



# CONCORD MUNICIPAL LIGHT PLANT

ELECTRIC | BROADBAND | ENERGY MANAGEMENT

**Date:** July 5, 2024  
**To:** Municipal Light Board: Warren Leon (Chair), John Dalton, Brian Foulds, Alice Kaufman, and Bianca Taylor  
**From:** Jason Bulger, Interim CMLP Director, CTO  
**Subject:** Agenda for Virtual Light Board Meeting **July 10, 2024, 7:30 A.M.** (Zoom link below)

- 7:30 AM 1. **Call to Order**
- 7:30 AM 2. **Meetings and Minutes** 5 Minutes Chair  
Vote to accept the minutes of January 17, 2024 and June 12, 2024  
Upcoming Meetings:  
Aug 14, 2024, Sep 11, 2024, Oct 9, 2024, Nov 13, 2024, and Dec 11, 2024, Jan 8, 2025, Feb 12, 2025.
- 7:35 AM 3. **Directors Update** 10 Minutes Director Information
- 7:45 AM 4. **Broadband Update** 5 Minutes Director Information
- 7:50 AM 5. **Landfill Solar Discussion** 15 Minutes Director Discussion  
Background: The Town and CMLP are interested in maximizing the solar array at the landfill (755 Walden St). Currently, CMLP has a PPA with a third party.  
Purpose: To hear updates from staff and gain the Board's preference on moving forward with development of additional solar at this site.
- 8:05 AM 6. **Second Meter Fee** 25 Minutes Director Discussion  
Background: Customers may have 2nd meters for a variety of reasons. Historically, if the 2nd meter was sub-metered to a customer's main meter, the customer was not assessed a 2nd monthly service charge. The 2nd meter fee was also waived in some cases for other reasons. If the 2nd meter was connected "line-side" to CMLP, the customer is charged a 2nd monthly service charge. This was discussed at multiple previous Light Board meetings.  
Purpose: Have a discussion about a course of action to resolve the 2nd meter fees on the same property.
- 8:30 AM 7. **Level 3 Charger Update** 10 Minutes Director Information  
Background: CMLP recently installed two Level 3 chargers. A question was asked at a previous Board meeting about usage and revenue as they relate to the rates we implemented.  
Purpose: A short presentation on usage and revenue.
- 8:40 AM 7. **Public Power Forum** 15 Minutes Chair Discussion  
Background: CMLP has a diverse power supply portfolio with the goal of having a carbon-free power supply.  
Purpose: Get feedback from Board members on the best manner to move forward with the forum.



8:55 AM 8. **Liaison & Public Comments** 5 Minutes Chair Information

9:00 AM 9. **Adjourn**

Distribution: Select Board (1 copy)

Kerry Lafleur  
Jan Aceti  
Jason Bulger

Carole Hilton  
Laura Scott  
Karlen Reed

Joe Repoff  
Cameron McKennitt  
Michael Hale

Matt Cummings  
Eric Simms  
Jeff Cosgrove

Join Zoom Meeting

<https://us02web.zoom.us/j/83853970051?pwd=akVzemJRQk8vNTJRUnNlOS9NNDlFudFk0OT09>

Meeting ID: 838 5397 0051

Passcode: 661712

One tap mobile

+16469313860,,83853970051#,,,,\*661712# US

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

Find your local number: <https://us02web.zoom.us/j/83853970051?pwd=akVzemJRQk8vNTJRUnNlOS9NNDlFudFk0OT09>

**Link to view recordings of previous Light Board Meetings:**

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

**Link to view the Director's Updates:**

<https://concordma.gov/1106/Municipal-Light-Board>

**Link to view the Broadband Monthly Updates:**

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

# Concord Municipal Light Plant Updates

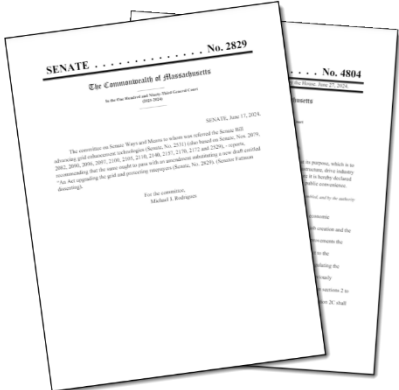
July 10, 2024

## Contents

- Organization, Transition, and Industry ..... 1
- Energy Management..... 2
- Battery Storage and Solar Project Updates ..... 2
- Power Supply and Rates ..... 3
- Middle School Solar/Energy Storage ..... 3
- Advanced Metering Project Updates ..... 4
- Engineering and Operations..... 5
- Customer Service / Metering ..... 5

## Organization, Transition, and Industry

- Recruitment has begun for the permanent Director, with applications due on July 12, 2024.
- We are closely monitoring the legislative action happening on Beacon Hill. There is a large economic development bill ([H.4789](#) – now refiled as H.4804) passed by the House on 6/27. It includes \$3.4 billion in bond authorizations and \$700 million in tax credits. There is also a Senate energy/climate bill ([S.2829](#)), which includes: siting and permitting reform, new divisions within energy-related agencies, utility requirements, solar regulation changes, transportation electrification and more.
- Littleton Electric’s General Manager Nick Lawler was installed as the chair of the American Public Power Association Board of Directors in San Diego on June 12, 2024.
- Multiple exterior metal doors at the Light Plant have rusted to the point they no longer open. Those doors are being replaced now with completion estimated to be by mid-July.
- The Netwatch project has moved forward with coordination between Engineering, Line, and Broadband divisions to get access to the existing camera feeds and install new two-way speakers at the three locations.





- A huge congratulations to Customer Service Representative Anne Stevens on her retirement on July 5th, 2024! With over 8 years of service, Anne has been a reliable and professional member of the team who always treated customers with empathy and understanding. She will be greatly missed, and we thank her for those many years of service. Enjoy retirement, Anne!

## Energy Management

- Visit our residential rebates page at <https://concordma.gov/1870/Rebates-for-your-Home> to learn about our rebates:
  - **Lawnmower rebates** of up to \$100 (application here: <https://cmlp.jotform.com/form/221337287042149>)
  - **Heat pump for heating rebates** up to \$10,000. Processed by CMLP for those who have existing electric, propane or oil heat today (information here: <https://concordma.gov/3024/Heat-Pump-Rebates-for-Your-Home>). Processed by MassSave for those who have natural gas heating (info here: <https://www.masssave.com/residential/rebates-and-incentives/heating-and-cooling/heat-pumps/air-source-heat-pumps>)
  - **Energy assessments** (information here: <https://concordma.gov/2584/Home-Energy-Assessments> – different if you have electric, propane or oil heat vs. natural gas)
  - **Weatherization rebates** up to \$2,000 (income dependent; information here: <https://concordma.gov/2330/Home-Weatherization-Rebates>)
  - **Electric car rebate** up to \$1,000 (information here: <https://concordma.gov/2907/DriveEV-Rebate-Program>)
  - **Level 2 charger rebate** up to \$250 (information here: <https://www.concordma.gov/2233/EV-Level-2-Program>)
  - **EV Miles rebate** up to 2,200 miles per year of range on your electric vehicle (information here: <https://www.concordma.gov/2274/EV-Miles-Program>)
  - **And more!**

## Battery Storage and Solar Project Updates

- We met with Baker Tilly to kick off the conversations about elective pay and maximizing the credit for the solar and battery storage at the middle school as well as the battery storage and any other solar projects.
- We continue to evaluate what level study will be required by ISO-NE for these projects.
- We received the feasibility study from TRC on the landfill, and we will be reviewing that and conducting our own analysis on its findings.

## Power Supply and Rates

- Through June of this year, we are seeing weather-normalized load growth of 3.9%. The range has varied by month with the highest increases during the colder months – suggesting heat pumps are playing a role.

	% Increase
Jan	7.2
Feb	4.3
Mar	2.3
Apr	2.8
May	4.0
Jun	2.3
<b>Jan-Jun</b>	<b>3.9</b>

## Middle School Solar/Energy Storage

- Construction is moving along. In the picture below, you can see the area where our transformer sits. Directly adjacent will be the manhole system for the switchboard and conduit system to allow interconnection between line power, the solar arrays, and the battery.



- We continue to work on the RFPs and will offer them for review at a future Light Board meeting.

## Advanced Metering Project Updates



Figure 1: Advanced meters installed - April 2024

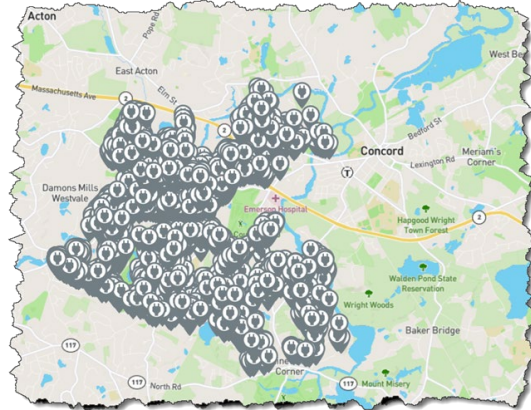


Figure 2: Advanced meters installed - May 2024

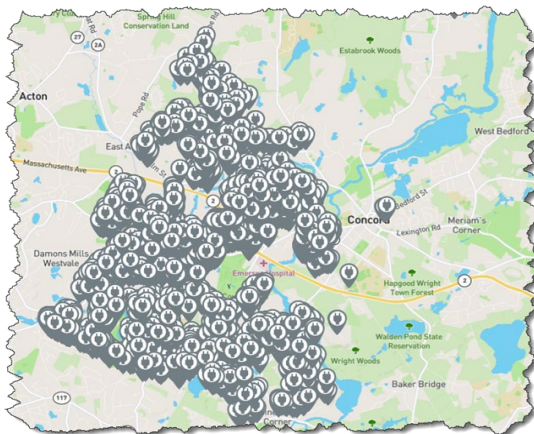


Figure 3: Advanced meters installed - June 2024

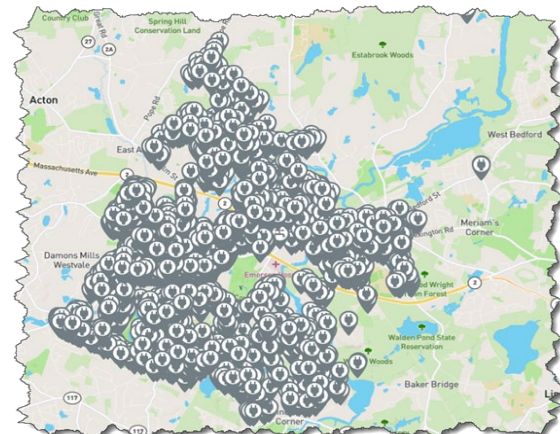
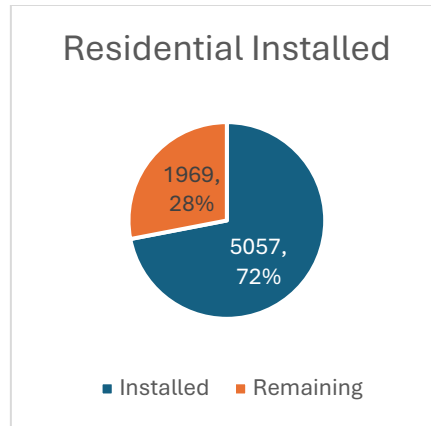
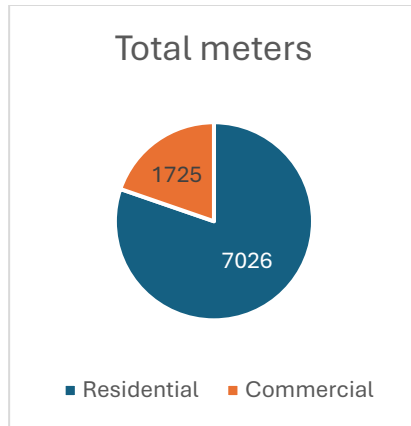


Figure 4: Advanced meters installed - July 2024

- We have between one and two external crews of two electricians installing advanced meters.
- Our Electrician Marty has installed more than half of the load control relays in participating customers' homes.
- We have installed over 450 meters since the June 10, 2024 Light Board meeting.



## Engineering and Operations

- Crews have done a terrific job dealing with summer outages. There have been several transformer issues and a conductor failure that led to outages in the past month. The Line crew and Engineering staff have done a great job with restoration as quickly as possible.
- We continue to explore novel ways to recruit for the vacant lineworker positions and have got more hits than usual. Hopefully those turn into positive leads.
- Line Supervisor Mike Hoogendoorn continues to support Concord Broadband with challenging underground areas with the ultimate goal of extending access to new customers in a safe manner.

## Customer Service / Metering

- The Customer Service and Metering team held a going-away gathering of staff to honor Anne Steven’s retirement. We will miss you, Anne!
- Recruitment has begun to fill the vacancy left after Anne’s retirement. We have received over 50 applications and hope to begin interviews soon.
- We received 1,042 survey responses (with a goal of 400!). We will address the findings at a future Light Board meeting once we receive the full results, which we expect in late July.
- The Customer Service division did a great job implementing the Broadband credit of \$20/mo for customers on the residential rate assistance plan effective July 1.
- The flyer for the donate-your-REC rate will be going to the printer soon and the targeted marketing for qualifying customers will start.



*Figure 5: A sign mentioning our customer survey in front of the main library.*



# GOT RECS? DONATE YOUR RECS TO CMLP!

## MA Class 1 RECs

Are your solar panels more than 10 years old? If so, they no longer produce solar renewable energy credits (SRECs) and now produce less valuable Renewable Energy Credits (RECs). Many brokerage companies are unwilling to purchase RECs from homeowners due to their lower value.


But now, you can easily assign your RECs to CMLP either as a donation or in exchange for a monthly bill credit to save all ratepayers money and help CMLP reduce GHG emissions!

- You select:
- Assign your MA Class 1 RECs easily as a donation

OR

  - Receive \$9 per month bill credit

For More Information:  
**978-318-3101**

 Visit Our Website  
<https://concordma.gov/cmlp>

 **CONCORD MUNICIPAL LIGHT PLANT**  
ELECTRIC | BROADBAND | ENERGY MANAGEMENT



# TOWN OF CONCORD MUNICIPAL UTILITIES

ELECTRIC | WATER | SEWER | TELECOMMUNICATIONS

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## June 2024 – Broadband Updates

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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](mailto:broadband@concordma.gov) should you have any questions, concerns, or feedback.

### Operations

Our Network Engineer Victor has completed all of the pre-migration work of building the new municipal network. Teams from Broadband, IT, and the Town's third-party Managed Service Provider will assemble to schedule the cutover and create a detailed plan of action. With some Covid-era supply chain delays, this has been a three-year project finally coming to a close. In the end, both CMLP and the Town will end up with a more resilient network and server environment.

We will be preparing our biannual reporting for the FCC per the Broadband Data Collection (BDC) program. The reporting periods end 6/30 and 12/31. We work collaboratively with the Town's GIS department to get shapefiles that show our availability and customer accounts by speed in each census tract. This data eventually populates the National Broadband Map here: <https://broadbandmap.fcc.gov/home>

### Municipal Broadband is taking off

Those in Concord 10-20 years ago had a vision for a municipal Fiber-to-the-Premises (FTTP) roll-out that ultimately materialized and now supports almost 1,800 customers. And in many ways, those visionaries were trailblazers for a service that has become very popular in recent years. People have taken notice at the success of the municipal broadband stories, like Concord's and Shrewsbury's, and they are trying to replicate them in their own community.

In 2023, more than 25 cities and towns formed a coalition to facilitate networking among communities with broadband ambitions. Recently, the [Town of Norwood](#), the [City of Cambridge](#) and others have conducted feasibility studies that include cost estimates to create, expand or replace infrastructure for FTTP municipal broadband.

Locations that have municipal broadband often have more competitive rates among all service offerings. Further, those with true municipal broadband service benefit from local employees, extraordinary customer service, and often symmetrical speeds.

We are grateful for those forward-looking people who pushed to create such a positive service here in Concord all those years ago!

### Upcoming Maintenance

No scheduled service-impacting maintenance is planned for the month of June.

We continue to test our next-generation equipment to prepare for future procurement and projects.

You can learn more about maintenance windows here:

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

## Next generation fiber optic network

Concord Broadband is hard at work making sure our infrastructure is ready to provide customers speeds up to 10Gb/s and our existing fiber can be leveraged to supply as many customers as possible in Concord. We have plans to prepare extensive marketing campaigns once we have this bandwidth.

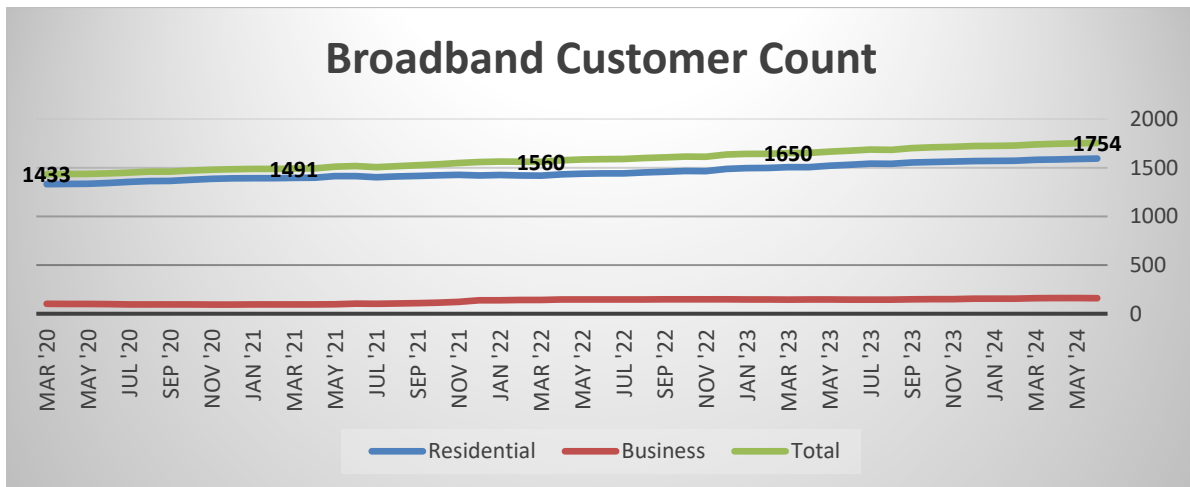
It will be a significant capital expenditure to upgrade the network, but it will pay back in speed and resilience. A big thank you to the several staff working on this initiative!

## Exploring subsidies for conduit

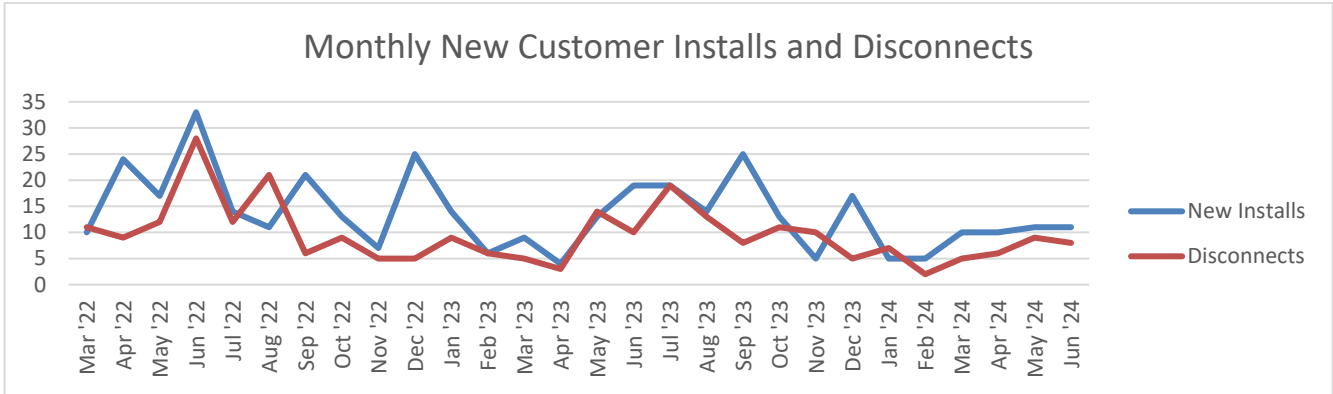
Many residents live in an area that had their electricity undergrounded before Concord Broadband existed. This means that if they wish to add our service, they need to install conduit and a hand hole near the underground infrastructure. Unfortunately, work like this can be costly and often prevents people from adopting a service that they want.

Internally, we are running the numbers on a rebate program that will help lessen the impact of these costly installations. Concord Broadband keeps its average customer for a long time, so it makes sense to contribute a small amount of money to help extend our service to new customers.

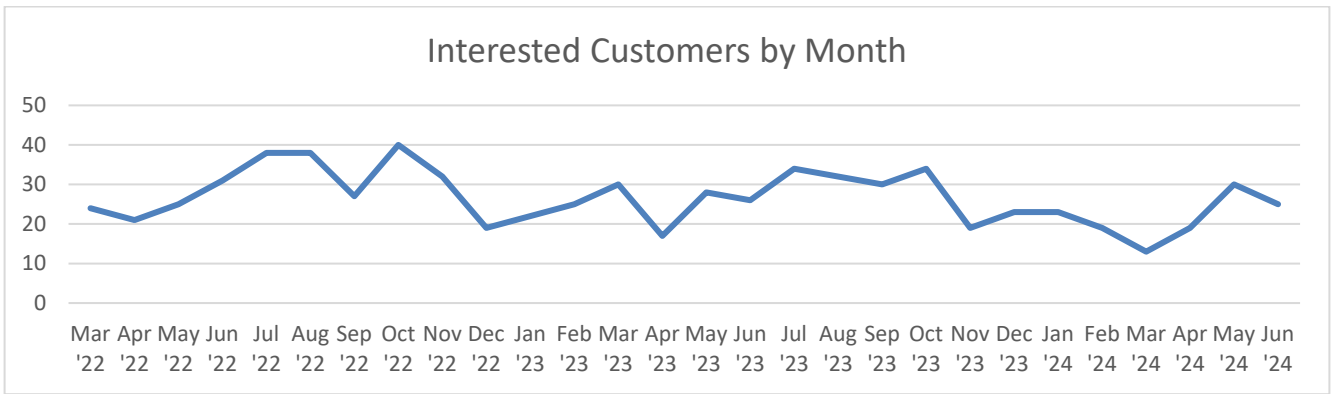
## Monthly Metrics and Business Data



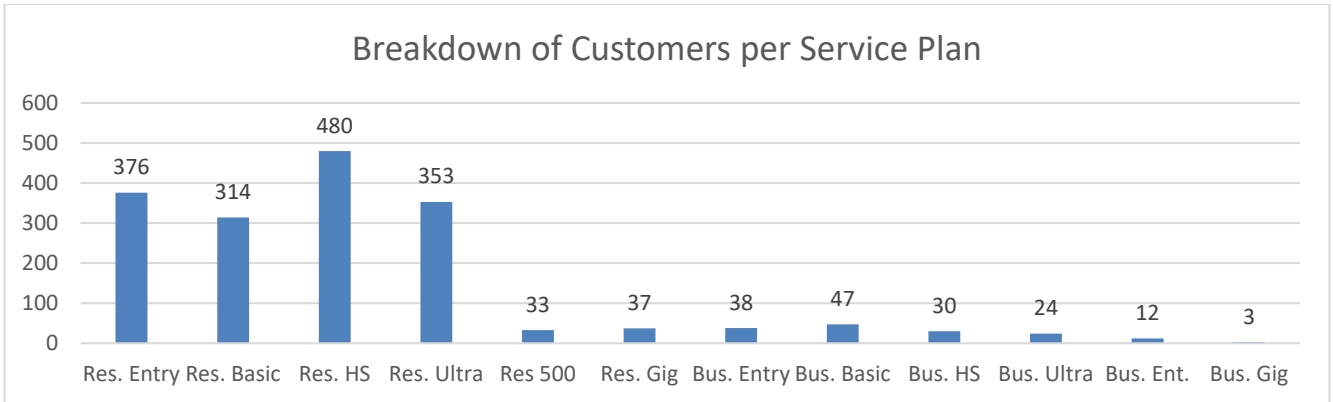
(Customer count: March 2020 – June 2024)



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

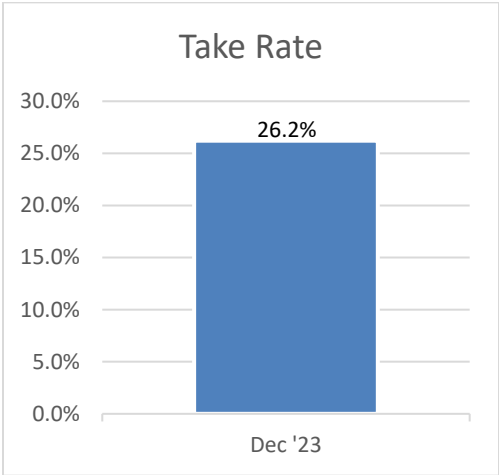
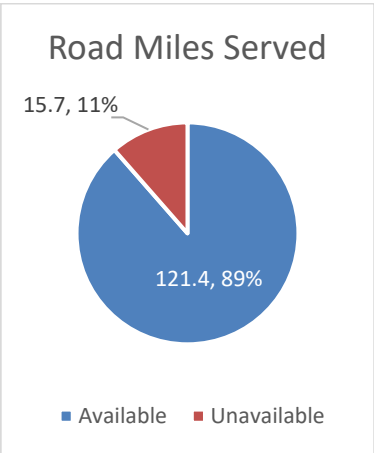
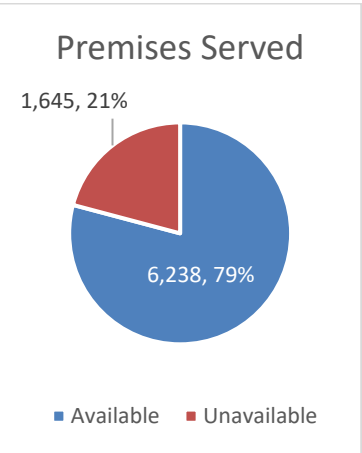
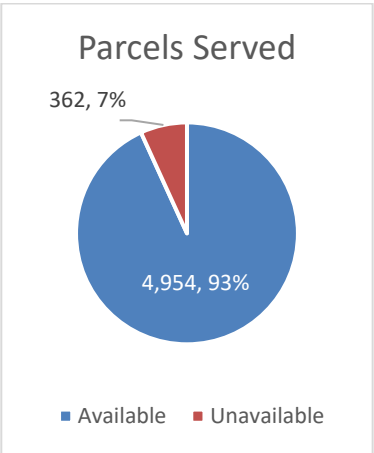


*(This is the number of individuals who submit the Broadband interest form, whether they are in the current service area or not.)*



*(This is the number of each customer on our different service plans as of 6/30/2024.)*

Other Metrics



(As of 12/1/2023)

## Appendix

### Fiber Broadband Completion Task Force's Draft Report Goals

Goal	Type	Priority	Responsible Party	Additional Info.
<b>Policies (p.39)</b>				
• Universal Access	Policy	Highest	Select Board/Town Meeting	
• Expansion outside current territory	Policy	Low	Select Board/Town Meeting	Conversations happening
• 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; working on Concord Housing Authority properties
• Public Safety	Policy	Medium	Select Board/Town Manager	
• Education	Policy	Medium	Select Board/School Dept.	
• Government Access (PEG)	Policy	Medium	Select Board/PAAC	
<b>Recommended metrics for tracking (p.41)</b>				
• 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
<b>Governance (p.39)</b>				
• Track progress against completion	Metric	Highest	Light Board/Town Staff	Working on this
• Rate of return policy	Policy	High	Light Board/Town Staff	Working on this
• Financial goals with regular reporting	Policy	High	Light Board/FinCom	Working on this
• Retained earnings and reserve policy	Policy	High	Light Board/FinCom	Working on this

Goal	Type	Priority	Responsible Party	Additional Info.
<b>Strategic Planning Goals (p.43)</b>				
• Marketing and growth	Metric	High	Light Board/Town Staff	Working on this
• Business return	Policy	High	Light Board/Town Staff	Working on this
<b>Budgeting Process for Fiber Expansion (p.41)</b>				
• 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
<b>Capital Planning Process (p.42)</b>				
• Review/Revise Debt financing schedule	Policy	Highest	Light Board/Town Staff	In progress; due to positive financial situation, anticipating being able to repay faster.
• 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	Working on this
<b>Construction and Logistics (p.42)</b>				
• 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	Working on this
• Integrate Fiber construction with the Roads Program – focus on Streets without fiber that already have underground electric	Planning	High	Town Staff	Working on this

# **FLO DC Fast Charger Sales**

1/1/2024 - 5/9/2024

July 10, 2024 Light Board Meeting



**CONCORD MUNICIPAL  
LIGHT PLANT**  
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*We're here to serve you*

# Rate Request

- CMLP installed a Level 3 DC Fast Charging station
  - \$150,000 all-in cost
  - \$100,000 grant received
- Need a new rate that will:
  - Be competitive in the marketplace and result in a high level of usage
  - Recoup the investment made in the station and be able to replace it in 7 years

# Statistics

	Model Assump	Jan 1- May 8, 2024	Actual-Model
Vehicles/Day	8	4.4	(3.6)
Avg kWh/Vehicle	20	29	9
Daily kWh	160	128	(32)
Annual kWh	57,600	45,520	(12,080)
Sale Price/kWh	\$0.45	\$0.45*	-

\* Owner net amount is \$0.38

# Model Net Present Value

## Level 3 Fast Charger

Equipment Cost	\$0
Installation Cost	\$50,000
Annual Maintenance Cost	\$2,500
Cars per day	8
kWh per car	20
Days per year	360
kWh/year	57,600
Utilization rate	7%
Charging Rate \$/kWh	\$0.450
Power supply cost \$/kWh	\$0.133
Volume escalator	5%
Variable Cost escalator	2.5%
WACC	5%

YEAR	0	1	2	3	4	5	6	7
Value								
<b>Revenue</b>		<b>\$18,277</b>	<b>\$19,191</b>	<b>\$20,150</b>	<b>\$21,158</b>	<b>\$22,216</b>	<b>\$23,327</b>	<b>\$24,493</b>
Sales Price	\$0.4500	\$0.4500	\$0.4500	\$0.4500	\$0.4500	\$0.4500	\$0.4500	\$0.4500
COGS	\$0.1327	\$0.1327	\$0.1327	\$0.1327	\$0.1327	\$0.1327	\$0.1327	\$0.1327
Gross margin		\$0.3173	\$0.3173	\$0.3173	\$0.3173	\$0.3173	\$0.3173	\$0.3173
Volume		57,600	60,480	63,504	66,679	70,013	73,514	77,190
<b>Costs</b>	<b>(\$50,000)</b>	<b>(\$14,983)</b>	<b>(\$15,702)</b>	<b>(\$16,458)</b>	<b>(\$17,252)</b>	<b>(\$18,085)</b>	<b>(\$18,961)</b>	<b>(\$19,880)</b>
Capital	(\$50,000)							
O&M		(\$2,500)	(\$2,563)	(\$2,627)	(\$2,692)	(\$2,760)	(\$2,829)	(\$2,899)
Replacement		(\$12,483)	(\$13,140)	(\$13,831)	(\$14,559)	(\$15,326)	(\$16,132)	(\$16,981)
<b>Cash flow</b>	<b>(\$50,000)</b>	<b>\$3,294</b>	<b>\$3,489</b>	<b>\$3,693</b>	<b>\$3,906</b>	<b>\$4,131</b>	<b>\$4,366</b>	<b>\$4,613</b>
PV of cash flow	(\$50,000)	\$3,215	\$3,242	\$3,269	\$3,293	\$3,317	\$3,338	\$3,359
NPV =	(26,967)							

# Updated Net Present Value

## Level 3 Fast Charger

Equipment Cost	\$0
Installation Cost	\$50,000
Annual Maintenance Cost	\$2,500
Cars per day	4
kWh per car	29
Days per year	360
kWh/year	45,520
Utilization rate	6%
Charging Rate \$/kWh	\$0.380
Power supply cost \$/kWh	\$0.133
Volume escalator	5%
Variable Cost escalator	2.5%
WACC	5%

YEAR	0	1	2	3	4	5	6	7
Value								
<b>Revenue</b>		<b>\$11,258</b>	<b>\$11,820</b>	<b>\$12,411</b>	<b>\$13,032</b>	<b>\$13,684</b>	<b>\$14,368</b>	<b>\$15,086</b>
Sales Price	\$0.3800	\$0.3800	\$0.3800	\$0.3800	\$0.3800	\$0.3800	\$0.3800	\$0.3800
COGS	\$0.1327	\$0.1327	\$0.1327	\$0.1327	\$0.1327	\$0.1327	\$0.1327	\$0.1327
Gross margin		\$0.2473	\$0.2473	\$0.2473	\$0.2473	\$0.2473	\$0.2473	\$0.2473
Volume		45,520	47,796	50,186	52,695	55,330	58,096	61,001
<b>Costs</b>	<b>(\$50,000)</b>	<b>(\$14,983)</b>	<b>(\$15,702)</b>	<b>(\$16,458)</b>	<b>(\$17,252)</b>	<b>(\$18,085)</b>	<b>(\$18,961)</b>	<b>(\$19,880)</b>
Capital	(\$50,000)							
O&M		(\$2,500)	(\$2,563)	(\$2,627)	(\$2,692)	(\$2,760)	(\$2,829)	(\$2,899)
Replacement		(\$12,483)	(\$13,140)	(\$13,831)	(\$14,559)	(\$15,326)	(\$16,132)	(\$16,981)
<b>Cash flow</b>	<b>(\$50,000)</b>	<b>(\$3,725)</b>	<b>(\$3,882)</b>	<b>(\$4,046)</b>	<b>(\$4,219)</b>	<b>(\$4,401)</b>	<b>(\$4,593)</b>	<b>(\$4,794)</b>
PV of cash flow	(\$50,000)	(\$3,635)	(\$3,608)	(\$3,582)	(\$3,557)	(\$3,534)	(\$3,512)	(\$3,491)
NPV =	(74,919)							

# Scenario Analysis

## 7-year NPV; 5% WACC

Kilowatt hours sold per year

	10,000	20,000	30,000	40,000	50,000	60,000	70,000	80,000	90,000	100,000
<b>\$0.30</b>	(\$140,394)	(\$128,964)	(\$117,535)	(\$106,105)	(\$94,676)	(\$83,246)	(\$71,817)	(\$60,387)	(\$48,958)	(\$37,528)
<b>\$0.35</b>	(\$136,978)	(\$122,133)	(\$107,288)	(\$92,443)	(\$77,597)	(\$62,752)	(\$47,907)	(\$33,062)	(\$18,217)	(\$3,372)
<b>\$0.40</b>	(\$133,562)	(\$115,301)	(\$97,041)	(\$78,780)	(\$60,519)	(\$42,258)	(\$23,998)	(\$5,737)	\$12,524	\$30,785
<b>\$0.45</b>	(\$130,147)	(\$108,470)	(\$86,794)	(\$65,117)	(\$43,441)	(\$21,765)	(\$88)	\$21,588	\$43,265	\$64,941
<b>\$0.50</b>	(\$126,731)	(\$101,639)	(\$76,547)	(\$51,455)	(\$26,363)	(\$1,271)	\$23,821	\$48,913	\$74,005	\$99,098
<b>\$0.55</b>	(\$123,315)	(\$94,808)	(\$66,300)	(\$37,792)	(\$9,284)	\$19,223	\$47,731	\$76,239	\$104,746	\$133,254
<b>\$0.60</b>	(\$119,900)	(\$87,976)	(\$56,053)	(\$24,130)	\$7,794	\$39,717	\$71,640	\$103,564	\$135,487	\$167,411
<b>\$0.65</b>	(\$116,484)	(\$81,145)	(\$45,806)	(\$10,467)	\$24,872	\$60,211	\$95,550	\$130,889	\$166,228	\$201,567

# Estimating Future Use and Revenue

- How many cars will use the station daily?
  - Assume one vehicle arrives each of 8 hours to fill up 20 kilowatt hours (about 70 miles of range)
    - Takes 24 minutes at 50 kW
    - Takes 12 minutes at 100 kW
- How many days will the station be used?
  - Over 360 days, sales would amount to 57,600 kWh
- Gross margin
  - Sales price \$0.45/kWh
  - Cost-of-goods sold \$0.1327
  - GM =  $\$0.3173 \times 57,600 = \$18,277/\text{yr}$