



CONCORD MUNICIPAL LIGHT PLANT

ELECTRIC | BROADBAND | ENERGY MANAGEMENT

Date: March 8, 2024

To: Municipal Light Board: Brian Foulds (Chair), Alice Kaufman, Warren Leon, John Dalton, and Bianca Taylor

From: Jason Bulger, CTO, Interim CMLP Director

Subject: Agenda for Virtual Light Board Meeting **March 13, 2024, 7:30 A.M.** (Zoom link on page 2)

- | | | | | | |
|---------|-----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|------------|-----------------|
| 7:30 AM | 1. | Call to Order | | | |
| 7:30 AM | 2. | Meetings and Minutes | 5 Minutes | Chair | |
| | | <p>March 27, 2024*, April 10, 2024, May 8, 2024, June 12, 2024, July 10, 2024, August 14, 2024, September 11, 2024, October 9, 2024, November 13, 2024, & December 11, 2024.</p> <p>*Need to reschedule this meeting</p> | | | |
| 7:35 AM | 3. | Chairs Update | 5 Minutes | Chair | |
| 7:40 AM | 4. | Directors Update | 10 Minutes | Director | Information |
| 7:50 AM | 5. | Broadband Update | 5 Minutes | Director | Information |
| 7:55 AM | 6. | Renewable Energy Credit (REC) Policy | 10 Minutes | Chair | Discussion/Vote |
| | | <p><u>Background:</u> In past discussions the Board has expressed an interest in codifying how the REC surcharge is determined and how it is spent. A draft policy has been circulated to the Board for consideration.</p> <p><u>Purpose:</u> To discuss and take a vote on the proposed policy.</p> | | | |
| 8:05 AM | 7. | Donate your REC Program Updates | 10 Minutes | Director | Discussion/Vote |
| | | <p><u>Background</u> The Light Board asked staff to come up with a plan to allow residents to donate their Renewal Energy Credits to CMLP.</p> <p><u>Purpose:</u> Allow Board members to consider and approve the plan.</p> | | | |
| 8:15 AM | 8. | Middle School Solar Updates | 15 Minutes | Director | Information |
| | | <p><u>Background:</u> CMLP is working on installing a large solar array and battery at the new middle school site.</p> <p><u>Purpose:</u> The Interim Director will provide updates on the progress and what is being done to stay on schedule.</p> | | | |
| 8:30 AM | 9. | Affordable Connectivity Program Future | 10 Minutes | Director | Discussion/Vote |
| | | <p><u>Background:</u> In 2023, Concord Broadband was accepted into the Affordable Connectivity Program (ACP), which provide a high-speed internet subsidy for eligible residents. Unfortunately, this program has stopped accepting applications as of February 2024, and will run out of funding in April.</p> <p><u>Purpose:</u> (1) To hear a proposed alternative program that will provide a \$20/mo bill credit for those Broadband customers who are eligible for our Residential Assistance Discount Rate. (2) To vote to support the proposed program.</p> | | | |
| 8:40 AM | 10. | Updates from the APPA Legislative Rally Under Consideration | 10 Minutes | Ms. Taylor | Information |
| | | <p><u>Background:</u> Light Board Member Bianca Taylor attended the 2024 American Public Power Association’s Legislative Rally in February.</p> <p><u>Purpose:</u> To allow Ms. Taylor to update the Board, staff, and public on what she learned from the rally and associated events.</p> | | | |



8:50 AM 11. **CMLP Operations and Projects Updates** 15 Minutes Director Information
Background: Periodically the Light Plant staff wish to let the Board and the public know what projects occupy their time.
Purpose: To provide an update on operations and projects in process.

9:05 AM 12. **Liaison & Public Comments** 5 Minutes Chair

9:10 AM 13. **Adjourn**

Distribution: Select Board (1 copy)

Kerry Lafleur

Carole Hilton

Joe Repoff

Matt Cummings

Jan Aceti

Laura Scott

Chris Carmody

Eric Simms

Jason Bulger

Mary Hartman

Join Zoom Meeting

<https://us02web.zoom.us/j/83853970051?pwd=akVzemJRQk8vNTJRUnNlOS9NNDZuQT09>

Meeting ID: 838 5397 0051

Passcode: 661712

One tap mobile

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+13017158592,,83853970051#,,,,*661712# US (Washington DC)

Find your local number: <https://us02web.zoom.us/u/kbA1MReajb>

Link to view recordings of previous Light Board Meetings:

<https://www.youtube.com/@MinutemanMediaNetwork/search?query=Concord%20Light%20Board>

Link to view the Broadband Monthly Updates:

<https://www.concordma.gov/3148/Monthly-Updates>

CMLP Director’s Updates

March 13, 2024

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Organization and Transition

The Senior Leadership Team has been meeting weekly to cover operational topics and advance initiatives. We have been dealing with daily items, special projects, and advancing long-term goals and establishing organizational values.

On February 27, it neared 60 degrees outside, so staff celebrated an impromptu ice cream party.



Regarding the transition and selection of a permanent Director, the Senior Leadership Team completed a memo to the Town Manager that included staff survey data for key attributes they were looking for, questions they would ask, and the type of the participants who would serve on the panel. The Town Manager will communicate her plans with staff and the Board in coming weeks.

In early March, the team will begin looking at the current organizational structure and comparing it to other similarly-sized MLPs.

We continue to prepare for the Finance Committee's Enterprise Hearing on March 21. A copy of the final presentation will be sent to the Board.

We will be holding a luncheon for staff mid-March to celebrate spring. Thank you to Carole and all others who are working on this.

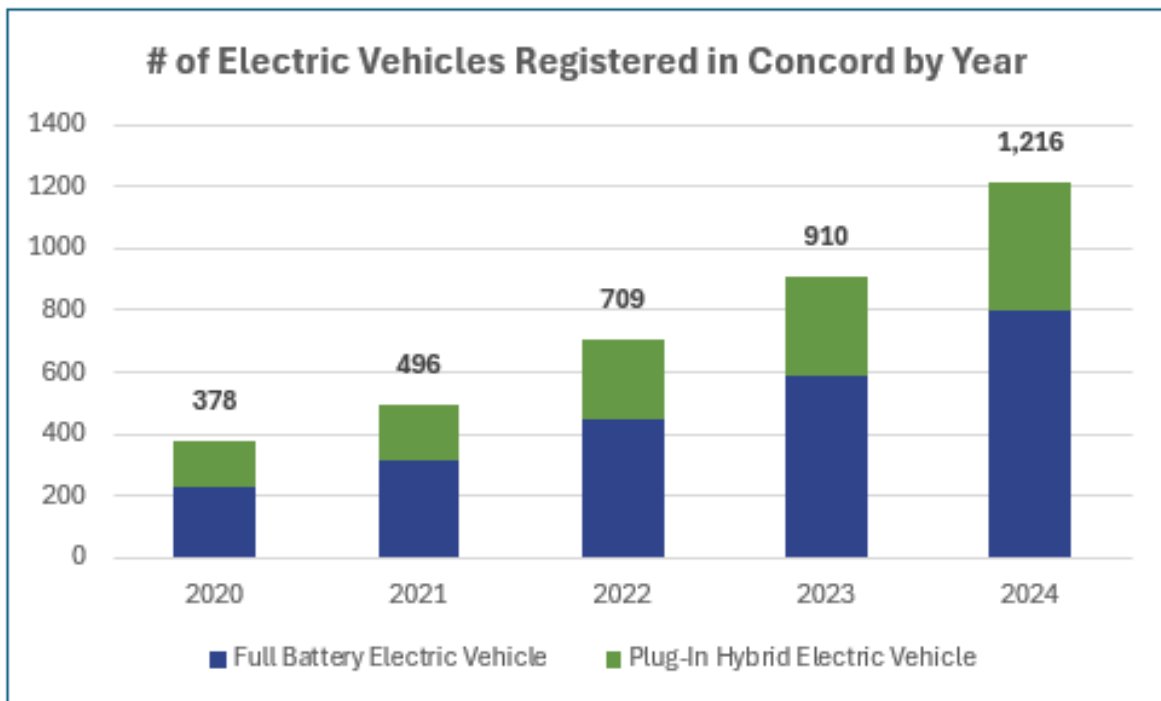
As Interim Director, I continue to attend division meetings and also meet individually with staff and Light Board members to understand their concerns and priorities.

In the coming weeks we will look at our strategic plan to determine how we can update it and keep it aligned with internal and community goals while meeting established milestones.

A big thank you to Michael Hale, who continues to support CMLP staff in many ways.

Energy Management

The number of EVs registered in Concord has passed the 1,000 mark, increasing from 910 at the beginning of 2023 to over 1,200 today. That's a 34% increase in one year. EVs are now 8.4% of all vehicles in Concord, up from 6.4% a year ago. Among all MA communities, we're edged out only by Lexington, where 8.7% of vehicles are plug-in electric. And we're out in front of the state as a whole, where plug-in electric vehicles are 2% of the total. Source: [Massachusetts Vehicle Census](#)



Other Energy Management and Electrification updates:

- CMLP is working with the Climate Action Committee to publicize its Green Homes Tours on March 9th and 23rd, and to staff the Green Homes with heating/cooling coaches and EV Specialists who can answer questions about electrification measures. Concord residents can register to visit homes on the tour at bit.ly/GHT-2024.
- Energy Management staff has been working with Energy New England (ENE) to improve our home energy assessments by providing ENE with annual average cost data collected via the rebate application process for heat pumps, solar and air and ground source heat pumps in Concord. ENE will use the data to calculate costs for these measures in home energy assessment reports. We have also worked with ENE to document home energy assessment procedures so that CMLP staff can accurately inform customers about what to expect in regards to scheduling, lead time, virtual vs. on-site assessment pros and cons, etc. For CMLP and ENE staff's reference, we've also worked with ENE to develop policies and procedures for referring gas heating customers to Mass Save and for integrating the auditors' efforts with those of our heating/cooling coaches.
- Staff has been working to refine the process we use to carry out rebate eligibility reviews of heat pump projects and process rebate payments, including improving data sharing among all Energy Management staff and communication with customers and installers
- Staff provided feedback to CMLP's CSRs on a fact sheet they've developed to aid them in responding to customer inquiries about heat pumps.
- Staff has codified a protocol for counting annual heat pump installations by integrating data from CMLP's rebate tracking sheets, the town's permit database and client communications with heating/cooling coaches. The resulting tally is still an estimate, but it produces a more comprehensive estimate than CMLP rebates alone, because it captures some installations done by gas-heating households that receive a Mass Save's heat pump rebate (which can't be accessed by CMLP due to Mass Save's confidentiality policy) and some installations that don't receive a rebate at all.

Middle School Solar

- CMLP staff attend weekly planning and construction meetings.
- The construction site is fully powered by the installed transformer. All power protection schemes have been verified by third parties, which enabled us to connect live power.
- Comcast filed for and was granted approval by the Select Board to extend service to the school site.
- Focus now is on the variance to allow the canopies to be built as designed and the switchboard and vault design.
 - The switchboard design is completed with Solar Design Associate's (SDA's) and PLM's requirements with consideration for supply chain issues and lead times.

- Of note, CMLP has found an organizational project manager to serve as a contractor overseeing the various stakeholders involved in the solar construction at the middle school.
 - We should receive a statement of work from this individual in the next week.

Advanced Metering Project Updates

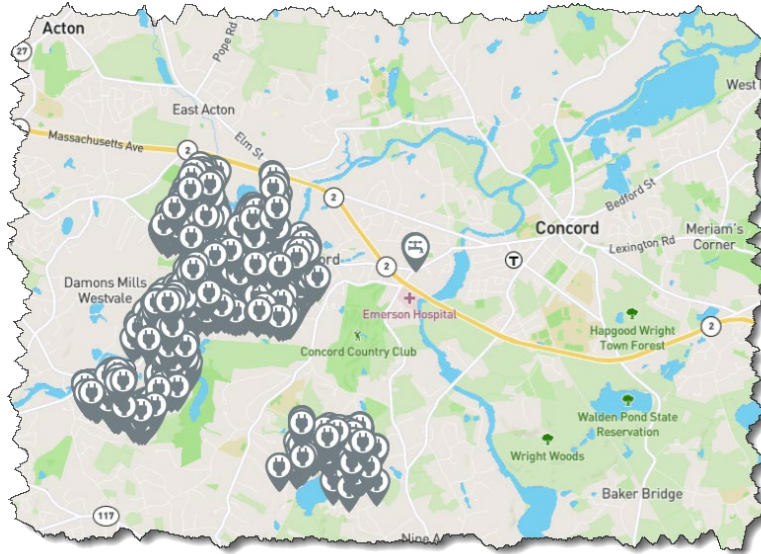
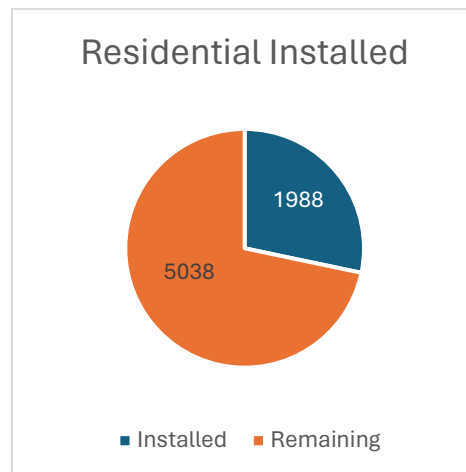
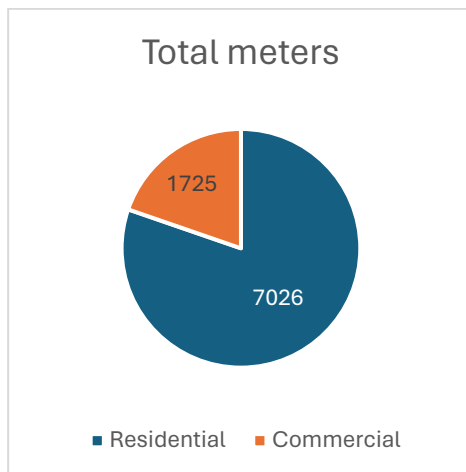


Figure 1: Current advanced meter locations in Concord (March 2024)

- We have one external crew of two electricians installing advanced meters, and we hope to increase that to two crews in the next few weeks.
- Some of the work is weather dependent; rainy weather creates hazardous situations for meter installations from slipperiness and because water is a conductor of electricity.
- We have installed over 650 meters since last month's Light Board meeting.



Level 3 Chargers at the Rideout Park

We heard from Flo support about our concerns with the inability to program the Board's voted rates on both machines.



Figure 2: Flo chargers installed at the Rideout Park

This is what they said:

- The two units are different but are daisy-chained. One has a credit card reader and the other works only with an app.
- Because of programming and hardware limitations, the unit with the credit card reader cannot have tariffs based on kWh and the hour of the day.
- Currently the app-only unit (left above) has the rates established by the Board.
- Flo support offered hourly rates that approximate the Board's vote. The Board will need to make a decision for rates with this limitation. Here was their suggestion:
 - Mon-Fri:
 - \$40/hr from 6am-4pm
 - \$60/hr from 4pm-8pm
 - \$30/hr from 8pm-6am
 - Sat-Sun:
 - \$30/hr
- Newer (and often more expensive) vehicles are capable of charging faster. This means that some will pay more for the same kWh if their vehicles charge more slowly.
- We are told we cannot change this without sending the unit back to the manufacturer.
- We have a request pending to Rexel (the reseller) to see if we can find a better solution.
- We do have a plan to make modifications after December (the period we are prevented from altering the stations per the grant requirements).

Finance Division Updates

- In addition to readying the Enterprise hearing presentation materials, the finance team is preparing for the upcoming audit. Their focus now is on closing the month of December.
- We are moving forward with a plan to purchase a barcode system for warehouse inventory. It will make it much easier for staff to track what comes in and goes out as well as perform our annual inventory.
- We are considering enabling requisitions in our financial ERP system to create more awareness and an approval process to assist in the procurement process.
- One of the biggest struggles right now is the double entry performed by the finance team. Everything is managed in tracked in our CMLP system (iVue, by NISC), but policy requires Town purchase orders in a separate system, which ultimately processes and prints checks. We had a productive meeting with the Town's CFO and Assistant CFO to understand how this process could be less duplicative.

Solar Task Force

- CMLP staff continue to attend Solar Implementation Task Force meetings and provide information as requested.
- At their March 6th meeting, they decided to not move either solar project forward (CCHS or the landfill) because they lacked enough information ahead of the Finance Committee hearing and Town Meeting.
 - They do plan to move forward with a battery and feasibility for a distributed energy management system.
 - CMLP will continue to work with the STF to advance the community's energy goals.
- We continue to study the feasibility of the landfill slope and CCHS roof.

MCI Concord Closure

- CMLP staff are closely monitoring the closure of MCI Concord as announced by the state last month.



- The Town took the opportunity to hold an information session as part of the League of Women Voters “First Friday” series.
 - The video can be found here: <https://www.youtube.com/watch?v=KATzIPIAm8o>



- We are working to understand the closure impacts on electricity load, solar saturation, and rates for customers.
- In 2023, MCI-Concord (separate from the Farm – Northeast Correction Facility) used just over 4.5 MWh of electricity with sales over \$800k.
 - We are running models through the Baker-Tilly cost of service study to understand the impact on rates for both a 50% and 100% reduction in usage.

Customer Service / Metering

- The Customer Service team has done a fantastic job with collections over the past month. While we do not do residential shutoffs through the winter, we do work on commercial electric and broadband collections.
- All outstanding shutoffs were handled well and avoided or quickly reversed.



TOWN OF CONCORD MUNICIPAL UTILITIES

ELECTRIC | WATER | SEWER | TELECOMMUNICATIONS

February 2024 – Broadband Updates

Concord Broadband is pleased to share the following updates and information from the past month. Please do not hesitate to contact us at broadband@concordma.gov should you have any questions, concerns, or feedback.

Operations

Our Network Engineer has left Concord Broadband for international opportunities. Recruitment continues for (now) two Network Engineers with our Broadband Manager and Chief Technology Officer serving as acting Network Engineers. We continue to screen candidates and have also reached out to third parties to get quotes for managed services. There are current resources positioned today to assist with network monitoring and troubleshooting.

Broadband Technicians are starting the annual training program this month, starting with First Aid and CPR. Thank you to the Light Plant's Assistant Director, Joe Repoff, for his management of all training programs at CMLP.

Operations Cloud software

I'm pleased to announce that with the recent upgrade of all of our hardware, and after a lot of hard work completed by our Broadband Manager, we are now live with our Operations Cloud platform. This was a huge lift and a year-long goal that was achieved in early March.

There are several big benefits of this cloud platform.

First, it integrates with our existing Support Cloud platform, providing a much richer experience for the technicians trying to assist customers who have issues. Today, while our in-house and third-party support staff can perform basic diagnostic and troubleshooting functions, they cannot see detailed historical information like number of reboots or previous health levels or disconnections of the customer equipment.

Next, this platform will provide real-time and historical PON (Passive Optical Network) saturation information. Unlike some competitors, we believe that all customers should be able to achieve state speeds as close to 100% of the time as possible. Today, this is a manual exercise that is performed during customer onboarding, and it's incredibly time-consuming. With the faster speeds we offer, it's now mandatory for all new service. This program feature alone could save 15-20 staff hours each month.

Upcoming Maintenance

On February 23, 2024, Concord Broadband staff held a maintenance window from 1-5am to update all Calix hardware – both the OLTs at our data center and the ONTs in customer locations.

The maintenance went extraordinarily well due to the level of planning and coordination beforehand. Thank you to all staff who helped get this work done!

You can learn more about maintenance windows here:

<https://concordma.gov/3144/Broadband-Maintenance>

Another benefit is the improved alarm capabilities. Today we get emails any time an ONT disappears from the network. As you can imagine, though, there are several reasons why ONTs go offline, many of which are innocuous and don't warrant further investigation. This new platform allows us to create custom alerts; for example, when 3 or more ONTs go offline within the span of 10 seconds. This type of alert is much more likely indicative of a problem and doesn't generate as much noise.

This new platform also comes with a real-time dynamic outage map. Today that function is performed manually during large outages. While it only takes 5-10 minutes, that delays our ability to communicate with users regarding the outage. And before the smart meters are fully deployed, it allows us to determine where small pockets of power outages remain after large areas are restored. The outage map also uses machine learning to infer network issues from data that is coming in.

And while on the subject of smart meters, there are functions and configuration changes that we can now push out system-wide without having to write complicated scripts or have professional services assist.

Those are just some of the benefits of this new application. We are happy to be working every day to improve the services we offer the customers of Concord Broadband!

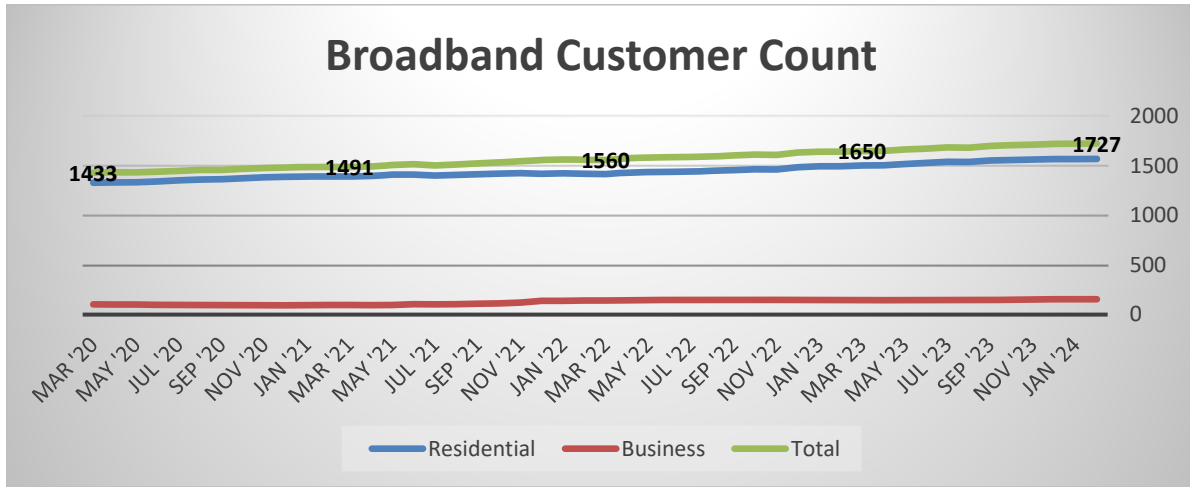
Affordable Connectivity Program

We are aware that the federal government is winding down the [Affordable Connectivity Program](#). This means that residents of Concord will no longer be able to receive a subsidy of up to \$30/month for their high-speed internet.

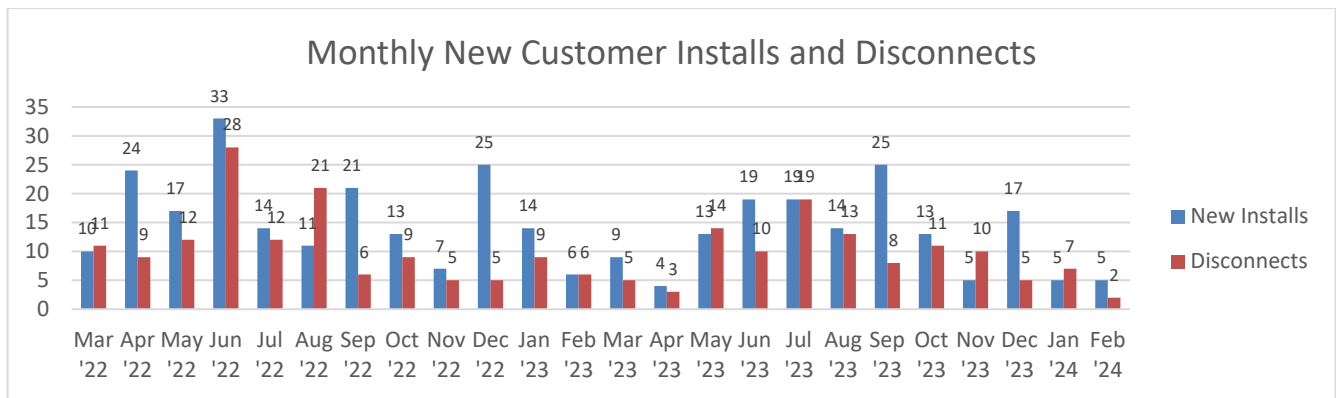
We are working with the Light Board to institute a \$20/month bill credit for all residential customers who are eligible for the Town's rate assistance program. This would be easier for customers and easier for staff to administer.

Stay tuned for more details!

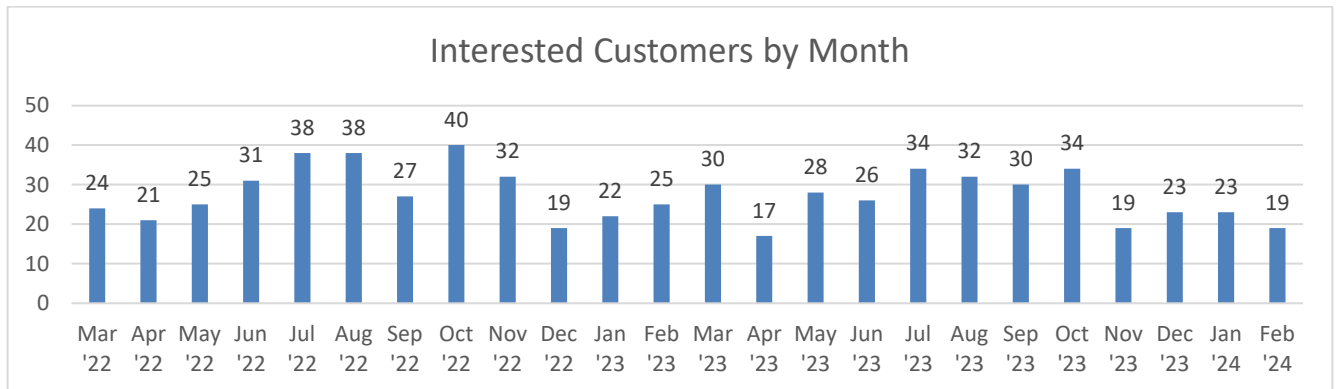
Monthly Metrics and Business Data



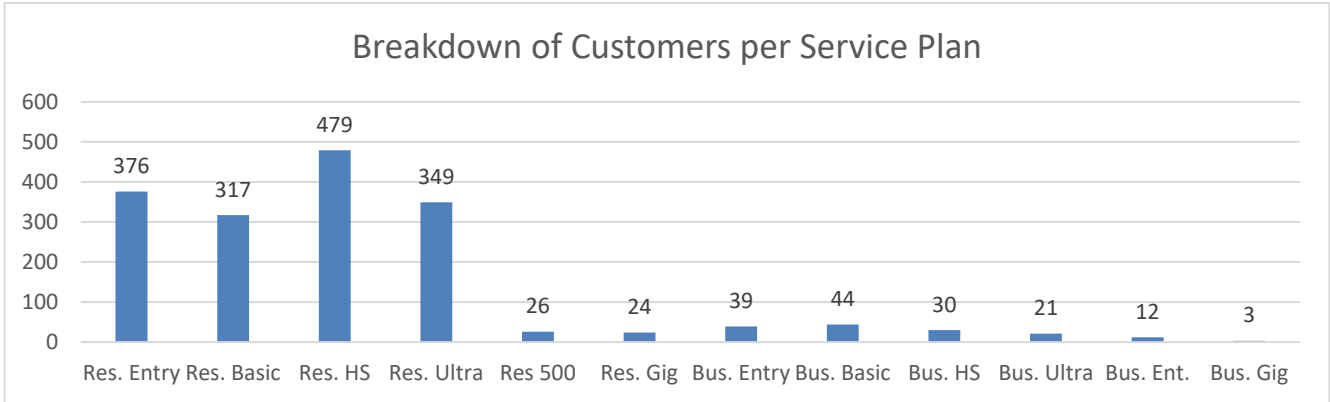
(Customer count: March 2020 – February 2024)



(The number of new installations and disconnects completed each month.)

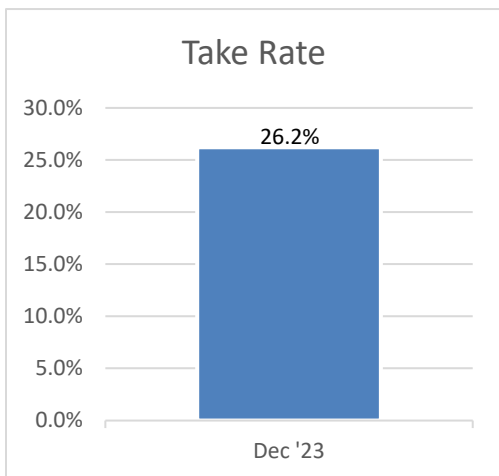
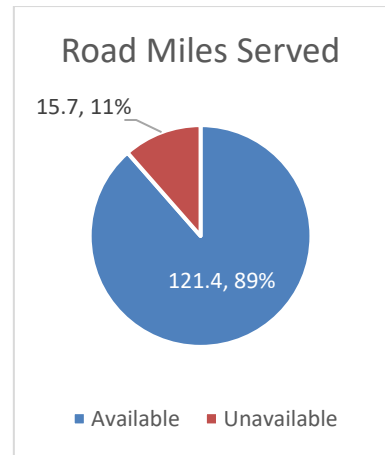
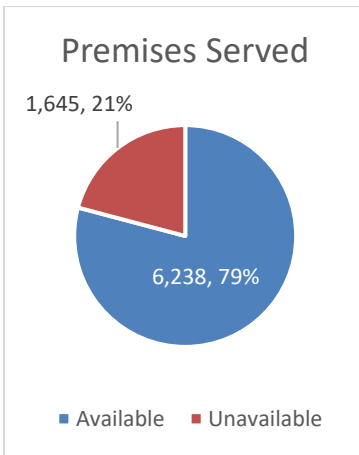
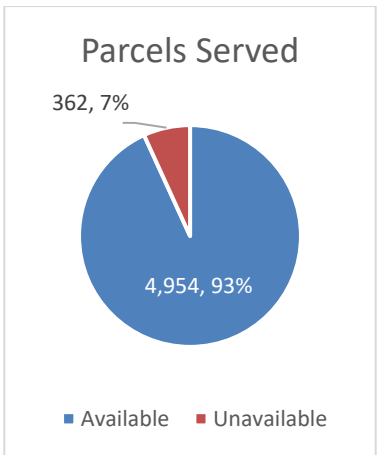


(This is the number of individuals who submit the Broadband interest form, whether they are in the current service area or not.)



(This is the number of each customer on our different service plans as of 1/31/2024.)

Quarterly Metrics



(As of 12/1/2023)

Appendix

Fiber Broadband Completion Task Force's Draft Report Goals

Goal	Type	Priority	Responsible Party	Additional Info.
Policies (p.39)				
• Universal Access	Policy	Highest	Select Board/Town Meeting	
• Expansion outside current territory	Policy	Low	Select Board/Town Meeting	
• Support Economic Vitality, Sustainability, Equity & Inclusion	Policy	High	Select Board/Light Board/TM Economic Development	Rate subsidy planned
• Affordable Housing	Policy	Medium	Select Board/Housing Groups	Rate subsidy planned
• Public Safety	Policy	Medium	Select Board/Town Manager	
• Education	Policy	Medium	Select Board/School Dept.	
• Government Access (PEG)	Policy	Medium	Select Board/PAAC	
Recommended metrics for tracking (p.41)				
• Parcels served	Metric	Medium	Town Staff/Light Board	Complete; will report quarterly
• Premises served	Metric	Medium	Town Staff/Light Board	Complete; will report quarterly
• Road miles served	Metric	Medium	Town Staff/Light Board	Complete; will report quarterly
• Subscribers	Metric	High	Town Staff/Light Board	Complete; will report monthly
• Take rate	Metric	Medium	Town Staff/Light Board	Complete; will report quarterly
• Churn	Metric	High	Town Staff/Light Board	Complete; included in monthly report
• Installations	Metric	Highest	Town Staff/Light Board	Complete; will report monthly
Governance (p.39)				
• Track progress against completion	Metric	Highest	Light Board/Town Staff	We have been cleaning up the Master Address Table and will have something new to report soon. (11/2023)
• Rate of return policy	Policy	High	Light Board/Town Staff	
• Financial goals with regular reporting	Policy	High	Light Board/FinCom	
• Retained earnings and reserve policy	Policy	High	Light Board/FinCom	

Goal	Type	Priority	Responsible Party	Additional Info.
Strategic Planning Goals (p.43)				
• Marketing and growth	Metric	High	Light Board/Town Staff	
• Business return	Policy	High	Light Board/Town Staff	Working on this
Budgeting Process for Fiber Expansion (p.41)				
• Expand to fill existing opportunities	Planning	High	Light Board/Town Staff	
• External funding sources	Research	Medium	Light Board/Town Staff	Working on this
• ARPA Relief Funds Allocation, incl. Lost Revenue	Finance	Highest	Select Board/Town Manager	Complete
• Review/Confirm Internal Loan Findings	Finance	Highest	Financial Audit Comm/Staff	Complete
• Review and Rescind PILOF to MMN	Finance	High	Select Board/Town Manager	Complete
Capital Planning Process (p.42)				
• Review/Revise Debt financing schedule	Policy	Highest	Light Board/Town Staff	Working on this; do to positive financial situation, anticipating being able to repay faster than expected.
• Quantifying cost of expansion	Planning	Medium	Town Staff	Working on this
• How to fund expansion	Planning	Medium	Light Board/Town Staff	Working on this
• Revise/refine methods for computing ROI	Planning	Medium	Light Board/Town Staff	
Construction and Logistics (p.42)				
• Vibratory plow – direct buried fiber cables	Operations	Medium	Town Staff	Working on this
• Revise/Refine Communication conduit construction standards and guidance	Policy	Medium	Town Staff	
• Integrate Fiber construction with the Roads Program – focus on Streets without fiber that already have underground electric	Planning	High	Town Staff	Working on this

Non-Emitting Power Supply Strategy and Unbundled Renewable Energy Certificate Policy

March 2024

In 2017, with a near unanimous vote, the town passed “Concord’s Energy Goals” - an article that established town-wide Greenhouse Gas (GHG) emission targets and “*direct[ed] Concord Municipal Light Plant (CMLP) to reduce the GHG emissions of its power supply portfolio and to offset any residual GHG emissions of its electricity supply through the purchase of Renewable Energy Certificate (RECs) or other offsets*”. This document outlines how CMLP has achieved this goal in 2023 and will maintain a non-emitting power supply going forward.

Renewable Energy Certificate Administration Policy

The Concord Municipal Light Plant Board sets the dollar amount per kilowatt hour that will be collected in rates to pay for contractual environmental attributes and/or physical energy from non-carbon emitting resources (the Renewable Energy Charge.) The product of the Renewable Energy Charge and the kilowatt hour sales in a given calendar year equals the Renewable Energy Charge Collection.

CMLP purchases contractual environmental attributes and/or physical energy from non-carbon emitting resources for a calendar year, spending not more than the Renewable Energy Charge Collection for that year. The quantity purchased will be the lesser of 1) the volume of kilowatt hours sold and 2) the volume of contractual environmental attributes and/or physical energy from non-carbon emitting resources that can be purchased for a cost less than or equal to the Renewable Energy Charge Collection.

Following the conclusion of the commercial trading window for environmental attributes, CMLP will return via the Power Cost Adjustment Clause all remaining funds from the Renewable Energy Charge Collection in excess of \$100,000.

How to Measure Progress

To accomplish this goal, we first needed to measure Concord Light’s GHG emissions. The Town’s GHG inventory was performed in January 2019. It was estimated that GHG emissions across the whole community was 246,890 Metric Tons of Carbon Dioxide Equivalent (MTCO_{2e}) in 2008 with 30% or 72,993 MTCO_{2e} from electricity.

The method used to estimate GHG emissions from electricity in the town’s inventory is not as accurate as the Massachusetts Department of Environmental Protection’s (MassDEP) GHG Summary for Retail Sellers of Electricity report. MassDEP uses certificates retired in the New England Power Pool Generation Information System (NEPOOL-GIS) to ensure accurate GHG reporting by collecting unit specific generation usage from utilities, calculating GHG emissions factors and then reporting final GHG emissions for all retail sellers. These reports are published 2 years after year’s end, so Concord Light provides non-emitting percentage estimates on the power supply webpage based on the annual submission to MassDEP. Below is a table of past GHG emissions reporting.

Year	STCO _{2e}	MTCO _{2e}	non-GHG	GHG Reduction Efforts
2012	62,739	56,916	3.7%	
2013	64,609	58,612	3.6%	Solar Challenge 170 homes
2014	61,525	55,815	3.8%	
2015	<u>65,100</u>	59,058	4.1%	Landfill 1.7MW PV
2016	59,321	53,815	4.4%	WR Grace 5.4 MW PV in 2017
2017	50,654	45,953	14.4%	Stopped selling wind REC
2018	22,730	20,620	56.7%	Started collecting \$0.01/kwh Q4
2019	20,596	18,684	51.3%	collecting \$0.01/kwh
2020	29,764	27,001	48.9%	collecting \$0.015/kwh
2021	9,046	8,206	84.2%	collecting \$0.02/kwh
2022	N/A	2,362**	96%**	Waiting for MassDEP report
2023	N/A	0**	101%**	Waiting for MassDEP report

* MassDEP reports in the imperial Short Tons of Carbon Dioxide Equivalent (STCO_{2e}) and the Town GHG Inventory used Metric Tons (MTCO_{2e}). Both are listed.

** Concord Light estimates shown while waiting for MassDEP report confirmation.

MassDEP has not yet published the Retail Sellers report for 2022. (expected January 2025) When available, it can be found at this link <https://www.mass.gov/lists/massachusetts-greenhouse-gas-ghg-reporting-program-data>. Concord Light's power supply webpage estimates the non-GHG emitting percentage to be 96% in 2022 and 101% in 2023. We will need to wait for the MassDEP report to confirm these values.

This is how Concord Light measures progress on fulfilling the Town Meeting directive laid out in Concord's Energy Goals. The MassDEP's GHG Reporting Program is the most accurate method available and importantly ensures Concord's clean energy efforts are additive to all New England GHG reduction programs by avoiding double counting of clean energy claims.

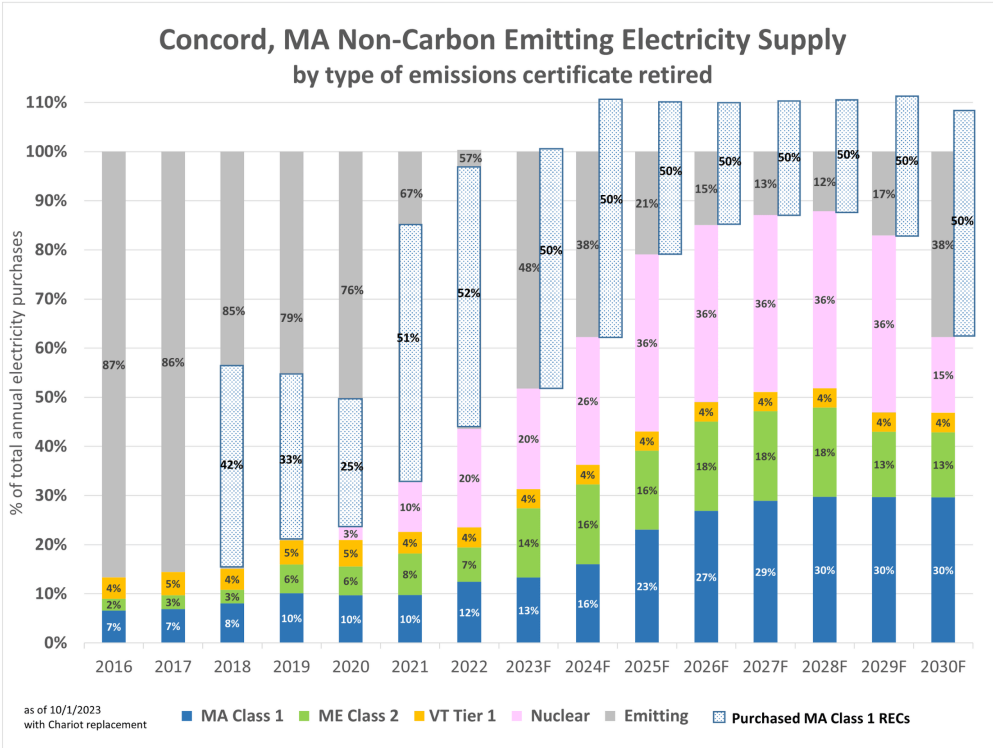
State Compliance Obligation

In 2019, Massachusetts adopted the Municipal Lighting Plant Greenhouse Gas Emissions Standard (GGES) which established GHG reduction targets for utilities like Concord Light. This new compliance obligation requires the retirement of non-emitting certificates for 50% of sales by 2030, 75% by 2040 and "Net-Zero" by 2050. The GGES uses MassDEP's GHG Reporting Program as it is the most accurate method available and ensures our clean energy efforts are additive to all New England GHG reduction programs. The GGES's reduction targets are set far in the future but Concord Light has reached non-emitting today, not in 2030 under Concord's Energy Goals or the GGES's 2050 goal. The purchasing and retirement of MA Class I REC without a state compliance obligation is how Concord Light is additive to the state's clean energy efforts above and beyond the state's GGES goals.

A Look at Concord Light’s Transition to a Non-Emitting Power Supply

Published in 2006, the Comprehensive Sustainable Energy Plans stated “CMLP’s power purchases constitute the single most important energy decision made by the Town, and therefore represent the single greatest opportunity for Concord to integrate a sustainable energy supply.” It was known that the easiest GHG reduction strategy was a non-emitting power supply with this being confirmed in the 2017 Energy Futures Task Force report and Concord’s 2019 GHG Reduction (Wedge) Analysis. Prior to 2016 the only non-emitting Power Purchase Agreement (PPA) was the New England Power Authority (NYPA) imports accounting for 3.6% to 4.1% of total sales volume. Then in 2017 Concord Light stopped selling clean energy certificates bundled in existing wind PPA which resulted in an additional 10% of non-emitting power supply.

With a near unanimous vote in the spring of 2017, Town Meeting passed “Concord’s Energy Goals” directing CMLP to reduce the GHG emissions of its power supply portfolio. Collection for the purchase of unbundled MA Class I RECs to offset any residual GHG emissions of its electricity supply started in Q4 of 2018 at 1-cent per kWh. MA Class I RECs were trading at a very low value, so this purchase resulted in a 42.3% increase in the non-emitting content of the electricity supply. At the same time, Concord Light stopped entering into mixed fuel fixed price PPAs, instead seeking renewable and nuclear generation PPAs with the non-emitting certificates. By 2021, Concord Light had increased the Energy Charge on customer bills by 2-cents per kWh which in 2023 offset all residual GHG emissions in the power supply. This 2-cent increase in rates and signing new non-emitting PPAs is how Concord Light has been able to reduce GHG emissions so quickly, well ahead of the 2030 deadline without major rate hikes.



In the chart above, note how Concord Light has signed PPAs that bundled clean energy certificates with the generation source. The more expensive renewables like wind, solar and hydro make up a large amount of the bundled clean energy PPAs with the far less expensive non-emitting nuclear making up a third of the power supply. Concord Light cannot contract for 100% of the power supply and this normally leaves about 20% uncontracted, paying market rates for energy without clean energy certificates. Concord Light will continue to collect for the purchase of unbundled MA Class I REC to offset any residual GHG emissions of its electricity supply as outlined in Concord’s Energy Goals going forward.

By managing a diverse non-emitting power supply portfolio of PPAs that does not rely exclusively on a single source, Concord can remain non-emitting should a power supplier fail for any reason. In contrast, a different Municipal Light Plant (MLP) is 84.9% non-emitting based on its reliance on a single nuclear power plant. When that generator shuts down, it will be difficult to quickly replace that supply. The day ahead spot market pricing can often be in line with PPA pricing until the unexpected happens. Last year the price of natural gas was driven up when America began sending liquefied natural gas to Europe, with two thirds of New England’s electricity generation fueled by natural gas. The spot market pricing went up significantly. Concord was fortunate to have PPAs in place to reduce the impact on rates, yet a 5-cent power cost adjustment was still needed. With a diverse mix of bundled non-emitting PPAs we can reduce our purchase of unbundled MA Class I REC.

Estimating the Renewable Energy Charge to be collected in rates?

Estimated Total kilowatt hour (kWh) Sales times the percent emitting in the power supply equals the Total Emitting kWh, times this by the Alternative Compliance Payment (ACP) for the Total Dollars that need to be collected, then divide this by the estimated Total kWh Sales for the Renewable Energy Charge per kWh. Below is an example of this calculation.

$$\begin{aligned}
 &(\text{Total kWh sales}) \times (\% \text{ emitting}) = \text{Total emitting kWh} \\
 &(\text{Total emitting kWh}) \times (\text{Alternative Compliance Payment}) = \text{Total Dollars needed to be collected} \\
 &(\text{Total dollars}) / (\text{estimated Total kWh sales}) = \text{Renewable Energy Charge per kWh}
 \end{aligned}$$

Examples	2024	2025	2026	2027	2028
Total kWh Sales	169,000,000	169,000,000	169,000,000	169,000,000	169,000,000
Percent Emitting	38%	21%	15%	13%	12%
Total Emitting kWh	64,220,000	35,490,000	25,350,000	21,970,000	20,280,000
ACP rate kWh	\$0.04	\$0.04	\$0.04	\$0.04	\$0.04
Dollars needed	\$2,568,800	\$1,419,600	\$1,014,000	\$878,800	\$811,200
REC fee in rates	\$0.0152	\$0.0084	\$0.0060	\$0.0052	\$0.0048

All these estimates assume we are purchasing RECs at \$40 or \$0.04/kWh. Using the ACP will result in over-collection as actual REC pricing will be lower; thus, the Power Cost Adjustment Clause would return this over-collection to customers. This method does a good job of estimating the number of unbundled RECs needed based on each year’s PPAs. As we gain more experience with the MA Class I REC market this method of estimating can be refined.

Affordable Connectivity Program (ACP)

About

The Affordable Connectivity Program is an FCC benefit program that helps ensure that households can afford the broadband they need for work, school, healthcare and more.

The benefit provides a discount of up to \$30 per month toward internet service for eligible households and up to \$75 per month for households on qualifying Tribal lands.

History

- On December 31, 2021, the FCC launched the Affordable Connectivity Program (ACP). This longer-term program replaces the Emergency Broadband Benefit program. As the FCC transitions to this new program, the over 9 million households fully enrolled in the Emergency Broadband Benefit Program as of December 31, 2021 will continue to receive their current monthly benefit until March 1, 2022.

ACP Eligibility

- Enrollment in the ACP was open for households with at least one member qualifying under any of the following criteria:
 - Has an income that is at or below 200% of the federal poverty guidelines;
 - Participates in certain assistance programs, such as SNAP, Medicaid, Federal Public Housing Assistance, SSI, WIC, or Lifeline;
 - Participates in Tribal specific programs, such as Bureau of Indian Affairs General Assistance, Tribal TANF, or Food Distribution Program on Indian Reservations;
 - Is approved to receive benefits under the free and reduced-price school lunch program or the school breakfast program, including through the USDA Community Eligibility Provision;
 - Received a Federal Pell Grant during the current award year; or
 - Meets the eligibility criteria for a participating provider's existing low-income program.

Concord Broadband Participation in ACP

- Concord Broadband looked to increase the speed of our lowest residential tier and add a handful of new tiers for January 2023.
- The Light Board asked that we consider a subsidy or more affordable rate for those who might qualify.
- Concord Broadband found the ACP, applied, and was accepted in early March of 2023.
- We had only a handful of customers inquire or apply.

Challenges

- Those who qualify for ACP subsidies likely also qualify for CMLP's electric rate assistance program, but they have to manage two annual applications.
- Staff have to report a good deal of information to the FCC for compliance to ensure each ACP participant is in good standing and can continue to receive the subsidy.
- This process is entirely manual and takes several staff hours each month.

FCC Ends ACP

- It was the 2021 Bipartisan Infrastructure Law (BIL) that funded the ACP with \$14.2 billion.
- That funding is about to run out, and Congress has not appropriated additional funding.
- ACP enrollment was stopped in February of 2024, and payments will stop as of April 2024
- As such, and current or future residents who qualify will no longer receive a subsidy for high speed internet.

What our peers are doing

- Comcast offers “Internet Essentials” and “Internet Essentials Plus,” which are \$9.95/mo and \$19.95/mo respectively for download speeds of up to 50mbps and 100mbps for qualifying customers.
 - Of note, you cannot have had a Comcast internet connection for the last 90 days, which means current customers are ineligible.
- Other MLPs have started offering subsidies even before the ACP ended because of the administrative burden on both residents and staff who process it.
 - Shrewsbury offers a \$20/mo subsidy.

Recommendation



Concord Broadband's Suggestion

- What we propose is offering a flat \$20 reduction in bill cost for any customer who is received into the electric rate assistance program.
- The applicant would not need to do anything; if they have Concord Broadband service and apply for and are accepted into the Residential Rate Assistance program, they would receive the subsidy.
- We have 7 Residential Rate Assistance customers who also have broadband, resulting in \$1,680/year of rate reductions.
- We do believe this amount is less than the staff time needed to maintain the ACP enrollments.

Getting the word out and next steps

- We will develop a communication plan for the public and all broadband customers
- We will automatically process the discount after electric rate assistance applications are processed.
- This would take effect immediately after a vote by the Light Board.

Thank you

Renewable Energy Certificate Donation Rate

A new offering to help customers and green the power supply

Background

In 2010, the Massachusetts Department of Energy Resources (DOER) launched a program called SREC-I, which was intended to spur first 400MW and then 1,600MW of solar development in the state. This program provided incentives to develop solar by issuing one Solar Renewable Energy Credit (SREC) for every 1 megawatt hour of solar production. These SRECs could be purchased and sold to offset carbon-emitting power.

But eligible solar installations only minted these SRECs for the period of 10 years; after that, systems created Massachusetts Class I RECs. These RECs have a lower value and are unlikely to be purchased by an aggregator. This means that CMLP customers who have had solar panels for more than 10 years are unable to receive compensation for their clean energy production.

As a strategy to offset power purchases that emit greenhouse gases, CMLP has been purchasing RECs to ensure that 100% of its power is greenhouse gas free. As a reference point, CMLP will purchase approximately 80,000 RECs in 2023.

Goal

We would like to develop a rate that solar customers can adopt to give CMLP the Class I RECs minted by the customers' solar systems. This would reduce the number of RECs CMLP would have to purchase each year.

Program

In exchange for voluntarily adopting this rate and donating their minted Class I RECs, anyone on this tier would be given a bill credit of \$9/month, regardless of the size of the array. Basing the credit on a customer's actual production would be administratively burdensome and result in retroactive credits due to the delayed reporting of production by the New England Power Pool. The \$9 per month rate is based on the average CMLP solar system size of 9 kW, a 14% capacity factor, and a \$10 per megawatt hour REC value.

Implementation

To implement this program, CMLP proposes the following:

1. CMLP will work with our billing system provider to set up the rate to properly credit customers who adopt it.



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2. CMLP will work with Energy New England to identify the customers who are eligible and ensure we have a mechanism to verify that participating customers' RECs are registered in the New England Power Pool Generation Information System (NEPOOL GIS).
3. CMLP will prepare marketing materials and copy to distribute to all eligible customers.
4. Customers can opt-in to the rate, and CMLP will request a change in the billing system and NEPOOL GIS system.

Light Board

CMLP would like the Light Board to:

1. Vote to support the Program and Implementation
2. Hold a rate hearing to adopt the \$9/month credit for those who adopt the rate