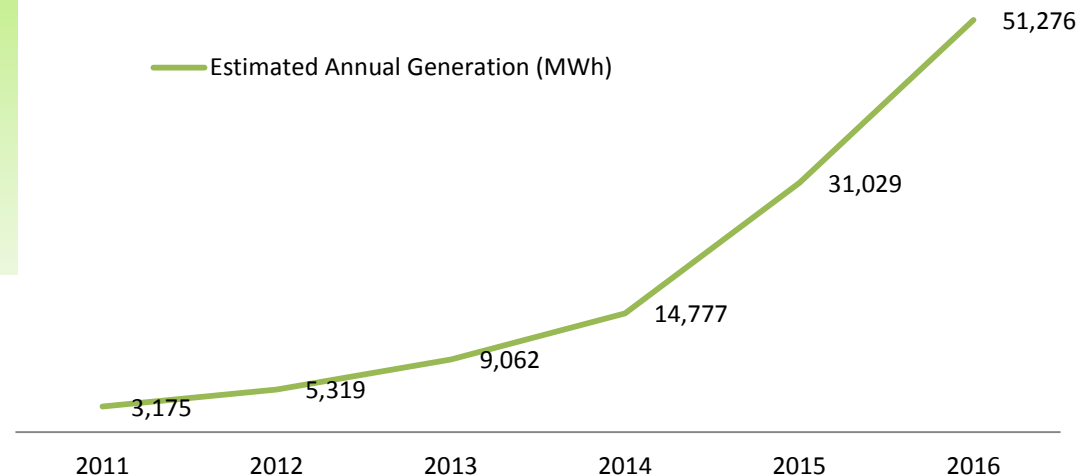
## Estimated Generation (Solar only)

### Calculated Estimated Annual Generation for Solar (MWh)

#### Net Metered Solar Capacity

Installed Statewide:

45.026 MW (September 2016)



Using PV Watts estimated generation for 45.026 MW = 58,852 MWh

# Net Metering Update & Projections (primarily solar)

- **NH Electric Cooperative**
  - Established “Above the Cap” program
- **Liberty Utilities**
  - ~1 MW of projects in progress
- **Eversource**
  - ~13 MW of projects in progress
  - Large scale projects (>100 kW) is currently oversubscribed (i.e. the capacity of projects that have met the initial requirements for allocation exceeds the program limit)
- **Unitil**
  - ~1.3 MW of projects in progress

# Annual Capacity Projections

## (100 MW Net Metering Cap until New Alternative Tariff(s) established)

	Thru 2014	Thru 2015	Thru 2016	Additional Capacity 2017
NH Installed Capacity (MW)	14.6	31.1	75.0	+15

*Projections based solely on current net metering statute and utility net metering queues. Most new capacity likely to be solar plus some < 1MW hydro.*

# Thank You

- Contact Information

Karen Cramton, Director,  
Sustainable Energy Division  
NH Public Utilities Commission  
(603) 271-2431

[Karen.cramton@puc.nh.gov](mailto:Karen.cramton@puc.nh.gov)