

New Hampshire Department of Energy



**NEW HAMPSHIRE
RENEWABLE ENERGY FUND
ANNUAL REPORT**

October 1, 2022

Submitted to:

THE SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

Senator Kevin Avard, Chair

THE HOUSE SCIENCE, TECHNOLOGY AND ENERGY COMMITTEE

Representative Michael Vose, Chair

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Executive Summary

Fifteen years ago, New Hampshire established a renewable energy policy, the Electric Renewable Portfolio Standard (RPS), the legislature having found it to be in the public interest to stimulate investment in low emission renewable energy generation technologies within the state. With the enactment of House Bill 2 (2021), on July 1, 2021 the administration and implementation of RPS policy and the Renewable Energy Fund (REF) transferred from the Public Utilities Commission (Commission or PUC) to the Department of Energy (Department). The Department is required to make an annual report to the Senate Energy and Natural Resources Committee, and the House Science, Technology and Energy Committee, detailing how the Renewable Energy Fund is used.

The report that follows is the New Hampshire Renewable Energy Fund Annual Report which describes program results for fiscal year 2022 (July 1, 2021 through June 30, 2022) and summarizes compliance data for calendar year (CY) 2021.

Renewable Energy Fund Programs

Competitive Grant Program

As required by RSA 362-F:10, XI, the Department issued an annual request for proposals (RFP) to fund renewable energy projects. The RFP for fiscal year (FY) 2022 (FY22) was issued by the Department on December 8, 2021, for certain non-residential renewable energy projects located in New Hampshire that are eligible to generate renewable energy certificates (RECs) and not eligible to receive funds from other REF incentive programs.

The Department received eight proposals requesting a total of \$2.524 million in grant funds. Three projects were selected for funding: installation of a wood chip boiler plant in a mixed-use building fueled with locally sourced precision dry wood chips; replacing two turbines and three valves boosting capacity by .44MW at one hydroelectric facility; replacing one and rebuild another turbine boosting capacity by .6 MW at second hydroelectric facility. These three projects selected received \$750,000 in funding through grant contracts approved by the Governor and Executive Council on June 15, 2022.

Low-Moderate Income Community Solar Grant Program

The “New Hampshire Clean Energy Jobs and Opportunity Act of 2017,”¹ included a funding allocation requirement for a program intended to reduce market barriers to solar energy participation by low and moderate income (LMI) residential customers. The FY22 RFP was issued twice by the Department on December

¹ See www.gencourt.state.nh.us/bill_status/billText.aspx?sy=2017&id=957&txtFormat=pdf&v=current.

8, 2021 and February 25, 2022, seeking proposals for community solar photovoltaic (PV) projects providing direct benefits to New Hampshire LMI residential electric customers.

The Department received one proposal in response to each RFP requesting a total of \$350,000 grant funds, however, neither project met the program eligibility requirements.

The Department submitted a report² to the Legislature on July 1, 2022 on the costs and benefits of an LMI adder available to LMI Community Solar Projects as established through Senate Bill 165³ (2019), as well as the development of the LMI community solar market. This report includes a summary of recommendations from stakeholders related to the LMI Community Solar Market in New Hampshire, including the LMI Grant Program funded through the REF.

Finally, Senate Bill 270 (SB 270) (2022), an act creating an LMI Community Solar Program for utility customers on, or on the waiting list for the Electric Assistance Program, was enacted on July 8, 2022 and became effective on September 6, 2022. The Department is currently engaged in a public process regarding the implementation of this bill, including how it may coordinate with the REF funding of LMI Community Solar Projects.⁴

In FY2022, an LMI Grant Program grantee became the first project to be approved as an LMI Community Solar Project eligible to receive the 2.5 cent/kWh addition as enabled through SB165 (2019). This project, White Rock Cooperative Estates, Inc. (White Rock) received \$200,000 in grant funding through the LMI Grant Program in May of 2019. The project worked with their utility and DOE staff to register and is now the first LMI Adder Community Solar Project operating in the state.

Solar Rebate Programs

Installed solar PV capacity continues to increase in New Hampshire. An additional 31.6 megawatts⁵ (MW) of solar PV was interconnected in 2021. Net metering, the RPS, and REF programs are state incentives and drivers for participants in this market. During FY22, the incentive levels of the residential solar program remained at \$0.20 per watt, up to a maximum \$1,000; and \$0.20 per watt, up to a maximum \$10,000, for commercial and industrial (C&I) installations.

Wood Pellet Rebate Programs

The growth and stability of the wood pellet industry in New Hampshire continues to depend, in part, on the wood pellet rebate programs and the Federal tax credit. During FY22, the incentive levels for the wood pellet

² See [Legislative Report on Costs and Benefits of LMI Adder | NH Department of Energy](#)

³ See Senate Bill 165 (2019), http://gencourt.state.nh.us/bill_Status/billText.aspx?sy=2019&id=1054&txtFormat=pdf&v=current.

⁴ See [NH Senate Bill 270 Low to Moderate Income Community Solar Program | NH Department of Energy](#)

⁵ See [Final 2022 PV Forecast](#) , slide 10,

furnace and boiler programs remained at 40 percent of eligible project costs, up to a maximum \$10,000 for residential installations and \$65,000 for C&I installations. To encourage larger and more economical wood pellet deliveries, the residential program offers a supplemental rebate adder of \$100 per ton for fuel storage systems larger than the three-ton minimum requirement, up to a maximum of \$500. The C&I program offers additional incentives for the installation of a thermal storage tank and/or production meter to track thermal generation for REC certification.

Instead of heating oil, these homes and businesses are using wood pellets, a renewable fuel that is often locally sourced. Nearly 450 incentivized residential systems are operational in more than 150 municipalities, and the bulk storage containers installed with these systems have a total combined capacity of over 2,085 tons. On average, each residential wood pellet heating system replaces an estimated 627 gallons of heating oil each year. There are 63 incentivized C&I systems located in 37 New Hampshire municipalities; and the bulk storage containers installed with these systems have a total combined capacity of over 1,100 tons.

Sustainable Energy Division Non-Program Updates

Net Energy Metering

The Department's Sustainable Energy group continued work on the various docket-related initiatives ordered through the "Development of New Alternative Net Metering Tariffs and/or Other Regulatory Mechanisms and Tariffs for Customer-Generators" docket (PUC Docket No. DE 16-576, PUC Order No. 26,029 (2017)). Those initiatives include studies approved by the Commission in orders issued in 2017 and subsequently. Work related to those studies completed during FY22 is summarized below.

Value of Distributed Energy Resources Study

The Value of Distributed Energy Resources (VDER) study was directed to be conducted in the Commission's 2017 Order No. 26,029. In Order No. 26,316,⁶ the PUC directed its Staff (now the Department) to issue a request for proposals to engage a consultant to develop the detailed methodology and conduct the VDER study, based on an approved study scope developed with substantial stakeholder input. That study scope formed the basis of the Commission's request for proposals to solicit a consultant to conduct the VDER study.⁷

The VDER Study analysis will provide detailed information regarding costs avoided by net-metered distributed generation under general conditions, as well as at specific times and under particular circumstances, and will evaluate respective benefits and costs from the perspective of electric distribution utilities, customer-generators participating in net energy metering, and other non-participating electric ratepayers. The study will focus on

⁶ See puc.nh.gov/Regulatory/Docketbk/2016/16-576/ORDERS/16-576_2019-12-18_ORDER_26316.PDF.

⁷ See RFP 2020-001, [VDER RFP 3.27.2020 - Final.pdf \(nh.gov\)](#).

impacts within New Hampshire, with consideration of regional energy market impacts where appropriate. The study will calculate avoided costs over a 15-year time horizon, with 3-5 years of historical data reviewed, where possible, to verify and validate forward projections. The study methodology will maintain consistency with energy efficiency cost-effectiveness evaluation, where appropriate, including potential incorporation of modeling tools, methods, criteria, and data from the most recent New England Avoided Energy Supply Cost Study. The VDER study will also analyze customer rate and bill impacts to determine the effects on utility ratepayers and the potential for cost-shifting between customers participating and those not participating in net energy metering.

Department staff are currently working with the consultant to finalize the study and expect to release the final report and submit it to the Commission by October 31, 2022.

In conjunction with the results of the Locational Value of Distributed Generation study, and any relevant pilot programs, the VDER study will provide data and analysis to inform future rate design and tariff development proceedings before the Commission for customer-generators with distributed generation eligible to participate in net energy metering. The Commission has opened Docket 22-060 to consider amendments to the Net Metering tariff.

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Overview of New Hampshire's Renewable Portfolio Standard Policy

New Hampshire's Renewable Portfolio Standard statute established the renewable energy policy for the State. Common renewable energy sources are solar, wind, hydropower, biomass, and methane gas. These energy sources provide a sustainable and affordable power supply. Renewable energy enables New Hampshire municipalities, schools, businesses, and residents to realize economic and energy security benefits.

Renewable energy generation technologies provide fuel diversity to the state and the region through the use of renewable fuels sourced locally, lowering regional dependence on fossil fuels. Renewable resources also have the potential to lower and stabilize future energy costs by reducing exposure to rising and volatile fossil fuel prices.

The use of local and renewable fuels also allows more energy dollars to be retained in the state instead of being spent on imported fuels. In addition, utilizing renewable technologies can help reduce the amount of greenhouse gases, nitrogen oxides, and particulate matter emissions generated in the state, which helps improve air quality and public health.

The RPS statute established four classes of renewable energy resources (summarized in the box to the right). Class I is split into a separate electricity requirement and thermal energy requirement. Electricity suppliers must obtain RECs for each of the four classes as a set percentage of their retail electric load. One REC represents

New Hampshire RPS Class Definitions*

Class I - New Renewable Energy. Sources producing electricity or "useful thermal energy" (i.e., Class I Thermal) generated by any of the following resources, provided the generator began operation after January 1, 2006, except as noted below:

- Wind energy;
- Hydrogen derived from biomass fuels or methane gas;
- Ocean thermal, wave, current, or tidal energy;
- Methane gas;
- Eligible biomass;
- Class II solar electric energy not used to satisfy the minimum Class II obligation;
- The incremental new production of electricity in any year from an eligible biomass, eligible methane source, or hydroelectric generating facility of any capacity, over its historical generation baseline;
- The production of electricity from Class III or IV sources that have been restored through significant investment.
- The production of biodiesel in New Hampshire meeting all requirements.

Class I Thermal - Useful Thermal Energy. Class I Thermal resources must be used to meet a set percentage of the total Class I RPS obligation as outlined in RSA 362-F:3. Eligible Class I Thermal sources include the following technologies that began operation after January 1, 2013 except as noted below:

- Geothermal systems that began producing thermal energy; Solar-thermal systems that produce useful thermal energy only;
- Eligible biomass generators that meet emissions criteria;
- The production of useful thermal energy from certain biomass thermal sources which began operation prior to January 1, 2013 and have been upgraded or replaced through significant investment;
- Renewable forms of methane gas if the output is in the form of useful thermal energy.

Class II - New Solar. Solar technologies; provided the electric generator began operation after January 1, 2006.

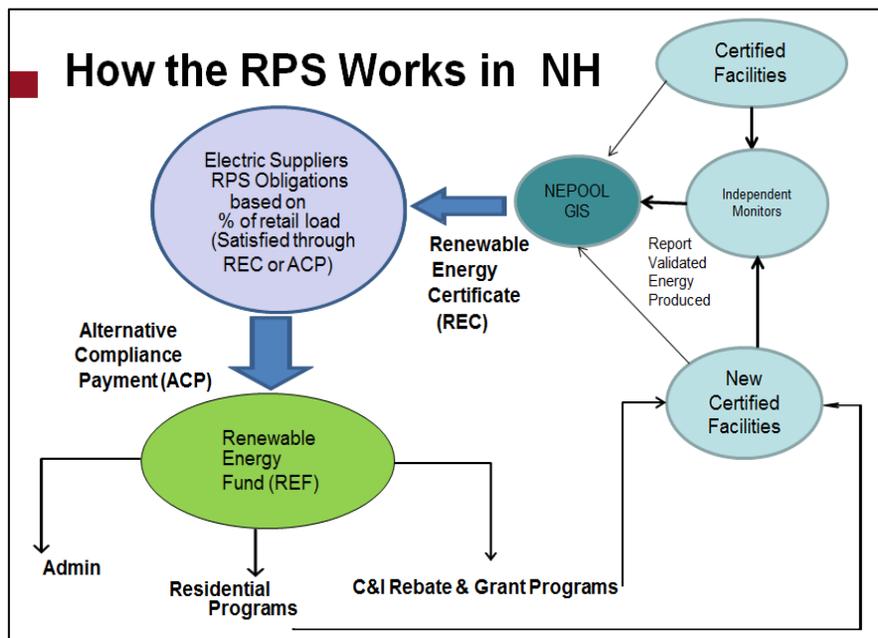
Class III - Existing Biomass/Methane. Eligible biomass systems of 25 MW or less, and methane gas, provided the generator began operation before January 1, 2006. Methane gas sources which began operation prior to 2006 and exceed an aggregated gross nameplate capacity of 10 MW at any single landfill site are not eligible.

Class IV - Existing Small Hydroelectric. Hydro facilities up to 5 MW, provided the generator began operation before January 1, 2006, and complies with certain environmental protection criteria; and hydroelectric facilities up to 1 MW that are interconnected to the distribution grid in New Hampshire.

renewable attributes of one megawatt-hour of electricity or the equivalent amount of thermal energy.

RECs are generated by certified renewable energy facilities and sold into a regional market. Renewable energy facilities must apply for New Hampshire RPS eligibility. Facility owners submit to the Department a class-specific application for review and approval. The Department certifies the systems as eligible under state statutes and rules (Puc 2500 administrative rules⁸) to generate RECs. Facility owners must purchase and install a revenue quality meter to record the gross output and retain the services of an independent monitor to be eligible for certification. All classes of applications that are considered complete must be approved or rejected within 45 days of receipt.

Upon certification, the Department notifies the New England Power Pool Generation Information System (NEPOOL GIS), which issues and tracks RECs for the region. Gross output from certified customer-sited facilities is verified and reported by independent monitors to NEPOOL GIS. On a quarterly basis, NEPOOL GIS issues RECs for reported generation and administers a two-month trading period. RECs generated in one state may be sold in another provided the facility is certified in that state as well.



If electricity suppliers cannot, or choose not to, purchase or obtain sufficient RECs to comply with the RPS law, they must make Alternative Compliance Payments (ACP) to the REF. On an annual basis, the Department reviews electricity suppliers' compliance with the previous calendar year's RPS requirements. Electricity suppliers include New Hampshire's competitive electric power suppliers and electric distribution utilities (Eversource, Liberty Utilities (Liberty), Unitil Energy Systems, Inc. (Unitil), and the New Hampshire Electric Cooperative (NH Electric Cooperative)).

The REF is a continually appropriated, dedicated, non-lapsing fund which is used to support electrical and

⁸ Note: Despite the title, these rules are enforced by the Department. The reorganization of the rules to accurately reflect the split between the Department and the Public Utilities Commission is currently underway.

thermal renewable energy initiatives. ACPs and the interest accrued on the REF are the only sources of funding and fluctuate from year to year, depending on the price and availability of RECs in the regional market.

The Department administers three residential rebate programs, two C&I rebate programs, and two competitive grant programs with funding from the REF. Projects installed with incentives from the REF are eligible facilities which may become certified, thereby generating additional RECs to trade in the NEPOOL GIS market.

Incentivizing the installation of new renewable facilities enables New Hampshire to continue to meet its increasing RPS goals.

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Fiscal Year 2022: Legislative Summary

RPS Legislation

In 2022, the RPS law was amended and the change in law is summarized below.

House Bill 1599⁹ (HB 1599) requires the Public Utilities Commission, when reviewing and modifying the net metering tariffs, to consider whether the cost of compliance with the RPS should be excluded from monetary credits.

Net Metering Legislation

In 2022, the net metering law was amended and the changes in law are summarized below.

House Bill 1258 (HB 1258)¹⁰ modified the definition of “political subdivision” to include the State of New Hampshire for the purposes of defining a ‘municipal host’ under the net metering statutes.

Senate Bill 261 (SB 261)¹¹ allows customer-generators to elect to receive a payout of their accrued monetary bill credit that exceeds \$25 on a quarterly basis.

Senate Bill 262 (SB 262)¹² makes several changes:

- Permits customer-generators to serve as a group host for a group of customers who are not customer-generators themselves, except that of a “political subdivision” as defined in [RSA 362-A:1-a, II-c](#) or an owner of a facility under [RSA 362-A:9, XX](#).
- Requires New Hampshire’s electric distribution utilities to publish hosting capacity maps on their websites by January 1, 2023.
- Requires the Department to initiate a proceeding within 90 days of the bill’s effective date to investigate the modification of administrative rules in PUC 903.01(e) to ensure cost-effective interconnection procedures for customer-generators and to make specific recommendations on a number of topics.

Senate Bill 270 (SB 270)¹³ establishes an additional pathway for LMI electric customers to participate in designated community solar projects eligible for the 2.5¢ per kWh adder for net export, based on the Eversource model proposed in earlier dockets.

⁹ See [Bill Status \(state.nh.us\)](#); effective August 30, 2022.

¹⁰ See [Bill Status \(state.nh.us\)](#); effective August 20, 2022.

¹¹ See [Bill Status \(state.nh.us\)](#); effective August 6, 2022.

¹² See [Bill Status \(state.nh.us\)](#); effective September 6, 2022.

¹³ See [Bill Status \(state.nh.us\)](#); effective September 6, 2022.

RPS Revenues and Costs

Revenues

Alternative compliance payments and the interest on the REF are the only sources of revenue for the REF. The ACP rate is paid for each megawatt hour of RPS compliance obligation not met by purchasing a REC. The ACP rate serves as a ceiling price in the REC market. Generally, REC prices trading at or near the ACP rate indicate an under-supply of RECs in the market, whereas RECs trading below the ACP rate indicate an adequate supply of RECs in the market.

ACP rates are defined by RPS Class and are adjusted annually. In accordance with RSA 362-F:10, III (b), the Class III ACP was \$45 for 2015 and 2016, and \$55 for 2017, 2018, and 2019. In accordance with RSA 362-F:10, III (c), the 2020 Class III ACP rate equaled the 2013 ACP rate adjusted by each year's CPI for the years 2014 through 2019. In accordance with RSA 362-F:10, III (a), the ACP rate for Classes III and IV are adjusted by the Consumer Price Index (CPI) and for Classes I and II by one-half of the CPI.

Basic Class Definitions

Class I (Non-Thermal)

- New Renewable
- Production of Biodiesel

Class I Thermal

- New Useful Thermal

Class II

- New Solar PV

Class III

- Existing Biomass
- Existing Methane

Class IV

- Existing Hydro

(See RSA 362-F for detailed definitions)

Table 1: Inflation Adjusted Alternative Compliance Payment Rates (\$ per Megawatt Hour)

Inflation Adjusted Alternative Compliance Payment Rate (\$ per Megawatt Hour)											
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Class I (Non-thermal)	\$64.02	\$55.00	\$55.37	\$55.75	\$55.72	\$56.02	\$56.54	\$57.15	\$57.61	\$57.99	\$59.12
Class I Thermal		\$25.00	\$25.17	\$25.34	\$25.33	\$25.46	\$25.69	\$25.97	\$26.18	\$26.35	\$26.86
Class II	\$168.13	\$55.00	\$55.37	\$55.75	\$55.72	\$56.02	\$56.54	\$57.15	\$57.61	\$57.99	\$59.12
Class III	\$31.39	\$31.50	\$31.93	\$45.00	\$45.00	\$55.00	\$55.00	\$55.00	\$34.54	\$34.99	\$36.36
Class IV	\$31.39	\$26.50	\$26.86	\$27.23	\$27.20	\$27.49	\$28.00	\$28.60	\$29.06	\$29.44	\$30.59

ACPs from electricity suppliers are made annually by July 1 for the prior calendar year. For example, ACPs for calendar year 2021 (CY21) were to be paid by July 1, 2022. Entities with RPS compliance obligations who might pay ACPs include New Hampshire's electric utilities as well as competitive electric power suppliers. The ACP funding to the REF, as designed, is expected to, and does, fluctuate over time.

ACP revenues for compliance year 2021 were \$7,190,044 as compared to the prior year's revenue of \$4,890,883. The overall compliance obligation decreased from 14.7 percent for calendar year 2020 (CY20) to 14.6 percent for CY21. The decreased total RPS obligation was due to the annual, legislatively defined increases

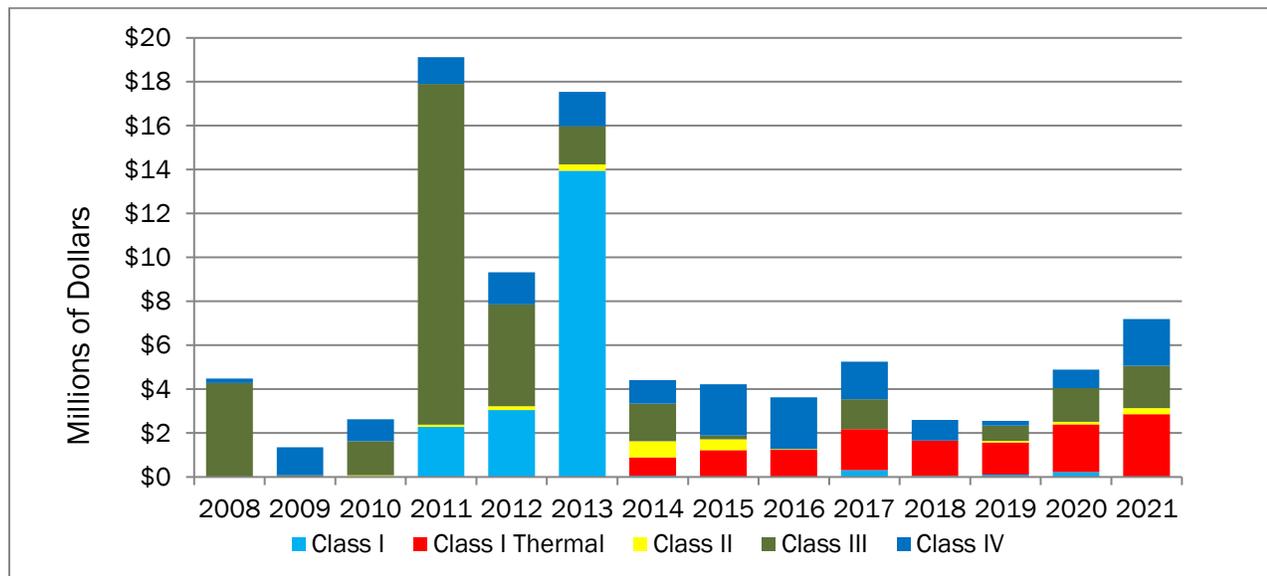
for Class I, Class I Thermal, and Class II; and the Department’s Order to reduce the Class III obligation from 8% to 1%, pursuant to RSA 364-F:4,

Table 2: ACP Revenues by Compliance Year

Compliance Year	ACP Revenue	Total RPS Obligation
2008	\$ 4,483,917	4.00%
2009	\$ 1,348,294	6.00%
2010	\$ 2,625,499	7.54%
2011	\$ 19,121,853	9.58%
2012	\$ 9,323,198	5.55%
2013	\$ 17,458,196	5.80%
2014	\$ 4,406,804	7.20%
2015	\$ 4,224,339	8.30%
2016	\$ 3,633,342	8.50%
2017	\$ 5,258,420	17.60%
2018	\$ 3,101,432	18.70%
2019	\$ 2,558,411	19.70%
2020	\$ 4,890,883	14.70%
2021	\$ 7,190,044	14.60%

ACP Revenues by Class, and Trend by Compliance Year

The chart below illustrates the fluctuating nature of the annual ACP revenue while providing a year-to-year comparison of ACP revenues by RPS Class.



Revenues by RPS Class

This next section provides a discussion of possible market conditions contributing to the 2021 ACP revenues.

Class I & Class I Thermal: New Renewable Energy Production of Electricity or Useful Thermal ACPs

ACPs for Class I decreased from \$227,502 for CY20 to \$3,305 for CY21, with an increased obligation requirement of 9.6 percent for CY21 versus 8.9 percent for CY20.

In addition, pursuant to RSA 362-F:6, II-a and Puc 2503.04(d), each year the Department computes an estimate of a percentage credit an electricity supplier may take for Class I based on the capacity of customer-sited sources that are net metered but are not certified to create Class I RECs. For CY21, the credit for Class I was 0.0058 percent against a total obligation of 8.9 percent. At the time of its RPS compliance filing, an electricity supplier may claim this Class I REC credit in an amount equal to the percentage credit for Class I times the total electricity (megawatt-hours (MWh)) provided to end-use customers by that electricity supplier.

ACPs for the Class I Thermal were \$2,853,969 for CY21 compared to \$2,174,563 for CY20. The obligation for Class I Thermal increased to 1.8 percent from 1.6 percent.

Class II: New Solar Electric ACPs

ACPs for Class II were \$279,860 due to the credit for Class II net metered facilities that are not Class II REC-certified, similar to that described above for Class I. For CY21, the credit for Class II which an electricity supplier may claim at the time of its RPS compliance filing was 0.4752 percent compared to the total obligation of 0.70 percent.¹⁴ The ACPs paid were likely due to decisions by competitive electric power suppliers not to pursue purchase of small quantities of RECs but to expedite their compliance process by paying small ACP amounts.

Class III: Existing Biomass/Methane Electric Technologies (Prior to January 1, 2006) ACPs

The Commission did not reduce the Class III requirement for compliance year 2017, 2018 or 2019; however, the obligation was reduced to 2 percent for CY20¹⁵ and reduced by the Department to 1 percent for CY21.¹⁶ With a Class III obligation equal to 2 percent in CY20 and 1 percent in CY21, ACP revenue was \$1,930,433 in CY21 compared to \$1,546,287 for CY20.

¹⁴ [2021 HB309](#), updated RSA 362-F:6, II-changing the capacity factor rating used in the Class II estimate from 20% to a capacity factor equal to the annual [PV Energy Forecast](#) issued by the Distributed Generation Working Group under the ISO New England, or its successor.

¹⁵ See PUC Order No. 26,472 dated April 20, 2021 under PUC Docket No. DE 21-037.

¹⁶ [class-3-order-adjusting-2021-class-3-obligation.pdf](#) (nh.gov)

Class IV: Existing Small Hydroelectric (Prior to January 1, 2006) ACPs

Class IV ACPs increased to \$2,122,477 in CY21 from \$837,393 in CY20.

Table 3 lists the distribution utilities and competitive electric power suppliers (CEPS) that filed E-2500 compliance reports for calendar (compliance) year 2021, documents each company's total ACPs, and further breaks down these payments by renewable energy class. Where no revenue appears for a class, it is because the company obtained RECs to satisfy its obligation for that class. Totals may not sum due to rounding.

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Table 3: ACP Obligations by Supplier and RPS Class for Compliance Year 2021

Company	Alternative Compliance Payments (ACPs)					
	Class I	Class I Thermal	Class II	Class III	Class IV	Total
Liberty Utilities	\$ -	\$ -	\$ -	\$ 111,513	\$ -	\$ 111,513
New Hampshire Electric Cooperative	\$ -	\$ 177,467	\$ -	\$ 238,002	\$ -	\$ 415,469
Eversource Energy	\$ -	\$ 1,222,693	\$ 193,803	\$ 913,554	\$ 952,973	\$ 3,283,022
Unitil Energy Systems, Inc.	\$ -	\$ 54,597	\$ -	\$ -	\$ -	\$ 54,597
Distribution Utilities Subtotal	\$ -	\$ 1,454,757	\$ 193,803	\$ 1,263,069	\$ 952,973	\$ 3,864,602
Actual Energy	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Ambit Energy, L.P.	\$ -	\$ -	\$ -	\$ 11,722	\$ -	\$ 11,722
Calpine Energy Solutions LLC	\$ -	\$ 72,199	\$ -	\$ -	\$ 67,212	\$ 139,411
Champion Energy Services LLC	\$ -	\$ 23,214	\$ -	\$ -	\$ 21,638	\$ 44,853
CleanChoice Energy Inc fka Ethical Electric	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Clearview Energy	\$ -	\$ 3,900	\$ 58	\$ 1,994	\$ 3,621	\$ 9,573
Constellation New Energy, Inc.	\$ -	\$ 144,609	\$ -	\$ -	\$ 640,379	\$ 784,988
CS Berlin Ops, Inc.	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Devonshire (Fidelity)	\$ -	\$ 9,249	\$ -	\$ -	\$ -	\$ 9,249
Direct Energy Business, LLC	\$ -	\$ 369,401	\$ -	\$ 190,765	\$ -	\$ 560,166
Direct Energy Business Marketing (Hess)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Direct Energy Services, LLC (First Point Power)	\$ -	\$ 87,245	\$ -	\$ 57,139	\$ -	\$ 144,384
EDF Energy Services, LLC	\$ -	\$ 180,392	\$ -	\$ 133,067	\$ 16,104	\$ 329,563
ENGIE Resources LLC	\$ -	\$ 201,472	\$ 55,380	\$ 148,638	\$ 187,562	\$ 593,052
ENH Power	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Energy Rewards	\$ -	\$ 4,901	\$ -	\$ 14,661	\$ 10,216	\$ 29,778
Everyday Energy	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
First Point Power, LLC	\$ -	\$ 137,415	\$ -	\$ 58,503	\$ 83,786	\$ 279,705
Mega Energy of New Hampshire	\$ -	\$ 3,373	\$ 638	\$ 2,484	\$ 3,121	\$ 9,616
MP2 Energy NE, LLC	\$ -	\$ 1,686	\$ 464	\$ 1,225	\$ 1,560	\$ 4,935
NextEra Energy Services New Hampshire, LLC	\$ -	\$ 2,925	\$ -	\$ -	\$ 22,374	\$ 25,299
North American Power and Gas, LLC	\$ -	\$ 73,885	\$ 20,297	\$ -	\$ 68,801	\$ 162,983
PNE Energy Supply, LLC	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Reliant Energy Northeast, LLC (NRG)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Smart Energy Holdings, LLC	\$ 3,305	\$ 10,962	\$ -	\$ -	\$ -	\$ 14,267
Summer Energy Northeast	\$ -	\$ 870	\$ -	\$ 455	\$ -	\$ 1,324
Sunwave US Holdings	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Texas Retail Energy	\$ -	\$ 36,258	\$ 3,595	\$ 26,767	\$ 25,318	\$ 91,939
Think Energy (ENGIE Retail, LLC)	\$ -	\$ 4,453	\$ 1,218	\$ 2,309	\$ 2,915	\$ 10,895
Town Square Energy, LLC	\$ -	\$ 22,872	\$ 4,407	\$ 11,792	\$ 14,897	\$ 53,967
Viridian (Crius Energy)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Xoom Energy New Hampshire, LLC	\$ -	\$ 7,931	\$ -	\$ 5,843	\$ -	\$ 13,775
Competitive Energy Suppliers Subtotal	\$ 3,305	\$ 1,399,211	\$ 86,057	\$ 667,364	\$ 1,169,504	\$ 3,325,442
TOTAL	\$ 3,305	\$ 2,853,969	\$ 279,860	\$ 1,930,433	\$ 2,122,477	\$ 7,190,044

* Sunwave US Holdings recorded electric sales in New Hampshire in calendar year 2021; however, as of the filing of this annual report, Sunwave US Holdings has not submitted payment as required.

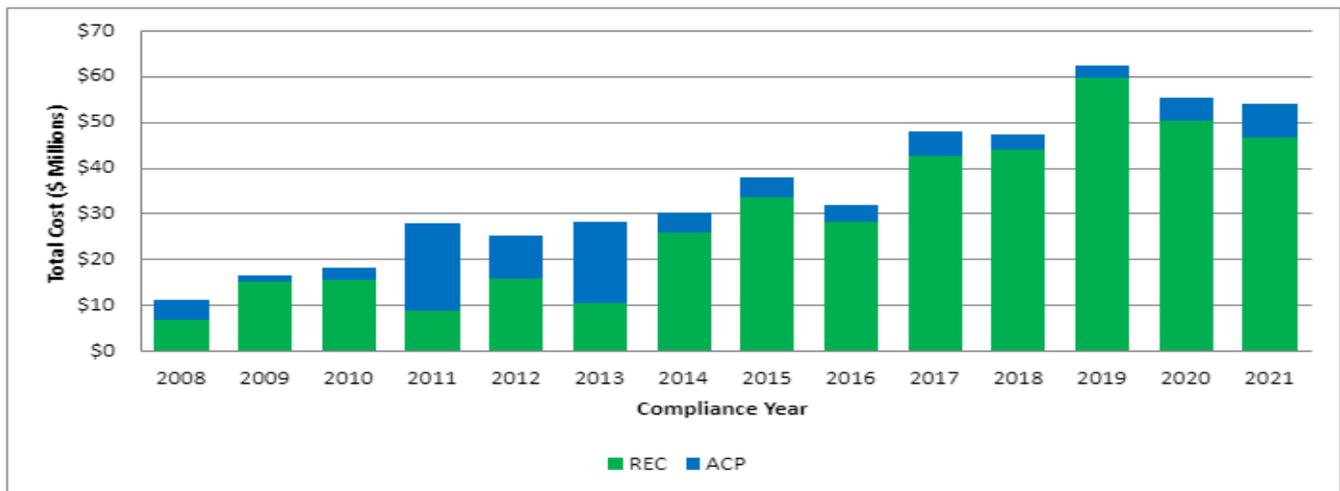
RPS Compliance Costs

The RPS is a market-based policy where RECs are traded through the NEPOOL GIS. NEPOOL GIS tracks certificates for all megawatt-hours of generation and load produced in the ISO New England control area, as well as imported MWh from adjacent control areas. Electricity suppliers comply with RPS requirements by purchasing RECs or making ACPs. Therefore, the total cost of RPS compliance is equal to the cost of RECs plus the ACPs. The average rate impact for CY 2021 RPS compliance costs is \$0.0051 per kWh.

Table 4: Annual RPS Compliance Costs and Rate Impact

Compliance Year	Total RPS Obligation	Total REC Costs	Total ACP Costs	Total RPS Compliance Cost	Average per kWh Rate Impact
2008	4.00%	\$ 6.65	\$ 4.48	\$ 11.14	\$ 0.0011
2009	6.00%	\$ 15.19	\$ 1.35	\$ 16.54	\$ 0.0016
2010	7.54%	\$ 15.57	\$ 2.63	\$ 18.19	\$ 0.0017
2011	9.58%	\$ 8.70	\$ 19.12	\$ 27.82	\$ 0.0026
2012	5.55%	\$ 15.70	\$ 9.32	\$ 25.02	\$ 0.0023
2013	5.80%	\$ 10.59	\$ 17.46	\$ 28.05	\$ 0.0026
2014	7.20%	\$ 25.81	\$ 4.41	\$ 30.21	\$ 0.0028
2015	8.30%	\$ 33.51	\$ 4.22	\$ 37.73	\$ 0.0035
2016	8.50%	\$ 28.12	\$ 3.63	\$ 31.75	\$ 0.0030
2017	17.60%	\$ 42.53	\$ 5.26	\$ 47.79	\$ 0.0046
2018	18.70%	\$ 43.94	\$ 3.10	\$ 47.04	\$ 0.0043
2019	19.70%	\$ 59.65	\$ 2.56	\$ 62.21	\$ 0.0061
2020	14.70%	\$ 50.35	\$ 4.89	\$ 55.24	\$ 0.0053
2021	14.60%	\$ 46.68	\$ 7.19	\$ 53.87	\$ 0.0051
Totals		\$ 402.99	\$ 89.62	\$ 492.61	

All costs presented in millions and rounded.



REC Purchases

In accordance with RSA 362-F:8, IV, the annual REF report includes the number of RECs that were purchased during the prior compliance year by RPS class. Pursuant to RSA 362-F:7, I, purchased RECs not used for compliance may be banked for up to two years. Banked RECs may be used in future compliance years to meet up to 30 percent of a supplier’s RPS requirements for a given class obligation. Table 5 below presents the quantity of RECs purchased during calendar year 2021.

Table 5: RECs Purchased During 2021 by Class

Class I Non-thermal	Class I Thermal	Class II	Class III	Class IV	Total
1,004,826	82,684	34,116	46,062	93,270	1,260,958

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Rebate and Grant Program Summaries and Results

Pursuant to RSA 362-F:10, the Department administers three residential renewable energy rebate programs, a low moderate income grant program, two C&I renewable energy rebate programs, and a competitive grant program for non-residential renewable energy projects. For all rebate programs and grants, projects funded must be located in New Hampshire.

Renewable Energy Fund Rebate Programs

Rebate programs funded by the REF are described in Table 6.

Table 6: Summary of Renewable Energy Fund Rebate Programs

Rebate Program	Eligible Technologies and Capacity Limits	Incentive Levels (Rebate)	Authority, Date of Inception
Residential Electrical Renewable Energy Rebate (PV and Wind)	Solar electric PV and wind turbines systems	\$0.20 per watt up to a maximum of \$1,000, or 30% of the total cost of the facility, whichever is less (Effective January 2, 2018)	RSA 362-F:10, V July 2009 <i>Program was modified in PUC Order No. 26,075 in Docket No. DE 15-302. (November 2017)</i>
Residential Solar Water Heating Rebate	Solar water heating systems with annual production capacity of 5.5 MMBtus/hour or greater	\$1,500, \$1,700, or \$1,900 depending on system capacity	RSA 362-F:10, VIII April 2010 (Program closed)
Residential Wood Pellet Boiler/Furnace Rebate	High efficiency, bulk-fed wood pellet central furnaces/boilers	40% of the eligible system cost and installation, up to a maximum rebate of \$10,000. The program also provides a supplemental adder of \$100 per ton for fuel storage systems larger than the 3 ton minimum requirement, up to a maximum of \$500. (Effective July 9, 2016)	RSA 362-F:10, VIII April 2010 <i>Program was modified in PUC Order No. 25,921 in Docket No. DE 16-614 (July 2016).</i>

Rebate Program	Eligible Technologies and Capacity Limits	Incentive Levels (Rebate)	Authority, Date of Inception
<p>C&I Solar Technologies Rebate</p>	<p>PV systems less than or equal to 500 kW AC, and solar thermal systems less than or equal to 100 kW AC or thermal equivalent</p>	<p>Incentive levels for PV systems are as follows:</p> <ul style="list-style-type: none"> • \$0.20/watt (lower of AC and DC) for new solar electric facilities • Up to a maximum rebate of \$10,000 • Expansions to existing solar systems are not eligible <p>Incentive levels for solar thermal systems are as follows:</p> <ul style="list-style-type: none"> • \$0.12/rated or modeled kBtu/year for new solar thermal facilities fifteen collectors in size or fewer; • \$0.07/rated or modeled kBtu/year for new solar thermal facilities greater than fifteen collectors in size; and • Expansions to existing solar systems are not eligible 	<p>RSA 362-F:10, VIII</p> <p>October 2010</p> <p><i>Program modified and opened in PUC Order No. 26,336. In Docket No. DE 10-212 (March 2020).</i></p>
<p>Commercial and Industrial Wood Pellet Furnace/Boiler Rebate</p>	<p>Non-residential bulk-fuel fed wood pellet boilers and furnaces rated 2.5 MMBtus/hour or less</p>	<p>40% of the eligible system cost and installation, up to a maximum rebate of \$65,000. The program also provides supplemental adders for storage and metering.</p> <p><i>(Effective July 9, 2016)</i></p>	<p>RSA 362-F:10, VIII</p> <p>December 2013</p> <p><i>Program was modified in PUC Order No. 25,922 in Docket No. DE 13-298 (July 2016).</i></p>

New Hampshire’s solar electric market continues to grow. Net metering, the RPS, and REF programs are incentives and drivers for participants in this market. Specific program results for the REF rebate programs in FY22 are summarized in Table 7.

Table 7: REF Rebate Program Results for Fiscal Year 2022

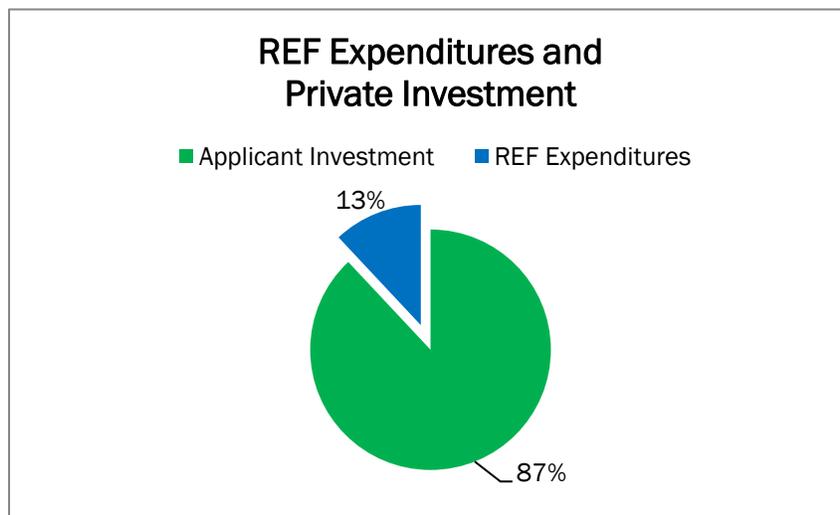
REF Rebate Program	Number of Applications Received	Number Rebates Awarded	Rebate Funds Disbursed	Average Rebate Award
Residential Electrical Renewable Energy (PV and Wind)	641	435	\$432,110	\$993
Residential Solar Water Heating*	n/a	n/a	n/a	n/a
Residential Wood Pellet Furnace/Boiler	41	22	\$221,307	\$10,059
C&I Solar Technologies (Electric and Thermal)	60	40	\$263,423	\$6,586
C&I Wood Pellet Furnace/Boiler	3	1	\$18,316	\$18,316
Totals	745	498	\$935,157	n/a

**Program closed to new applications during FY22.*

Cumulative results for the rebate programs, since their inception through June 30, 2021, are shown below in Table 8. The program rebates have leveraged private investment in a ratio greater than six to one.

Table 8: Cumulative Rebate Program Results through June 30, 2022

REF Rebate Program	Number of Applications Received	Number of Rebates Awarded	Rebates Funds Reserved or In-Process	Rebate Funds Disbursed	Aggregate Applicant Investment	Total Capacity of Incentivized Systems
Residential Electrical Renewable Energy (PV and Wind)	7,989	7,287	\$375,331	\$ 16,800,248	\$196,085,883	56.2 MW DC
Residential Solar Water Heating	510	494	\$0	\$1,008,100	\$3,292,000	0.92 MMBtu/hr
Residential Wood Pellet Boiler/Furnace	507	449	\$265,988	\$3,154,659	\$7,882,452	41.9 MMBtu/hr
C & I Solar Technologies (Electric and Thermal)	1012	707	\$416,912	\$14,998,384	\$88,297,559	39.7 MW DC
C&I Wood Pellet Boiler/Furnace	89	63	\$121,345	\$2,053,974	\$6,381,864	28.8 MMBtu/hr
Totals	10,107	9,000	\$1,179,576	\$38,015,186	\$301,939,758	n/a



Non-Residential Competitive Grant Program

RSA 362-F:10, XI, requires the Department to issue an annual RFP for non-residential renewable energy projects that are not eligible to participate in incentive and rebate programs developed under RSA 362-F:10, V and RSA 362-F:10, VIII.

The Department issued the annual RFP for renewable energy projects on December 8, 2021, stating that the RFP program had \$750,000 in available grant funds. This RFP sought project proposals which would increase the supply of RECs from thermal renewable energy or non-photovoltaic electric renewable energy projects located in New Hampshire. Specifically, projects which would qualify to generate Class I, Class I Thermal, or Class IV Renewable Energy Certificates were eligible to apply. Eight grant proposals were received by the Department. These proposals represented approximately \$17.59 million of total investment and requested \$2.524 million in grant funds. The Department recommended, and the Governor and Executive Council approved, three grant awards totaling \$750,000.¹⁷ Once installed and certified, these projects are estimated to create 870 Class I RECs and 3,327 Class I Thermal RECs annually. A complete list of grants awarded is shown in Table 9.

Table 9: Non-residential Competitive Grants Awarded in Fiscal Year 2022

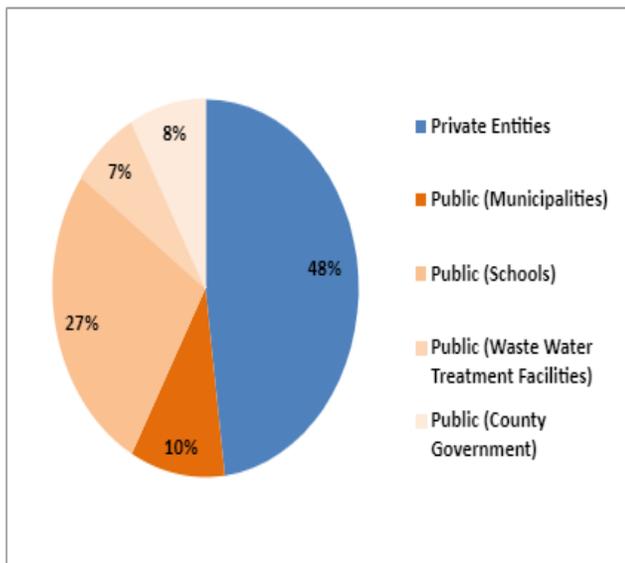
Grantee	Technology	Project Description	Total Project Costs	Grant Amount	Estimated Annual RECs
310 Marlboro Street, LLC	Biomass Thermal	Construction of a dry wood chip boiler system for housing & commercial use.	\$ 847,130	\$ 300,000	870 Class I Thermal
Cocheco Falls Associates, LP	Hydro-electric	Replacement of two turbine generator units and installation of three new butterfly valves at hydro-electric dam.	\$ 606,710	\$ 200,000	2,000 Class IV
Mad River Power Associates, LP	Hydro-electric	Replacement of one and rebuild of one turbine units in the powerhouse, including a larger, adjustable blade turbine for efficient generation of variable flows.	\$ 500,060	\$ 250,000	1,327 Class IV

¹⁷ See [NH-SOS - June 15, 2022](#), Governor and Executive Council agenda items #89, #90, and #91.

Table 10 and the subsequent charts summarize all grant awards since program inception.

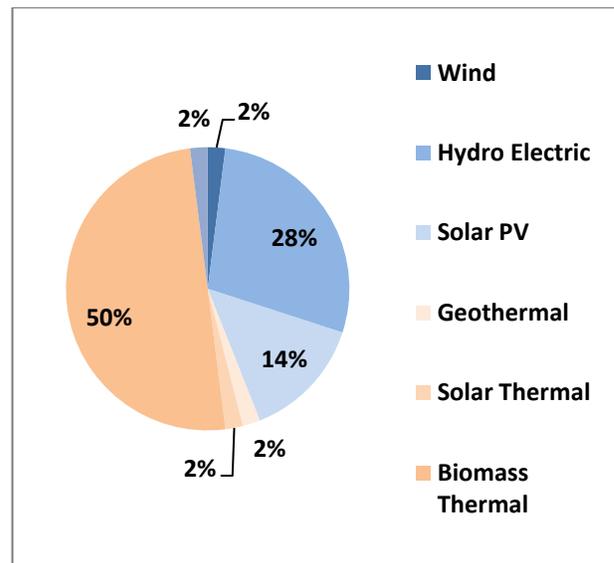
Table 10: Non-residential Competitive Grant Program Summary

Year	Number of Grants Awarded	Total Grant Amount	Total Value of Projects
2011	4	\$ 467,890	\$ 1,280,923
2012	6	\$ 654,750	\$ 4,035,424
2013	9	\$ 3,637,890	\$ 28,888,905
2014	5	\$ 2,107,199	\$ 7,683,400
2015	3	\$ 825,000	\$ 2,327,000
2016	6	\$ 1,272,425	\$ 6,106,790
2017	3	\$ 895,000	\$ 2,425,000
2018	2	\$ 950,000	\$ 5,077,300
2019	5	\$ 1,250,000	\$ 2,910,996
2020	4	\$ 1,170,000	\$ 16,422,000
2021	3	\$ 750,000	\$ 1,953,900
Totals	50	\$ 13,980,154	\$ 79,186,238



Grant Award Recipients

Private Entities in blue;
Public Entities in shades of oranges



Grants by Technology

Electricity Generation in blues;
Thermal Generation in oranges

Non-residential Competitive Grant Completed in Fiscal Year 2022¹⁸

The Peterborough Town Library, with the help of a grant from the Renewable Energy Fund installed an innovative dried wood chip boiler and absorption chiller to meet the Library's heat *and* cooling needs. A high-efficiency dried wood chip boiler generates hot water and stores it in a large tank where it is then dispatched by the system when heat is called through a series of pipes. For cooling, hot water from the buffer tank is circulated through a 10-ton absorption chiller that outputs chilled water that is also pumped over to the library. The absorption cycle creates cool water from hot water like a heat pump but it uses water as the refrigerant. Froling Energy, LLC a Keene based company, processes and delivers the screened and dried wood chips, called PDCs, that fuel the Peterborough Town Library and many other schools and industrial buildings in New Hampshire and Vermont. PDCs are delivered by blower truck into an aboveground silo, with four buried insulated pipes running under the driveway to the library: two are supply and return pipes for heated water and another pair is for chilled water. These run to air handlers placed throughout the building for delivering heating or cooling, as needed. The entire boiler and HVAC system was designed by Wilson Engineering and installed by Froling Energy. The biomass boiler system is generating NH Class 1 Thermal RECs which reduces heating costs down to \$6.25 per MMBTU. The absorption cooling system is also 10% less costly to operate than the standard electrically powered chillers.

Low-Moderate Income Program

The Department is required to provide no less than 15 percent of the Renewable Energy Fund (REF) to program(s) which annually benefit low-moderate income (LMI) residential customers. The program(s) may finance or leverage financing for low moderate income community solar projects in manufactured housing communities or in multi-family rental housing.

The Department issued an RFP on December 8, 2021 and February 25, 2022, for Community Solar Photovoltaic Projects Providing Direct Benefits to Low and Moderate Income Residential Electric Customers, stating that the LMI program had \$350,000 in available grant funds. One proposal was received in response to each RFP, both requesting the maximum grant request amount of \$175,000 for a total of \$350,000 in grant funds. However, neither project met the program eligibility requirements. Department staff received feedback from stakeholders regarding opportunities for program improvements, published this input as part of the statutorily required report to the Legislature on the costs and benefits of the LMI adder and the development of the LMI community solar market¹⁹, and will work to institute improvements in the coming fiscal year.

Senate Bill 270 (SB 270) (2022) was enacted on July 8, 2022 and became effective on September 6, 2022. Among other things, this bill establishes an opportunity for certain additional LMI electric customers to participate in

¹⁸ This write up is largely drawn from "Peterborough Town Library Heated, Cooled, with Wood Chips" New Hampshire Union Leader 4/24/2022

¹⁹ See <https://www.energy.nh.gov/sites/g/files/ehbemt551/files/inline-documents/sonh/lmi-adder-final-report.pdf>

designated community solar projects eligible for the 2.5¢ per kWh adder for net export compensation; requires electric distribution utilities to establish a list of residential customers who qualify for project participation, specifically consisting of residents who have enrolled in or are on the waitlist for the state Electric Assistance Program (EAP); allows for up to 6 MW per year in total capacity of projects to be designated as eligible through a process to be developed by the Department; will enroll qualifying customers on an opt-out basis into designated eligible projects, which must meet the definition of LMI Community Solar Projects and will be eligible to receive the LMI Adder; and once enrolled, LMI residential customers will receive on-bill credits in percentages specified by the project group host until such time as they no longer qualify for EAP or until they opt out from receiving credits. The Department is currently engaged in a public process regarding the implementation of this bill.²⁰

The implementation of this legislation may result in the development of more projects for LMI customers in, or on an EAP waiting list (in the event that one is created), further reducing energy burdens for a potentially significant portion of this group.

While no new LMI projects were funded in FY2022, an LMI Grant Program grantee became the first project to be approved as an LMI Community Solar Project eligible to receive the 2.5 cent/kWh addition enabled through [Senate Bill 165](#)²¹ (SB 165)(2019) under RSA 362-A:9 XIV (c)(1) and RSA 362-F:2 X-a. This project, White Rock Cooperative Estates, Inc. (White Rock) received \$200,000 in grant funding through the LMI Grant Program in May of 2019.

SB 165(2019) enabled eligible LMI Community Solar Projects, as defined in RSA 362-F:2, X-a, to receive a 3 cent per kilowatt-hour adder through June 30, 2021, and 2.5 cent per kilowatt-hour adder (LMI Adder) after that time. The LMI Adder is a per kilowatt-hour amount that effectively increases the net metering tariff compensation (rate) paid for net excess generation and is enabled under the group net metering statute of RSA 362-A:9²².

The White Rock project model is structured to provide direct benefits to LMI and non-LMI residents of resident-owned communities (ROC). ROCs are neighborhoods of manufactured homes, based on a cooperative ownership structure, where every household in the community participates in the ownership of the underlying property. The ROC community was involved in the process and ultimately voted to move forward with the installation of the array. Through selection of White Rock's proposal submitted to the REF funded LMI Grant Program, White Rock's ROC community was able to purchase the array and owns the community solar project outright allowing for maximum direct benefits of compensation for energy produced to ROC residents by providing community ownership of a ground-mounted solar system.

Under New Hampshire's group net metering program, White Rock is the "host" and receives monthly payments from the utility for the array's generation at a rate that is higher per kWh than the net metering tariff with the

²⁰ See [NH Senate Bill 270 Low to Moderate Income Community Solar Program | NH Department of Energy](#)

²¹ SB 165 is known as the Low-Income Community Solar Act and was enacted as 2019 N.H. Laws Chapter 271.

²² [Section 362-A:9 Net Energy Metering. \(state.nh.us\)](#)

inclusion of the adder. White Rock in turn provides direct benefits to its participating residents in the form of on-bill credits and lot rent reductions from the income received from generation. It was necessary to include a minimum amount of on-bill crediting in order to qualify the project as a LMI project to receive the LMI Adder. By reducing lot rent and providing on-bill credits, the LMI residents reduce their monthly expenses and avoid any unintended consequences to any other public benefits received. This community solar project was installed on land owned by the ROC and located within the White Rock community. The array consists of 240 panels and has a total capacity of 66.6 kW AC.

The direct ownership model, as well as LMI Grant Program Funding, enable essentially all of the benefit of this project to go directly to the LMI community and LMI residents.

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Revenues, Expenditures, and Statutory Funding Requirements

Administrative Costs

Administrative costs are estimated and include, for example, personnel, organizational dues, and IT services. REF administrative expenditures cover the cost of managing the various rebate and grant programs, monitoring and validating facility and supplier compliance with the RPS, and working on RPS related dockets such as Puc 2500 rules, Puc 900 rules, net metering, and REF program revisions. Administrative budgeted and actual costs are provided in Table 12.

Table 12: Budgeted and Actual Administrative Costs by Fiscal Year

Fiscal Year	Budget	Actual	Difference
2018	\$ 894,835	\$ 683,341	\$ 211,494
2019	\$ 916,102	\$ 696,411	\$ 219,691
2020	\$ 768,750	\$ 517,274	\$ 251,476
2021*	\$ 425,864	\$ 428,598	\$ (2,734)
2022	\$ 380,629	\$ 319,902	\$ 60,727
2023	\$ 409,216		

*FY21 appropriated \$788,069 for administrative expenses. The Governor's Efficiency Budget proposed an administrative expense appropriation of \$425,864.

Revenues

Table 13 below summarizes the REF revenues recorded for fiscal year 2022.

Table 13: Renewable Energy Fund Revenues

Revenues Recorded in FY22 and Carry Forward Funding	
Calendar Year 2021 ACP received	\$ 7,190,044
ACP Compliance Adjustments	\$ 0
Net Calendar Year 2021 ACPs	\$ 7,190,044
Interest Earned (June 30, 2022)	\$ 55,311
Carry Forward from FY21 for In-house/Approved Step 1 Rebate Applications	\$ 1,179,576
Carry Forward from Encumbrances	\$ 2,429,571

Allocation of Funding Between Residential and Non-residential Sectors

In 2010, the New Hampshire Legislature required the Commission (now Department) to balance REF expenditures between the residential and non-residential sectors over each two-year period beginning July 1, 2010, in proportion to each sector's share of total retail electricity sales. In 2012, the requirement was modified such that the Commission (now Department) must reasonably balance the amounts expended, allocated, or obligated during each two-year period.²³

In FY21, the first year of the two-year period, new revenues deposited into the REF consisted of ACP revenues and interest. In 2019, retail electricity sales for the residential sector represented 42 percent of the total retail sales, while sales for the non-residential sector accounted for 58 percent of total retail sales. Accordingly, based on these percentages, the new revenues (less ACP adjustments and administrative cost) were allocated as follows: Residential Programs, \$1,856,993, or 43.8 percent of allocated funds; Non-Residential Programs, \$2,384,984, or 56.2 percent of allocated funds.

In FY22, the second year of the two-year period, new revenues deposited into the REF consisted of ACP revenues. In 2020, retail electricity sales for the residential sector represented 45 percent of the total retail sales, while sales for the non-residential sector accounted for 55 percent of total retail sales. On May 16, 2022, the Department released the final round of funding, bringing the yearly total to \$3 million to programs. Based on the electricity sales percentages by sector, these funds were allocated as follows: Residential Programs, \$1,350,000, or 45 percent of allocated funds; Non-Residential Programs, \$1,650,000, or 55 percent of allocated funds.

Funding Cap for Residential Renewable Electricity Rebate Program

RSA 362-F:10, VI places a cap on spending for the residential rebate program for solar electric and wind turbines. No more than 40 percent of the REF can be allocated to this program, measured over two-year periods commencing July 1, 2010.

Use of Class II Revenues for Solar Technology Incentives

RSA 362-F:10, I requires that "Class II moneys shall primarily be used to support solar energy technologies in New Hampshire." For CY21, Class II ACPs equaled \$279,860.

²³ See RSA 362-F:10, X.

Use of Renewable Energy Fund Revenues for Low Moderate Income Program

RSA 362-F:10, X requires allocating “no less than 15 percent of the REF annually to program(s) that benefit low-moderate income residential customers, including, but not limited to, the financing or leveraging of financing for low-moderate income community solar projects in manufactured housing communities or in multi-family rental housing.” While no funds were encumbered due to a lack of eligible applicants in both RFP rounds, the FY22 allocation has been carried forward to FY23 and will be made available for projects along with the FY23 allocation later this year.

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Net Metered Capacity, Net Metered Facilities and Group Net Metering

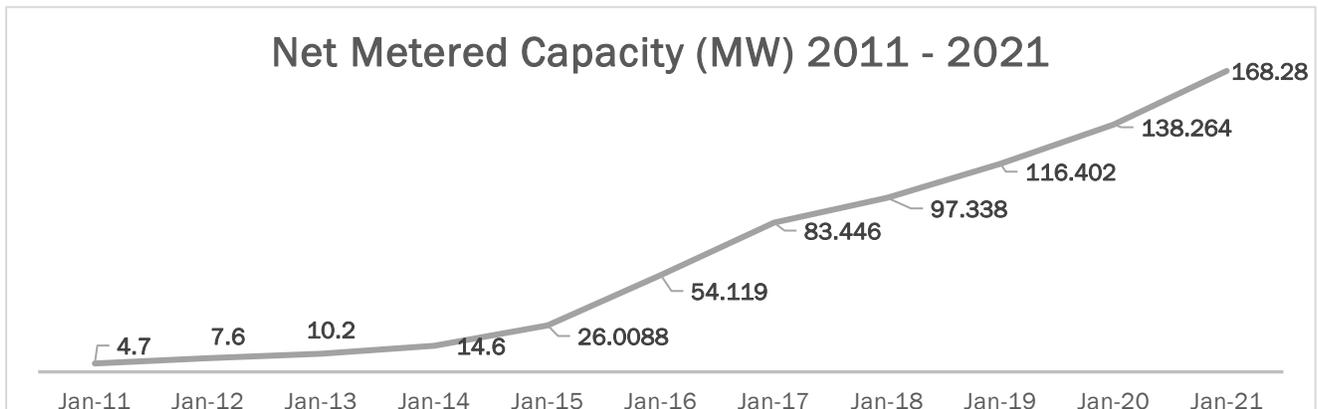
Net Metered Facilities

Each utility's total installed capacity of net metered facilities is listed in Table 14. The facility data includes PV, small wind, and small hydroelectric net metered installations.

Table 14: Total Net Metered Facilities as of December 31, 2021

Electric Distribution Utility	Total Installs in CY2021	Total Installs (End of CY2021) ²⁴	Capacity Added (MW) in CY2021	Total Capacity (MW) (End of CY2021) ²⁵
Liberty	85	800	1.668	11.87
NH Electric Cooperative	142	1,337	2.497	13.648
Eversource	1,043	8,890	24.176	130.093
Unitil	132	1,190	1.675	12.669
Total Net Metered Facilities	1,402	12,217	30.016	168.280

The chart below illustrates the historic trend of installed net metered capacity in New Hampshire starting in January 2011 through December 2021. Overall, at the end of 2021, the total installed net metered capacity was 168.28 MW with 30.016 MW being added or installed in 2021.



²⁴ Based on the utility reports to DOE (EIA Form 861M (formerly Form 826) without adjustment) and includes system expansions. Cumulative total.

²⁵ Based on the utility reports to DOE (EIA Form 861M (formerly Form 826) adjustment) and includes system expansions. Cumulative total.

Group Net Metering

In July 2009, the Legislature enacted Senate Bill 98, amending RSA 362-A:9 to allow for group net metering and rules were developed to govern group net metering in section 909 of Puc 900 administrative rules. The law permits net-metered renewable energy facilities, known as hosts, to share the proceeds from sales of surplus electricity generation with other electric utility account holders, known as group members. In some cases, the group host and the group members may be the same party. For instance, a town might net meter a solar array and use the proceeds to offset utility expenses associated with other town electric meters. The host and the group members must all be customers of the same distribution utility. Group net metering applications are reviewed and approved by the Department.

Table 15 provides information about group net metering applications registered by the Department.

Table 15: Group Net Metering Applications Registered as of December 31, 2021

Electric Distribution Utility	Total Cumulative Number of Applications Approved			Total Cumulative Capacity of Approved Host Installations (Kilowatts AC)			2021 Net Generation By Host (kWh)*	2021 Total Member Load (excluding Host) (kWh)
	Solar	Hydro	CHP	Solar	Hydro	CHP		
Eversource Energy	201	37	1	22,701	16,700	110	71,477,621	118,418,533
Liberty Utilities	23	--	--	1,639	--	--	813,611	1,294,377
New Hampshire Electric Cooperative	11	--	--	297	--	--	142,527	804,599
Unitil Energy Systems, Inc.	23	--	--	698	--	--	592,212	959,831
Total	258	37	1	25,335	16,700	110	73,025,971	121,477,340

* "Net Generation by Host" is the amount of electricity generated and available for the group members, excluding any usage by the host.

Note the solar total number of approved applications in Eversource territory for CY 2021 represents 7 projects (capacity of 6,750 kW) which were approved for GNM in 2020 but did not have any production and were not included in the utility 2020 annual report, as well as 11 projects approved in 2021 with a total capacity of 8,591 kW. This represents a significant increase in group net metering capacity within the last two years and represents a trend of increasingly larger capacity facilities participating in group net metering.

Conclusion

Since its inception in July 2009, the Renewable Energy Fund has been used to establish seven grant and rebate programs that have experienced substantial demand. The Renewable Energy Fund has been utilized to fund 9,000 rebates for renewable energy systems to New Hampshire homeowners, businesses, schools, towns, non-profit organizations, and other eligible entities. In addition, the competitive grant program has provided nearly \$14 million in funding for 50 renewable energy projects for schools, businesses, and municipalities, featuring technologies from biomass heating systems to hydroelectric project upgrades to photovoltaic arrays and solar hot air, among others.

As this report illustrates, demand for rebates and grant awards continues to be strong. Rebate and grant funds have leveraged over \$381 million in private investment, providing a boost to the state's economy and creating jobs for electricians, plumbers, and alternative energy businesses. In addition, there has been substantial growth in distributed generation renewable energy systems that serve to diversify our energy supply, reduce our reliance on fossil fuels, reduce greenhouse gas emissions, and increase our energy independence.

The Department continues to monitor industry and renewable energy certificate market trends, and technological developments. The Department will continue to work with stakeholders to develop new methods and programs to support the renewable energy industry and incentivize renewable energy system installations.

The Department will also continue to work with the net metering working group as the VDER Study is finalized. Data from the pilot programs and studies will be used to inform the future net metering tariffs which is currently underway as part of PUC Docket 22-060.



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