

## **Attachments**

## Attachment 1: Legislative Background and Local Control Authorities

In 1996, New Hampshire led the nation in being the first state to pass an Electric Utility Restructuring Act ([RSA 374-F](#)), the purpose of which is excerpted in full below:

- I. *The most compelling reason to restructure the New Hampshire electric utility industry is to reduce costs for all consumers of electricity by harnessing the power of competitive markets. The overall public policy goal of restructuring is to develop a more efficient industry structure and regulatory framework that results in a more productive economy by reducing costs to consumers while maintaining safe and reliable electric service with minimum adverse impacts on the environment. Increased customer choice and the development of competitive markets for wholesale and retail electricity services are key elements in a restructured industry that will require unbundling of prices and services and at least functional separation of centralized generation services from transmission and distribution services.*
- II. *A transition to competitive markets for electricity is consistent with the directives of part II, article 83 of the New Hampshire constitution which reads in part: “Free and fair competition in the trades and industries is an inherent and essential right of the people and should be protected against all monopolies and conspiracies which tend to hinder or destroy it.” Competitive markets should provide electricity suppliers with incentives to operate efficiently and cleanly, open markets for new and improved technologies, provide electricity buyers and sellers with appropriate price signals, and improve public confidence in the electric utility industry.*
- III. *The following interdependent policy principles are intended to guide the New Hampshire public utilities commission in implementing a statewide electric utility industry restructuring plan, in establishing interim stranded cost recovery charges, in approving each utility’s compliance filing, in streamlining administrative processes to make regulation more efficient, and in regulating a restructured electric utility industry. In addition, these interdependent principles are intended to guide the New Hampshire general court and the department of environmental services and other state agencies in promoting and regulating a restructured electric utility industry.*

Prior to this point, state regulators set retail customer rates to allow electric utilities to recover profits and prudently earned costs for “vertically integrated” monopoly service — spanning wholesale electricity generation, transmission, local distribution, and retail customer services (metering, billing, collections, call center operations, and so on).

Restructuring sought to increase competition and technological innovation in the markets for wholesale electricity supply and retail customer services by requiring electric utilities to divest of their generation portfolios, creating a Federally regulated regional electricity market or “Independent System Operator” (ISO New England is the market operator for New England), and allowing Competitive Electric Power Suppliers (CEPs) to offer electricity supply rates and other services to retail customers.

Customers that did not choose a competitive supplier were left on “default service” provided by the electric utilities — afterwards referred to as “electric distribution companies” — which continue to be regulated by the Public Utilities Commission. The distribution utilities periodically hold auctions for competitive suppliers to bid against one another for the right to supply electricity to

default service customers in large groups to competitive suppliers. (Refer to [Attachment 4](#) for additional details on this process.)

### Status of the Competitive Market

Nearly a quarter century has passed, and New Hampshire’s competitive market has seen little growth since 2013. Four out of five customers remain on default service provided by the distribution utilities, and the customers that are on competitive supply only account for about half of total electricity usage.

Regulated distribution utilities continue to provide services that are not legal monopolies, and could, therefore, be subject to competitive market forces, such as: default electricity supply, metering, meter data management, billing, and other retail customer services (such as demand response and energy storage for smaller customers). However, historically, those competitive market forces have not been meaningfully developed.

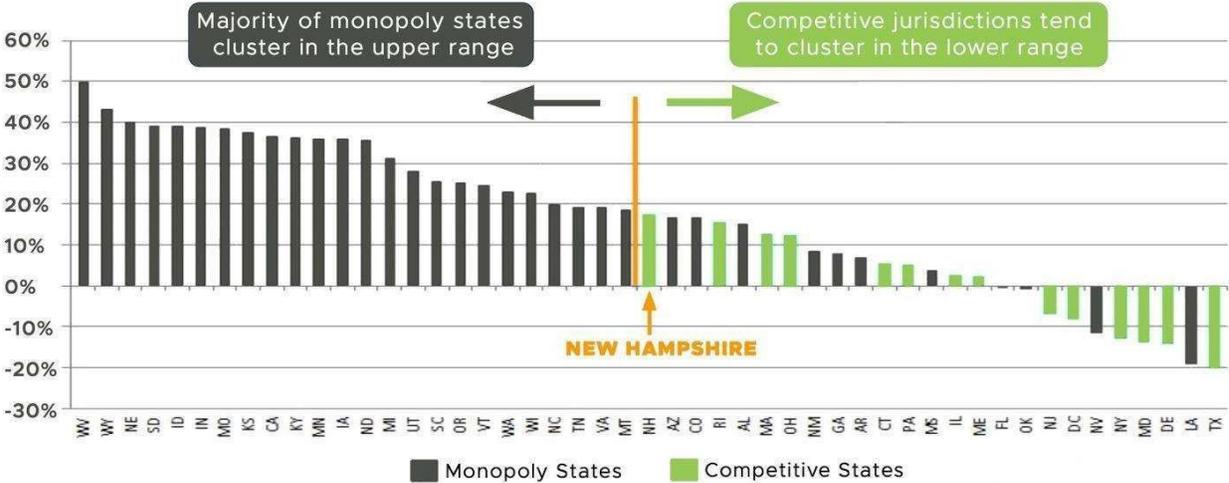
The continued reliance on utilities to provide these customer-facing services has necessitated state regulation over many aspects of the retail customer market. Utility regulation relies on administrative regulatory proceedings, which are necessarily more slow-moving and unable to respond to changing customer technologies and wholesale market dynamics (such as the increased price volatility caused by higher levels of renewable generation) compared to the nimbler, market-based framework envisioned under the Electric Utility Restructuring Act.

Residential customers, in particular, are not offered many rate options or clean technology innovations today: out of the 29 competitive suppliers currently offering service in New Hampshire, only nine offer service to residential customers (and only four serve customers in every distribution utility territory).

As a consequence, New Hampshire has fallen behind every other state with a restructured electricity market in terms of price competition:

### All Sector Price % Price Change by State, 2008-2019

Source: EIA 861M



Credit: Retail Energy Supply Association, 2020.

## The Community Power Act

In order to support the growth of competitive market services in alignment with The Electric Utility Restructuring Act, [RSA 53-E](#) (as modified by Senate Bill 286 and House Bill 315) authorizes towns, cities, and counties to launch Community Power programs that replace distribution utilities as default suppliers of electricity to retail customers. The purpose of RSA 53-E is excerpted below:

*“The general court finds it to be in the public interest to allow municipalities and counties to aggregate retail electric customers, as necessary, to provide such customers access to competitive markets for supplies of electricity and related energy services. The general court finds that aggregation may provide small customers with similar opportunities to those available to larger customers in obtaining lower electric costs, reliable service, and secure energy supplies. The purpose of aggregation shall be to encourage voluntary, cost effective and innovative solutions to local needs with careful consideration of local conditions and opportunities.”*

To achieve this purpose, RSA 53-E:3 allows Community Power programs to enter into agreements and provide for:

*“the supply of electric power and capacity; demand side management; conservation; meter reading with commission approval for meters owned or controlled by the electric distribution utilities or used for load settlement; customer service for aggregation provided services; other related services; and the operation of energy efficiency and clean energy districts adopted by a municipality pursuant to RSA 53-F and as approved by the municipality’s governing body.”*

RSA 53-E further provides Community Power programs with authorizations and regulatory pathways to offer more advanced meters for customers, and to provide for alternative customer billing options. Both metering and billing services are important means by which Community Power programs will be able to better engage customers and offer more innovative services that lower the energy expenditures and carbon emissions for individual customers and communities.

Lastly, and to enable all municipalities to work together to achieve this purpose, RSA 53-E:3 provides that *“such agreements may be entered into and such services may be provided by a single municipality or county, or by a group of such entities operating jointly pursuant to [RSA 53-A](#).”*

To ensure that utilities are fairly compensated for their continuing role in owning and operating the distribution grid, RSA 53-E:4(III) stipulates that:

*“Transmission and distribution services shall remain with the transmission and distribution utilities and who shall be paid for such services according to rate schedules approved by the applicable regulatory authority, which may include optional time varying rates for transmission and distribution services that may be offered by distribution utilities on a pilot or regular basis.”*

The law further provides that Community Power programs *“shall not be required to own any utility property or equipment to provide electric power and energy services to its customers.”*

Enabling locally controlled Community Power programs, in order to exercise local control over these authorities and bring in third-party competitors to provide more innovative services on a community-wide scale, represents a viable and stable pathway to animate competitive retail

markets across New Hampshire — and thus realize a lower-cost, more innovative and sustainable future for both our community and all Granite Staters.

Rye is committed to using its local control authorities granted under RSA 53-E to accelerate innovation, customer and community choice in electricity supply, the creation of new economic value, and a sustainable and resilient future for our Town and customers.

## Attachment 2: The Community Power Coalition of New Hampshire

Rye is a founding member of the Community Power Coalition of New Hampshire (“CPCNH” or “the Coalition”), a nonprofit joint powers agency authorized under RSA 53-A and governed by participating communities under the terms of the Joint Powers Agreement unanimously approved by Rye’s Select Board on September 7, 2021.

The Joint Powers Agreement is available on the Coalition’s webpage (<http://www.cpcnh.org>). The agreement includes the nonprofit’s Bylaws and Articles of Agreement, and details the common purpose, authorities, structure, Board of Directors, committees, cost sharing principles, liability protections, and other aspects of the organization.

The Coalition was incorporated on October 1, 2021 by the following founding local government Members: the cities of Lebanon, Nashua and Dover; the towns of Hanover, Harrisville, Exeter, Rye, Warner, Walpole, Plainfield, Newmarket, Enfield and Durham; and Cheshire County.

Each Member has appointed a Director and Alternate to serve on the Coalition’s Board of Directors. The Board will directly oversee the initial startup and implementation activities of the Coalition.

Municipalities that adopt the Joint Powers Agreement in the future may subsequently apply for membership in the Coalition under the terms and procedures provided for under the agreement.

### Coalition Design Process

The Coalition “Organizing Group” was initially convened in December 2019, with communities interested in Community Power meeting regularly to research national best practices and explore the viability of establishing a collaborative nonprofit to share services across municipalities and counties:

- The Coalition’s initial Organizing Group consisted of the cities of Lebanon and Nashua, the towns of Hanover and Harrisville, and Cheshire County;
- Technical and community advisors included representatives from both Thayer School of Engineering and Tuck School of Business at Dartmouth, the Monadnock Sustainability Hub, Clean Energy New Hampshire, Growing Edge Partners, and Community Choice Partners;
- Activities were carried out in four working group tracks: Governance Agreements, Regulatory and Policy Engagement, Design and Implementation, and Community Engagement.

Members of the Coalition’s Organizing Group have:

- Participated in the Community Power informal rule drafting process, including by providing the initial and subsequent draft rules for discussion, arranging bilateral meetings with utilities and other stakeholders, and leading significant portions of the subsequent stakeholder workshops at the request of Public Utilities Commission staff;
- Intervened in regulatory proceedings and legislative hearings to represent the interests of communities and customers, such as by advocating for expanded data access in the Commission’s Statewide Data Platform docket, DE 19-197, and successfully negotiating the clarification and expansion of key Community Power authorities in House Bill 315;
- Assessed power agency design best practices — in terms of public governance and competitive operating models — by interviewing elected officials, senior staff, and vendors operating

Community Power programs in other states, along with representatives from public power associations (such as the American Public Power Association and the Vermont Public Power Supply Authority) and other industry experts; and

- Hosted a virtual summit on Community Power that was attended by over eighty representatives from thirty-one municipalities, collectively representing one-quarter of the state's default electricity market.

The City of Lebanon, using grant funding and in collaboration with the Organizing Group executed legal, community engagement, and professional service contracts to help formally establish and implement the Community Power Coalition of New Hampshire.

### Joint Powers Agreement Drafting Process

The Organizing Group began by surveying other Community Power states and the broader public power industry, assessed the legal and governance structure of a selection of successful nonprofit power agencies that provide services to multiple municipal members, and interviewed staff and elected officials involved.

After discussing joint governance issues and reviewing the governance documents of comparable entities, the Organizing Group created a draft Joint Powers Agreement for the Coalition in July 2020. In September 2020, the City of Lebanon and Town of Hanover, in collaboration with the Organizing Group, reviewed six responses to a Request for Qualifications and retained the legal services of Duncan, Weinberg, Genzer & Pembroke (DWGP). The firm was hired to provide advice on key aspects of joint power agency governance and to finalize the Coalition's Joint Powers Agreement, in compliance with RSA 53-A., with additional support provided by New Hampshire counsel on a subcontracted basis. DWGP are national leaders with over 50 years in public power legal guidance, and the project was led by DWGP President Michael Postar Esq.

The [Joint Powers Agreement](#) was finalized in December 2020.

### Outreach and Implementation Process

In February 2021, the City of Lebanon, using previously secured grant funding and in collaboration with the Coalition's Organizing Group, contracted with Henry Herndon (formerly the Director of Local Energy Solutions at Clean Energy New Hampshire) and Samuel Golding of Community Choice Partners, Inc., to provide implementation support services prior to launch.

Mr. Herndon is facilitating branding and policy communication efforts, drafting an outreach strategy, compiling resources and facilitating the engagement of prospective members, and onboarding new members and their representatives throughout the state to the Coalition.

Mr. Golding is advising on Community Power rule development at the Public Utilities Commission and other regulatory and legislative affairs, drafting Electric Aggregation Plans and supporting municipalities through the local approval process, creating educational materials and presentations, drafting a business plan and budget for the Coalition, advising on Board policies and staffing, preparing vendor surveys and a request for proposals for the services and financing required to launch Community Power programs, and assisting in the bid evaluation, award and contracting process.

## Attachment 3: New Hampshire’s Renewable Portfolio Standard

New Hampshire’s Electric Renewable Portfolio Standard (“RPS”) statute, RSA 362-F, established the renewable energy policy for the State.

The RPS statute requires each electricity provider, including Eversource and Rye Community Power, to meet a certain percentage of customer load by purchasing, generating or otherwise acquiring Renewable Energy Certificates (“RECs”):

- One REC represents the renewable attributes of one megawatt-hour of electricity, or the equivalent amount of useful thermal energy.
- RECs are generated by certified renewable energy facilities for power that is physically delivered into the New England wholesale electricity market operated by ISO-New England (which means the power can come from within New England, New York or eastern Canada).
- The New England Power Pool Generation Information System (NEPOOL GIS) issues and tracks RECs for the region.
- RECs are generally used for compliance in the same year as the renewable power was generated, though suppliers may “bank” RECs for up to two years to meet up to 30% of compliance requirements.

There are four distinct “classes” of renewable certificates under the RPS, each distinguishing between different technologies and dependent upon the year that the generators came online:

1. Class I is divided between thermal and non-thermal renewables:
  - Class I non-thermal electricity, from generators that came online after January 1, 2006: wind, solar, small hydroelectric, methane (biologically derived such as from anaerobic digestion of organic materials), biomass, hydrogen (from methane or biomass), ocean thermal, current, tidal or wave energy and also biodiesel (if produced in state).
  - Class I thermal energy, from generators that came online after January 1, 2013 (and are producing thermal energy, rather than electricity): geothermal, solar thermal, biomass and methane.
2. Class II: solar generation that came online after January 1, 2006
3. Class III: biomass & methane that came online before January 1, 2006
4. Class IV: small hydroelectric that came online before January 1, 2006

Electricity suppliers must obtain RECs for each of the four classes of renewables as a set percentage of their retail electric load, which increase on an annual basis (until plateauing after 2025, unless the RPS is raised in future):

Compliance Year	Total RPS Requirement	Class I Non-Thermal	Class I Thermal	Class II Solar	Class III Biomass & Methane	Class IV Small Hydro
2020	20.70%	8.90%	1.60%	0.70%	8.00%	1.50%
2021	21.60%	9.60%	1.80%	0.70%	8.00%	1.50%
2022	22.50%	10.30%	2.00%	0.70%	8.00%	1.50%
2023	23.40%	11.00%	2.20%	0.70%	8.00%	1.50%
2024	24.30%	11.90%	2.20%	0.70%	8.00%	1.50%
2025 onwards	25.20%	12.80%	2.20%	0.70%	8.00%	1.50%

Note the following flexibilities in meeting Class I requirements:

- Class I non-thermal requirements may be met with Class I thermal biomass and methane resources;
- Class I requirements may also be met with Class III (biomass & methane, thermal and non-thermal) or Class IV (small hydroelectric, non-thermal) resources that have been restored through significant investment or have otherwise begun generating in excess of historic baselines; and
- Solar that came online after January 1, 2006 may be used to satisfy Class II or Class I requirements.

Additionally, net metered customers (primarily customers with solar photovoltaics) that meet certain registration and administrative requirements can track and sell their RECs (which are accounted for in NEPOOL’s Generation Information System). Not all customers do, however, and the REC production from such customer generators are estimated by the Public Utilities Commission each year and applied to lower the Class I and Class II procurement requirements of the utilities and other suppliers.

If the electricity providers are not able to meet the RPS requirements by purchasing or acquiring renewable energy certificates, they must pay alternative compliance payments (ACPs). The funds are used for a variety of renewable programs in New Hampshire.

The result is that these alternative compliance payment prices essentially act as a price ceiling for the REC market in New Hampshire. The ACPs for RECs by class in recent years are:

<b>Inflation Adjusted Alternative Compliance Payment Rate (\$ per Megawatt Hour)</b>					
	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>
<b>Class I (Non-Thermal)</b>	\$ 56.02	\$ 56.54	\$ 57.15	\$ 57.61	\$ 57.99
<b>Class I Thermal</b>	\$ 25.46	\$ 25.69	\$ 25.97	\$ 26.18	\$ 26.35
<b>Class II</b>	\$ 56.02	\$ 56.54	\$ 57.15	\$ 57.61	\$ 57.99
<b>Class III</b>	\$ 55.00	\$ 55.00	\$ 55.00	\$ 34.54	\$ 34.99
<b>Class IV</b>	\$ 27.49	\$ 28.00	\$ 28.60	\$ 29.06	\$ 29.44

For example, Eversource, Unitil, and the New Hampshire Electric Cooperative have recently made alternative compliance payments instead of purchasing certain categories of RECs:

<b>2019 Company</b>	<b>Alternative Compliance Payments (ACPs)</b>					
	<b>Class I</b>	<b>Class I Thermal</b>	<b>Class II</b>	<b>Class III</b>	<b>Class IV</b>	<b>Total</b>
Liberty Utilities	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
New Hampshire Electric Cooperative	\$ -	\$ 187,192	\$ -	\$ -	\$ -	\$ 187,192
Eversource Energy	\$ -	\$ 519,893	\$ -	\$ -	\$ -	\$ 519,893
Unitil Energy Systems, Inc.	\$ -	\$ -	\$ 1,029	\$ -	\$ -	\$ 1,029
<b>Distribution Utilities Subtotal</b>	<b>\$ -</b>	<b>\$ 707,085</b>	<b>\$ 1,029</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ 708,114</b>

For additional information on the Renewable Portfolio Standard, refer to:

- [New Hampshire’s RPS statute \(RSA 362-F\)](#)
- [Public Utilities Commission RPS Website](#)
- [New Hampshire Renewable Energy Fund Annual Report \(1 October 2020\)](#)
- [UNH Sustainability Institute Study: New Hampshire RPS Retrospective 2007 to 2015](#)

## Attachment 4: Utility Default Procurement Cycles and Rate Setting

Rye Community Power has a goal of maintaining competitive default rates compared to Eversource, while also offering voluntary products that retail customers may opt-in to receive.

The timing of the program's rate setting decisions and, to a certain degree, the procurement of electricity will need to consider when Eversource conducts these same activities (particularly for the program's default electricity product).

As context, Eversource, Liberty Utilities and Unitil all issue requests for proposals (RFPs) twice annually for competitive suppliers to assume load-serving entity obligations and supply default customers with electricity for 6-month "strip" periods, with suppliers bidding to serve individual "tranches" or segments of customers by class.

The procurement schedules, tranches and rate practices for each distribution utility are:

- **Eversource** (Public Service Company of New Hampshire): issues RFPs in May and November with bids due in early June and December for suppliers to begin serving customers in August and February, offering four ~100 MW tranches to serve small customers and a single tranche to serve large customers (five tranches in total). Retail rates are fixed over the 6-month period for small customers and vary by month for large customers.
- **Liberty Utilities**: follows the same supplier RFP schedule and retail pricing as Eversource but (1) solicits supply for small customers in a single 6-month block tranche and for large customers in two, consecutive three-month block tranches (3 tranches total), and (2) allows bidders to include and price RPS compliance obligations separately (as an additional product).
- **Unitil**: issues RFPs in March and August for delivery beginning in June and December, offering tranches of residential, small commercial, outdoor lighting and large customers classes (four tranches). The large customer RFP is structured in a distinct fashion, in that it passes through market costs for energy and so suppliers compete to price capacity, congestions, ancillary services, etc. for the large customer tranche over the 6-month term; retail rates reflect these load-serving entity costs along with the pass-through of real time locational marginal market prices (which are load-weighted by the entire class' hourly load shape i.e., not the individual large customer's usage profile). Retail rates for the residential, small commercial, and outdoor lighting classes are fixed over the 6-month term, though customers have the option to choose variable monthly pricing if the election is made prior to the start of the next 6-month term.

Supplier bids are priced in dollars per megawatt-hour (\$/MWh) on a monthly basis and generally exclude Renewable Portfolio Standard (RPS) compliance obligations (called "Renewable Energy Certificates" or "RECs"), though Liberty Utilities allows RECs to be bid as a separate product. Distribution utilities typically procure most or all of their supply of RECs through competitive solicitations held separately from the auctions for default electricity service.

New Hampshire's RPS requires all electricity suppliers to procure or otherwise obtain RECs for four distinct "classes" of renewables, each distinguishing between different technologies and dependent upon the year that the generators came online.

For 2022, Eversource is required to include 22.5% renewable energy in their energy supply. This minimum compliance requirement will increase incrementally to 25.2% by 2025 and remain fixed thereafter, absent an increase in the RPS. Refer to [Attachment 3](#) for further details on the RPS.

## Attachment 5: Overview of Utility Net Energy Metering Tariffs

### Discussion of Utility Net Metering, Group Net Metering and Low-Moderate Income Solar Project Tariffs

Under the net metering process, customers who install renewable generation or qualifying combined heat and power systems up to 1,000 kilowatts in size are eligible to receive credit or compensation for any electricity generated onsite in excess of their onsite usage.

Any surplus generation produced by these systems flows back into the distribution grid and offsets the electricity that would otherwise have to be purchased from the regional wholesale market to serve other customers.

The credits and compensation customer-generators receive for electricity exported to the grid are defined under Net Energy Metering (NEM) tariffs offered by Eversource, Liberty Utilities, Unitil and the New Hampshire Electric Co-op (NHEC). Note that:

- NHEC is a member-owned cooperative and, as such, its rules and regulations are approved by its Board of Directors and are not subject to regulation by the Public Utilities Commission. Additional information regarding NHEC's Net Energy Metering tariffs may be found online under their "[Terms and Conditions](#)".
- The Public Utilities Commission regulates the distribution utilities' Net Energy Metering (NEM) tariffs in accordance with [PUC Rule 900](#) and [RSA 362-A:9](#) (refer to [RSA 362-A:9, XIV](#) specifically for Group Net Metering statutes).

The remainder of this chapter concerns NEM tariffs regulated by the Public Utilities Commission. Note that:

- NEM tariffs offered by the utilities underwent a significant change several years ago;
- Customer-generators that installed systems before September 2017 may still take service under the "NEM 1.0" tariff ("standard" or "traditional" NEM);
- Systems installed after August 2017 must take service under the "NEM 2.0" tariff ("alternative NEM")
- NEM 1.0 customers are allowed to switch to taking service under the NEM 2.0 tariff but cannot subsequently opt-back to NEM 1.0 (with limited exceptions, e.g., participation in certain pilot programs).

Under both tariffs, customer-generators are charged the full retail rate for electricity supplied by Eversource and receive credits for electricity they export to the grid for some (but not all) components of their full retail rate. Refer to the next subsection for tables comparing NEM 1.0 to 2.0 tariffs.

To appropriately measure and credit customer-generators taking service under a NEM tariff, the utility installs a bi-directional net meter that records each kilowatt-hour (kWh) supplied to the customer from the grid and also each kWh that flows back into the grid. This data is recorded and collected on a monthly billing-cycle basis.

For NEM 1.0 tariff systems (installed before September 2017), any kWh exported to the grid are netted against kWh consumed. If there is a net surplus of kWh at the end of the monthly billing period (i.e., more power was exported to the grid by the customer-generator than was consumed)

those surplus or negative kWh are carried forward and can be used to offset future kWh consumption (so the customer only pays for their “net” energy consumption).

For NEM 2.0 tariff systems (installed after August 2017), all customer-generators receive a monetary credit for each kWh that is exported valued at 100% of their default electricity supply rate component for the month. Smaller systems (up to 100 kilowatts in size) additionally receive credits for 100% of the transmission component and 25% of the distribution component of their retail rate. (Larger systems, up to 1,000 kilowatts in size, only receive full credit for the electricity supply rate component.)

Note that most customer-generators in Rye Community Power are expected to be taking service under NEM 2.0 tariffs going forward.

Any credits that accumulate over time are tracked and used to offset the customer-generator’s future electricity bills. Customers may also request to cash-out their surplus credit once a year, after their March billing cycle, if the balance exceeds \$100 (or any balance in the event of moving or service disconnection). NEM 1.0 surplus balances are tracked as kWh credits and are converted to dollars at wholesale avoided costs, while NEM 2.0 surplus balances are tracked as monetary credits directly (in dollars). Note that these cash-outs are treated as taxable income by the Internal Revenue Service (IRS). Payments of \$600 or more remitted to the customer are accompanied by a 1099 form for the IRS. Utilities may also issue IRS Form 1099s for smaller amounts.

Alternatively, Group Net Metering is a process that allows any customer-generator to share the proceeds of their surplus generation credits to directly offset the electricity bills of other customers, which is financially more advantageous and can increase the effective value of the system. All the members in the group need to be within the same distribution utility service territory but may be served by different suppliers. The credits are calculated based on the host site’s NEM tariff and retail rate, and payments are credited to offset the electricity bills of each member directly by the utility (assuming the utility is billing the customers for supply). These allocations are governed by a Group Net Metering Agreement between the host customer-generator and group members, which is part of the registration process overseen by the Public Utilities Commission.

Note that larger systems (up to 1,000 kilowatts in size) actually have to register as group hosts in order to qualify for net metering in the event that the customer-generator exports more than 80 percent of the power produced onsite to the distribution grid. Additionally, if the electricity exported from larger systems exceeds the total electricity usage of the group on an annual basis, the credit for the residual amount (e.g., electricity exported in excess of the group’s total usage) is re-calculated based on their utility’s avoided cost of electricity supply. This rate is lower than the NEM credit based on the customer-generator’s retail rate, and results in a downward payment adjustment issued by the utility to the host customer. Residential systems under 15 kilowatts, however, are not subject to this adjustment.

Most recently, a Low-Moderate Income (LMI) Community Solar Project option has been implemented under Group Net Metering. The program currently provides an incentive of 3 cents per kWh (dropping down to 2.5 cents after July 2021) in addition to the host site’s NEM credits, and solar systems may be either rooftop or ground-mounted systems. To qualify, groups must include at least five residential customers, a majority of which are at or below 300 percent of the federal poverty guidelines, and non-residential customers cannot account for more than 15 percent of the total projected load in the group.

Lastly, all group hosts (except for residential systems under 15 kilowatts) must file an annual report with the Public Utilities Commission and their utility that includes the annual load of the host and members, annual total and net surplus generation of the host site system, and additional information for Low-Moderate Income Community Solar Projects.

In addition to NEM credits, all customer-generators have the option of selling the Renewable Energy Certificates (RECs) produced by their systems. This can provide an additional revenue stream to customer-generators, but requires a separate REC meter, registration and ongoing reporting requirement.

Alternatively, the Public Utilities Commission estimates the RECs that could be produced by all customer-generators who do not separately meter and sell their RECs and lowers the Renewable Portfolio Standard procurement requirements for all load-serving entities by an equivalent amount.

**Comparison of Utility “Standard” and “Alternative” Net Energy Metering Tariffs**

The tables below compare the two tariff structures, which offer different credits to customers depending on the size of their installed system:

**Net Energy Metering (NEM) Credit on Net Monthly Exports to Grid**

	<b>NEM 1.0</b> <i>“Standard NEM” Offered prior to 9/1/2017</i>	<b>NEM 2.0</b> <i>“Alternative NEM” Effective 9/1/2017</i>
<b>Large Systems</b> <i>100 Kilowatts to 1 Megawatt</i>	Full credit (at the customer’s retail rate) for electricity supply <u>only</u>	
<b>Small Systems</b> <i>≤ 100 Kilowatts</i>	Full credit for electricity supply, distribution, transmission, System Benefits, Stranded Cost & Storm Recovery charges	Full credit for electricity supply and transmission; 25% credit for distribution & no credit for other charges

As shown in the table above, levels of compensation for small customer-generators (with systems up to 100 kilowatts) were lowered, such that these customers no longer receive full compensation on their distribution rate component or several other small charges (e.g., the System Benefits, Stranded Cost and Storm Recovery charges).

Additionally, the NEM 2.0 tariff modified the type of credit, and the ways credits for surplus generation are tracked and refunded, for both small and large customer generators:

- Under NEM 1.0, any surplus generation would be tracked as a kilowatt-hour (kWh) credit, which was carried forward to offset the customer’s consumption (and bill) in future months. For any kWh credits remaining on an annual basis (at the end of March each year), such customers have the option of either continuing to bank their credits to offset future usage, or to convert the kWh credit into a monetary credit, at a rate set by the Public Utilities Commission (typically ~3-4 cents per kilowatt-hour) and to apply the amount to their account or receive a check for the amount owed.

- Under NEM 2.0, kWh credits are automatically converted into a monetary credit every month, valued at the customer’s retail rate for that specific month. Customers have the option of either carrying the credit forward to offset to their electricity bill in future months or may receive the refund directly as a check.

The crediting mechanism under NEM 1.0 was relatively more advantageous for customers in one respect. Solar systems generate more power in the spring and summer months relative to other seasons; consequently, the credits that customer-generators would accrue during the summer months would offset their consumption in the winter months on a one-to-one, kWh per kWh basis. This is advantageous because winter supply rates are above summer rates on average.

In another respect, NEM 2.0 offers an advantage to customers that accrue surplus credits over the course of the year, because the surplus is calculated based on components of the customer’s retail rate — which is higher than the ~3-4 cents per kilowatt-hour value that is applied to convert NEM 1.0 kWh credits into a monetary credit whenever customers elect to cash-out their surplus.

These changes are summarized in the table below, and apply to all customer-generators regardless of system size:

<p align="center"><b>NEM 1.0</b> <i>“Standard NEM”</i> <i>Offered prior to 9/1/2017</i></p>	<p align="center"><b>NEM 2.0</b> <i>“Alternative NEM” Effective 9/1/2017</i></p>
<p>kWh credit carried forward.</p> <p>May be refunded at a rate calculated by the Public Utilities Commission (typically ~3-4¢ per kWh).</p>	<p>kWh converted to monetary credit automatically each month.</p> <p>Monetary credit carried forward as a bill credit or refundable.</p>

Additional details may be found in the Eversource, Liberty Utilities and Unitil tariffs and the Public Utilities Commission website:

- [Eversource Tariffs](#)
- [Unitil Tariffs](#)
- [Liberty Utilities Tariffs](#)
- [PUC overview of Net Metering](#)
- [PUC graphic explanation of NEM 1.0 vs. NEM 2.0.](#)

### Net Energy Metering Systems by Utility Territory

According to the most recent [Energy Information Agency \(EIA\) Form 861m data](#), there are about 11,000 customer-generators taking service under Net Energy Metering tariffs in New Hampshire, with a cumulative installed capacity of approximately 140 megawatts (in terms of nameplate capacity in alternating current, or “AC”). Estimated numbers of customer-generators and installed capacity by technology are summarized below:

- Solar photovoltaics: ~120 megawatts (MW) and 10,760 customer-generators; note that:
  - Group Net Metering accounts for an additional ~1.5 MW serving 56 customers; and

- Sixteen residential customers, in addition to solar photovoltaics, also have battery storage systems with a cumulative capacity of 175 kilowatts (an average size of ~11 kilowatts per customer).
- Onsite wind: 412 kilowatts (kW) and 72 customer-generators.
- “Other” technologies (presumably, small hydro or qualifying combined heat and power systems, or “CHP”): ~17.5 megawatts (MW) and 55 customer-generators.

The table below provides the number of customer-generators in each distribution utility territory:

### Number of Net Metered Customer-Generators by Technology

	Customer-Generators by Technology			Subsets of Solar PV Customers		
	Total	Wind	Other (CHP or Hydro)	Solar PV	Group Net Metering	Battery Storage
<b>Eversource</b>	7,949	37	52	7,860	21	0
<b>Unitil</b>	1,066	3	1	1,062	0	0
<b>Liberty Utilities</b>	724	1	0	723	22	16
<b>NHEC</b>	1,204	31	2	1,171	13	0
<b>Total</b>	10,943	72	55	10,816	56	16

The number of customer-generators by customer class with onsite solar photovoltaic systems, total installed capacity, and average solar system size in each utility territory are provided for reference in the tables below.

Note that these tables do not include Group Net Metered systems and participating customers within groups and reflect only installed solar photovoltaic system capacity (i.e., exclusive of onsite battery storage capacity).

### Net Metered Solar Photovoltaic Systems: Number of Customer-Generators

	Residential	Commercial	Industrial	Total Customer-Generators
<b>Eversource</b>	7,195	630	35	7,860
<b>Unitil</b>	973	61	6	1040
<b>Liberty Utilities</b>	633	77	0	710
<b>NH Electric Coop</b>	1,065	81	4	1,150
<b>Total</b>	9,866	849	45	10,760

**Net Metered Solar Photovoltaic Systems: Total Installed Capacity (MW-AC)**

	<b>Residential</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Total Installed Capacity (MW-AC)</b>
<b>Eversource</b>	54.15	29.66	5.09	88.91
<b>Unitil</b>	7.40	2.30	0.73	10.43
<b>Liberty Utilities</b>	4.78	5.12	0.00	9.90
<b>NH Electric Coop</b>	7.61	2.46	0.60	10.66
<b>Total</b>	73.94	39.54	6.42	119.90

**Net Metered Solar Photovoltaic Systems: Average System Size (kW-AC)**

	<b>Residential</b>	<b>Commercial</b>	<b>Industrial</b>	<b>Average System Size (kW-AC)</b>
<b>Eversource</b>	7.5	47.1	145.5	66.7
<b>Unitil</b>	7.6	37.8	121.2	55.5
<b>Liberty Utilities</b>	7.6	66.5	N/A	24.7
<b>NH Electric Coop</b>	7.1	30.3	149.0	62.2
<b>Average</b>	<b>7.5</b>	<b>45.4</b>	<b>138.6</b>	<b>52.3</b>

## Attachment 6: Community Power Net Metering, Group Net Metering and Low-Moderate Income Solar Project Opportunities

Please refer to [Attachment 5: Overview of Utility Net Metering Tariffs](#) as context for this section.

[RSA 362-A:9,II](#) grants Community Power programs broad statutory authority to offer customer-generators new supply rates and terms for the generation supply component of Net Energy Metering (NEM). The relevant statutory authority is quoted in full below:

*“Competitive electricity suppliers registered under RSA 374-F:7 and municipal or county aggregators under RSA 53-E determine the terms, conditions, and prices under which they agree to provide generation supply to and credit, as an offset to supply, or purchase the generation output exported to the distribution grid from eligible customer-generators. The commission may require appropriate disclosure of such terms, conditions, and prices or credits. Such output shall be accounted for as a reduction to the customer-generators’ electricity supplier’s wholesale load obligation for energy supply as a load service entity, net of any applicable line loss adjustments, as approved by the commission. Nothing in this paragraph shall be construed as limiting or otherwise interfering with the provisions or authority for municipal or county aggregators under RSA 53-E, including, but not limited to, the terms and conditions for net metering.”*

Rye Community Power intends to offer a NEM generation rate and terms to customers with onsite renewable generation eligible for net metering from Eversource. Note that any non-supply related components of the Net Energy Metering tariff (e.g., credits for transmission and distribution) will continue to be provided to customer-generators directly by their utility.

How Rye Community Power calculates, accounts for, and provides NEM credits to participating customer-generators for the different types of eligible system sizes, customer types and group configurations will have a number of important financial and practical implications for the program and customers in the Town.

Rye Community Power also anticipates encountering practical challenges of an operational nature in administering net metering and group net metering programs. This is partly because net energy metering continues to evolve in response to new policy and regulatory requirements, and the day-to-day processes that govern the coordination between the program, participating customers, and Eversource are subject to refinement and change over time.

In particular, Rye Community Power will be one of the first default aggregation programs to launch in New Hampshire, and the process of transferring significant numbers of NEM customers may cause unanticipated issues due to the metering, billing, and data management requirements of this subset of customers. Rye Community Power will maintain close coordination with Eversource to expeditiously resolve any such issues that may occur.

For example, Rye Community Power may decide to separately issue supply bills to customers that have installed systems after September 2017.

The advantage in dual-billing this subset of customers stems from what is essentially an accounting irregularity in how utility billing systems currently treats customer-generators taking service under the NEM 1.0 tariff, which applies to systems installed before September 2017, versus the NEM 2.0 tariff, which applies to all systems installed after that date. As context:

- The cumulative surplus generation exports of net metered customer-generators will decrease the amount of electricity that Rye Community Power will have to purchase from the regional power market to supply other customers in the program. The surplus generation from both NEM 1.0 and NEM 2.0 customer-generators is tracked and netted out from the program’s wholesale load obligations by Eversource for this purpose.
- However, for the purpose of netting out of the program’s Renewable Portfolio Standard (RPS) compliance requirements, the surplus generation from NEM 1.0 customers is tracked and accounted for differently than it is for NEM 2.0 customers:
  - Surplus generation from NEM 1.0 customers is tracked as a kWh credit that is carried forward to offset the customer’s future electricity supply requirements; these kWh credits will be counted as an offset that decreases the total electricity supplied by the program to retail customers in aggregate — which lowers the program’s RPS compliance obligation.
  - Surplus generation from NEM 2.0 customers is tracked as a monetary credit that is carried forward to offset the customer’s future electricity bills; even though the monetary credit is calculated each month based on every customer’s kWh surplus generation, the monetary credit is treated as a resale or delivery of power generated by NEM 2.0 customer and provided to other participating customers through the program — it is not treated, in other words, as an offset that decreases the total electricity supplied by program to retail customers in aggregate — and therefore does not lower RPS compliance obligations in the same way.

The practical consequence of this accounting treatment is that Rye Community Power would have to purchase Renewable Energy Certificates for the amount of surplus generation supplied by NEM 2.0 customer-generators (but not NEM 1.0 customer-generators) in the same way as if the program had imported that amount of electricity from the regional wholesale market.

- Taking on the responsibility of billing this subset of NEM 2.0 customers directly may allow Rye Community Power to track and account for the impact of their surplus generation in ways that lower the program’s RPS compliance obligations and costs. Specifically, the program could credit customers currently on the utility’s NEM 2.0 tariff in the same way that NEM 1.0 customers are credited (i.e., using kWh credits to track surplus generation on the supply portion of the bill). Note that RSA 362-A:9,II explicitly grants Community Power programs the flexibility to offer net metered customers either:
  - A “*credit, as an offset to supply*” for their surplus generation, which is equivalent to the NEM 1.0 tariff accounting; or
  - To “*purchase the generation output exported*”, which is equivalent to how the NEM 2.0 tariff tracks surplus generation.

Exercising the first option listed above, by offering NEM 2.0 customers a kWh credit tracked as an offset to supply, would allow Rye Community Power to harmonize the accounting treatment of NEM 1.0 and 2.0 surplus generation for the purpose of program RPS compliance reporting. This would lower program rates and is an option that the program may therefore find cost-effective to implement.

Additionally, certain customer-generators currently receiving IRS Form 1099 taxable income from monetary credits paid out by their utility under NEM 2.0 tariff may benefit financially from receiving kWh credits for the supply portion of their monthly surplus generation instead.

While dual billing is typically avoided — as it is less convenient for most customers to receive a separate bill from their utility and supplier — customers with onsite generation systems tend to be highly informed on energy issues and respond positively to more active engagement with both their utility and supplier.

Consequently, dual billing may enhance customer satisfaction, awareness and ongoing participation in the program for customer-generators. Furthermore, dual billing could be done electronically, which is more convenient for the customer and less costly for the program than sending paper bills.

Furthermore, Rye Community Power may be able to create additional value for customer-generators through a combination of dual billing, assistance with metering upgrades and time-varying rate structures. For example:

- Many customer-generators with solar systems may benefit from local programs that help them reduce their full energy bill costs;
- Providing the customer with a separate supply-only bill would allow Rye Community Power to also offer a time-varying rate (which may not otherwise be available through Eversource's billing system);
- Upgrading to an interval meter (if the customer does not have one) and installing onsite battery storage, combined with a time-varying rate, may enable the customer-generator to further lower their overall bill by shifting their pattern of electricity usage at times of high-power prices and constrained generation and transmission capacity. This could also help to manage and lower the program's electricity supply costs in aggregate as well, and thus benefits all participating customers.

Similarly, Rye Community Power may be able to streamline the process and cost of installing REC production meters, registering customer-generators, and purchasing their RECs for the onsite power generated to satisfy part of the program's overall RPS compliance requirements. This would allow the program to source RECs locally and would provide an additional source of revenue for customer-generators in the Town.

Rye Community Power also intends to evaluate ways to enhance the value of the NEM credits that customers receive overall, from both the program and Eversource. For example, customer-generators may benefit by becoming hosts in Group Net Metering, including by establishing a Low-Moderate Income Solar Project group. The program may be able to streamline the process required to do so, which entails:

- Matching customers interested in becoming members with prospective group hosts;
- Executing a Group Net Metering Agreement together;
- Registering the group with the Public Utilities Commission and Eversource; and
- Thereafter filing annual compliance reports.

Lastly, NEM tariffs are subject to revision and Rye Community Power, through the Coalition, intends to work with Eversource, participate in Public Utilities Commission proceedings, and engage at the Legislature on issues that impact how the tariffs evolve going forward.

Customers are increasingly adopting new energy technologies and expect to be offered rates and services that provide them with new choices and fair compensation based on their investment; the program's ability to assist customers in these ways is heavily dependent on how state policies and utility regulations evolve over time.

Rye Community Power will seek to represent the interests of our community and customers in these matters.

## Attachment 7: Rye's Public Planning Process

The Rye Energy Committee began to research the benefits of forming a community power program in June 2020. Members of the committee attended webinars and participated in presentations at various virtual conferences. The Rye Energy Committee networked with other energy committees that were also learning about the potential benefits of forming a program.

The Rye Energy Committee determined that developing a community power program would be in the best interests of Rye citizens and businesses. Aggregating power purchases has the potential to lower energy costs. The Rye Energy Committee agreed that it would be beneficial to Rye to join the Community Power Coalition of New Hampshire (CPCNH) which was in its formative stages. Joining CPCNH was a no risk, no cost way to gain access to a statewide network of peers and experts to support community power program planning. Joining CPCNH offers opportunities to work with other New Hampshire communities to develop more local, renewable energy sources and gives communities options to use innovative technologies to decrease energy usage.

The Select Board agreed to join CPCNH pending review of the Joint Powers Agreement by town counsel. The Joint Powers agreement includes the Articles of Agreement and Bylaws of the non-profit organization. It establishes the general purpose, authorities, structure, Board of Directors, committees, cost-sharing principles, liability protections, and other aspects of the organization.

After legal review, the Select Board voted unanimously to sign the Joint Powers agreement on September 27, 2021 establishing Rye as a founding member of CPCNH. The Select Board designated the Rye Energy Committee as the electric aggregation committee. By law and under RSA 53-E:6, the Committee was responsible for:

- Developing and approving a Community Power Electric Aggregation Plan that is in the best, long-term interest of Rye ratepayers;
- Soliciting public input in the planning process; and,
- Holding public hearings for that purpose.

The Select Board also appointed Lisa Sweet as a Director and Howard Kalet as an Alternate to represent the Town of Rye on the board of CPCNH.

The Rye Energy Committee developed materials to introduce community power and explain the potential benefits of approving a program for Rye. The Rye Newsletter included informational articles and our webpage has videos, the draft of the Energy Aggregation Plan, Frequently Asked Questions, a slide presentation of the program and plan, and explainers on energy costs and net metering.

The initial draft of the Energy Aggregation Plan was submitted to the Select Board for review on November 8, 2021. In accordance with RSA 53-E, the Rye Energy Committee hosted two public hearings for community input. The first was on November 16 at 6:30 pm and the second was on December 9 at 7:00 pm. Both were held at the Rye Junior High School and were recorded. Recordings are on the town website video streaming page.

The revised plan was submitted to the Select Board on December 10, 2021. The Select Board will review and, pending approval, write a warrant article for the March 8, 2022 Town Meeting.

An informational meeting for the public is planned for January 20, 2022. The Rye Energy Committee will present the warrant article to the public again at the February 5, 2022 Deliberative Session. The vote will be held on March 8, 2022.

## Attachment 8: Abbreviations

<u>Acronym</u>	<u>Meaning</u>
AC	Alternating Current (electric current that reverses direction many times a second at regular intervals; the N. American standard for power supply is 60 Hertz)
ACP	Alternative Compliance Payment (under the NH Renewable Portfolio
Standard) CEPS	Competitive Electric Power Suppliers
CHP	Combined Heat and Power
CPA	Community Power Aggregation
CPCNH	Community Power Coalition of New Hampshire
EAC	Electric Aggregation Committee
EAP	Electric Aggregation Plan
ISO-NE	Independent System Operator New England (the wholesale electricity market operator)
KW	Kilowatt (a measure of electrical capacity, equivalent to 1,000 watts of power)
kWh	Kilowatt-hour (a measure of electrical energy, equivalent to using or producing
	1,000 watts for 1 hour, and typically used to refer to customer generation or onsite usage)
MW	Megawatt (a measure of electrical capacity, equivalent to 1,000,000 watts of power)
MWh	Megawatt-hour (a measure of electrical energy, equivalent to using or producing 1,000,000 watts for 1 hour, and typically used in reference to power plants or large aggregations of customers)
NEM	Net Energy Metering (tariffs that provide compensation for customer-generators)
NEPOOL GIS	The New England Power Pool Generation Information System (which issues and tracks Renewable Energy Credits)
NHEC	New Hampshire Electric Co-Op (a member-owned electric distribution cooperative)
NHPUC	New Hampshire Public Utilities Commission (which regulates NH's investor-owned electric distribution utilities: Eversource, Unitil and Liberty Utilities)
PV	Solar Photovoltaics
REC	Renewable Energy Credit (under the NH Renewable Portfolio Standard)
RPS	New Hampshire's Renewable Portfolio Standard (authorized under RSA 362-F)
RSA	Revised Statutes Annotated (refers to the codified state law of New Hampshire)