CONCORD MUNICIPAL LIGHT PLANT
ELECTRIC | BROADBAND | ENERGY MANAGEMENT

Date: January 2, 2025

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

From: Jason Bulger, CMLP Director

Subject: Agenda for virtual Light Board meeting on **Wednesday, Jan. 8, 2024, at 7:30 A.M.** (link below)

7:30 AM 1. **Call to Order**

7:30 AM 2. **Meetings and Minutes** 5 Minutes Chair

- Vote to approve the minutes of December 4, 2024.

Upcoming Meetings:
Jan 22, 2025; Feb 12, 2025; Mar 12, 2025; Apr 9, 2025; May 14, 2025; Jun 11, 2025

7:35 AM 3. **Chair's Update** 5 Minutes Chair Information

7:40 AM 4. **Director's Update** 10 Minutes Director Information

7:50 AM 5. **Broadband Update** 5 Minutes Director Information

7:55 AM 6. **Time of Use Overview** 25 Minutes Director Info./Discussion

Background: CMLP Staff will review the opt-out Time-of-Use topics with the Light Board in greater detail with an emphasis on the purpose as well as what the Board has already decided and what is remaining for the Board to decide.

Purpose: Hear a brief presentation and discuss the Time-of-Use topics.

8:20 AM 7. **Time of Use Bill Printing information & vote** 30 Minutes Director Discuss/Vote

Background: Current bills break out Capacity/Transmission, Distribution, and Energy charges as well as other charges. With time-of-use rates, the bill layout will need to change.

Purpose: CMLP staff would like to get a sense for how the Board wants the bills to look. We will show other time-of-use rate bill examples and ask for a vote to solidify the Board's choice on what, broadly speaking, is included/excluded.

8:50 AM 8. **Presentation on electrical load** 15 Minutes Asst. Director Information

Background: At a previous meeting, a Light Board member asked for more detail on CMLP's current and projected load.

Purpose: Deliver a brief presentation with data on load and allow for questions.

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

9:10 AM 10. **Adjourn**

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Distribution: Select Board (1 copy)

Kerry Lafleur	Carole Hilton	Joe Repoff	Eric Simms
Jan Aceti	Laura Scott	Jeff Cosgrove	Cameron McKennitt
Jason Bulger	Karlen Reed	Michael Hale	

Join Zoom Meeting
https://us02web.zoom.us/j/83853970051?pwd=akVzemJRQk8vNTJRUnNlOS9NNDFuQT09

Meeting ID: 838 5397 0051
Passcode: 661712 One tap mobile

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+16469313860,,87335757488#,,,,*680327# US

Link to view recordings of previous Light Board Meetings:
https://www.youtube.com/playlist?list=PL1TTzrWEKOOn0RlJ2MdE2SnNZMWYeoeat

Link to view the Director's Updates (in meeting packets):
https://concordma.gov/1106/Municipal-Light-Board

Link to view the Broadband Monthly Updates:
https://www.concordma.gov/3148/Monthly-Updates

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Concord Municipal Light Board Minutes
December 4, 2024

Draft

Pursuant to a notice duly filed with the Town Clerk, a meeting of the Municipal Light Board was held on Wednesday December 4, 2024, at 7:30 AM, via a Zoom Webinar. Present were Board Members: Warren Leon (Chair), Brian Foulds, John Dalton, and Bianca Taylor. Also in attendance were Jason Bulger, CMLP Director; Carole Hilton, CMLP Customer Service Manager; Laura Scott, Assistant Director of Power Supply and Energy Management; Joe Repoff, CMLP Assistant Director; Kerry Lafluer, Town Manager; Karin Farrow, CMLP Office Administrator; Eric Simms, Sustainability Director; Cameron McKennitt, Select Board liaison to CMLP; residents, Karlen Reed, Pamela Dritt, Peter Fandel, Bob Birkett, Rob Lacey, Evan Ricker, Halvor Iverson, Josh Galper, Laura LeVan, Mark Rubman, Peggy Wargelin, Fannie Rogal , Gary Kleiman, Linda Chin, Sanford Feman, Scott Hopkinson, Shelly Peterson and Andy Puchrik; non-residents Dakota Antelman and Josh Cook.

Note definitions for acronyms used in these minutes:

- **CMLP: Concord Municipal Light**
- **ETS:** Electric Thermal Storage
- **TOU – Time-of-Use**

CALL TO ORDER
Mr. Leon called the meeting to order at 7:30 AM. Meeting recording will be posted to the Minuteman Media Website as soon as it is available.[1]

MEETINGS & MINUTES

Upcoming Meeting Dates: December 11, 2024*; January 8, 2025; February 12, 2025; March 12, 2025.
*This is a placeholder, if needed, for rate adoption.

Mr. Foulds moved to approve the November 15, 2024 minutes, as last distributed. Ms. Taylor provided the second and with a unanimous vote, the minutes were approved.

DIRECTORS UPDATE presented by Jason Bulger (2:53)

- CMLP held its annual inventory preview and counting the week of Thanksgiving.
- Eric Simms, the Sustainability Director, is holding another Sustainability Roundtable at 6:30pm on December 11, 2024 in the Goodwin Forum at the main library branch (with a Zoom option as well). CMLP will be making a presentation to the group to report on its climate impacting programs.
- Earlier this our Netwatch security service went live in early November. We have two-way speakers installed at all substation locations, and the service has already been used to advise people to keep clear of the buildings multiple times.
- CMLP met with the School Superintendent and others to discuss the solar/battery project and plan next steps. The CMLP Director will attend a joint School Committee meeting in December to provide updates and discuss the site license.
- The holiday tree lighting takes place on Sunday, December 1, 2024. CMLP procured the lighting and assisted with the installation of the lights.

[1] Minuteman Media YouTube Link: https://www.youtube.com/watch?v=5fFtc7sCPLQ

- We are in the DPU Winter Moratorium on disconnecting residential customers' electricity through April 15, 2025. We will continue collections efforts up to the point of disconnections for residential customers, but we can cut off service to commercial electric or Broadband customers with past due balances.

CMLP 2025 OPERATING FORECAST presented by Jason Bulger/Laura Scott (7:49)

- Mr. Leon explained that the Board was generally supportive of the forecast as presented at the last meeting, and reminded attendees that they had a few questions before taking a formal vote.
- Mr. Bulger explained that a new draft has been presented and included in the packet.
    - One change had no impact on the bottom line but showed salary progressions more clearly.
    - Another change was to fix an error in a customer service line, which ultimately had a positive impact on revenue needs.
- Mr. McKennitt asked about revenue and expenses, and Mr. Bulger summarized the key drivers.

Mr. Foulds moved to recommend to the Town Manager approval of the 2025 Operating Forecast as included in this meeting's packet. Ms. Taylor provided the second and with a unanimous vote, the recommendation was approved.

RATE HEARING (15:00)

Mr. Foulds moved to suspend the regular meeting and move into a rate hearing to discuss:,

1. **2025 proposed rates (all classes, annual updates)**
2. **New rate: Residential Service – Electric Vehicle Charging Separate Meter (R-EV SM)**
3. **NYPA Credit Adjustment**

Ms. Taylor provided the second and with a unanimous vote, the regular meeting was suspended and the rate hearing opened.

- Mr. Bulger thanked the staff for their help with the process and explained that there were a few questions that will be posed to the Light Board: rate of return (broadly defined to include depreciation, debt, transfers to the Town, etc.), fixed costs for customers, and how each rate class funds its cost of service.
- Ms. Scott explained return on ratebase, what it includes and covers. Reasons for it increasing include higher inflation costs, higher interest rates, more investments in plant.
    - Ms. Taylor said that the private sector analogue to this would be the net asset base, which is the net book value of assets minus depreciation. It's used to project profits for utilities.
    - Ms. Scott further clarified the difference between cash basis and utility basis.
    - Mr. Dalton thought that a more appropriate way of looking at it would be a debt service coverage ratio. As a non-profit, the return on ratebase helps us cover uncertainties that aren't otherwise captured.
    - Mr. Foulds and Ms. Taylor echo Mr. Dalton's comment.
- Ms. Scott reviewed different scenarios with different returns on ratebase, including different fixed costs – the current $18.50/mo and a slightly higher $20/mo. Sample bills were displayed.

  - Mr. Foulds asked why there was a proposed PCA to return over-collected REC funds to ratepayers instead of lowering the energy charge where we collect for it. Ms. Scott replied it was due to the Board adopting a policy that specified the PCA as the mechanism for this.
  - Mr. Foulds asked about the Baker Tilly rate design model favoring increasing capacity and transmission in a way not necessarily representative of the increase in CMLP costs in those areas. Ms. Scott explained that the model apportions true costs for energy and distribution, so the transmission/capacity charges are the ones that tend to be more variable.
    - Going forward, he prefers the distribution bucket being the variable that swings.
- Ms. Scott showed comparative statistics of IOU and other MLP rates, which shows CMLP far below IOU rates below just two other MLPs

The Light Board members deliberated about the three main rate topics:

1. Fixed charges: Mr. Leon is okay with $20 but does not want to necessarily see this number increase. Mr. Foulds expressed the importance of predictability of revenue and the desire to capture a fair cost for service delivery.
2. Rate of return: The Board had discussion and landed somewhere between 3.5-4%, and they all supported the 3.5% number, with Mr. Dalton preferring more debt service coverage ratio analysis in the future.
3. Cost of service and rate subsidies: Ms. Scott explained how this is calculated in the cost of service model in further detail, noting that a roughly 8.5% increase was spread equally to all rate classes, though the actual bill increase will be lower than that because energy costs are down and other credits will be applied. Special mention was made of the ETS increase, because before 2022 CMLP did not have an ETS distribution charge, and now it's projected to be a little over 2 cents/kWh. The Board heard from residents before agreeing with the way the increases were spread evenly across different rate classes.

ETS discussion

- Hal Iverson represents the ETS user group. They have sent two letters to the Light Board outlining the group's concerns. They argued that the distribution subsidy of the ETS rate did not get a full, fair hearing from the Board. He explains that the elimination of the distribution subsidy only provides an average of $15/year of relief to R-1 ratepayers, but it costs ETS users $1,000/year.
- Mr. Leon said it was right to give this full and fair consideration of the distribution subsidy, but without knowing what the TOU rates are, we don't know what the implications are.
- The Chair committed to having these discussions once we know what the Time-of-Use costs will be.
- Mr. Foulds feels we have discussed ETS extensively. He would like to see the ETS rate transition to the off-peak charge in the TOU. Ms. Taylor brought up the larger credibility of our energy efficiency programs and wanted to make sure people had faith in their continuing for a stated period of time. Mr. Dalton mentioned that a contract pushes risk onto other customers, so it needs to be done thoughtfully.

Other rates:

- The residential electric vehicle charging second meter rate was introduced for discussion.
- Ms. Scott explained the background of the NYPA and that the fund balance was sufficient to increase the credit.

Ms. Taylor moved to close the rate Hearing and resume the regular meeting. Mr. Foulds provided the second and with a unanimous roll call vote the motion passed.

Mr. Dalton moved to adjust the NYPA credit as proposed by staff [to $0.025 per kilowatt hour for the first 75kWh for Residential service]. Mr. Foulds provided the second and with a unanimous vote in favor the motion was passed.

Mr. Foulds moved to approve the second meter for EV charging [R-EV SM: Residential Service – Electric Vehicle Charging Separate Meter as included in the packet]. Ms. Taylor provided the second and with a unanimous roll call vote the motion passed.

Mr. Foulds moved to accept the proposed rates utilizing a $20.00 fixed charge and a 3.5% rate of return as included in the packet [pages 134-147]. Mr. Dalton provided the second and with a unanimous roll call vote the motion passed.

LIASON PUBLIC COMMENTS (1:41:05)

- Karlen Reed – She thanked everyone and asked if we could find out the rate of return used by other MLPs.
- Pamela Dritt – She wants us to increase our rates slowly to achieve more green energy and incentives.

Ms. Taylor moved to adjourn. Mr. Dalton provided the second and with a unanimous vote, the meeting was adjourned at 9:14 AM.

As the rates were established by the votes at this meeting the tentatively scheduled meeting for December 11 was cancelled.

Respectfully submitted,
John Dalton, Clerk

Concord Municipal Light Plant Updates

January 8, 2024

Contents

Organization, Transition, and Industry

- By the time of the January 8, 2024 Light Board meeting, we should have most of the hybrid meeting equipment installed in the public meeting room, which would enable us to hold seamless hybrid meetings.
- At the December 11, 2024 Sustainability Roundtable, the CMLP Director gave a presentation on what CMLP has done to contribute to the Town's Climate Action and Resilience Plan along with updates on the Solar Task Force's recommendations. You can watch the full video of the Roundtable here: https://www.youtube.com/watch?v=cYeIMlxugoE
- Vineyard Offshore is pulling 800MW of offshore wind contracts already negotiated with Massachusetts, allegedly because it was dependent on Connecticut purchasing 400MW, and that state has backed away from the deal. You can read more here.
- In late November, the governor signed the large climate bill we've been discussing, which " reforms the process for siting and permitting clean energy infrastructure at the local and state level." You can read more about the bill from the MMA's website here: https://www.mma.org/gov-healey-signs-clean-energy-bill/
- The Town, ENE, and other Massachusetts MLPs are carefully tracking the state's new proposed Decarbonization Clearinghouse, which would replace the Mass Save program if implemented. You can view a presentation on the clearinghouse here: https://www.mass.gov/doc/ma-building-decarbonization-clearinghouse-english/download

Energy Management

- In the past, CMLP has allowed some forms of supplemental electric heat in projects eligible for a whole home heat pump rebate: "Homes may use supplemental electric heat from existing heat pumps, ETS, and/or electric resistance baseboards if the new heat pump system is sized to meet 90% - 120% of the home's heat load." This policy provides some system design flexibility for installers when a small room's heat load is much less than the heating capacity of the smallest ductless unit, or when a customer has an existing heat pump serving a room or two.

  However, we are aware of at least four instances in 2024 in which a customer had an existing heat pump that was capable of meeting more than 10% of their heat load. In order to get the $10,000 whole home rebate, rather than a $2,800 - $4,400 partial home rebate, these customers sized the new heat pump to meet 90 – 120% of the home heat load, resulting in total (existing + new) heat pump capacity ranging from 123% to 138% of the home's heat load.

  Oversizing can have an impact on heat pump performance because an oversized heat pump system spends more time in the inefficient state of ramping up/turning off and less time in efficient steady state operation. Paying out these whole home rebates also has an impact on CMLP's budget.

  In order to mitigate this problem, CMLP has adopted a whole home heat pump rebate policy for 2025 stating that "If a heat pump project utilizes supplemental electric heat in rooms other than bathrooms, the project is eligible for a whole home rebate only if the supplemental electric heat **meets no more than 10% of the home's total heat load** and the new heat pump is sized to meet 90% - 120% of the home's total heat load." We've provided installers with several documentation options that will allow CMLP staff to determine whether the supplemental electric heat meets this criterion.

- CMLP staff are reviewing the changes that Mass Save has proposed to their heat pump rebate program, as described in the Massachusetts 2025-2027 Energy Efficiency and Decarbonization Plan that Mass Save's utility sponsors submitted to the DPU on October 31, 2024 for consideration. One change, which Mass Save has already announced on its website, is a whole home heat pump rebate of $3,000 per ton of cooling capacity, up to $10,000, rather than a fixed $10,000 for every whole home heat pump project. This policy will allow for graduated rebates that are better correlated with heat pump project costs for smaller homes. CMLP has adopted this policy as well. Staff will be making further recommendations to CMLP's leadership regarding whether the adoption of other Mass Save program changes would improve CMLP's heat pump rebate program.

- CMLP and Energy New England staff have developed a 2025 EV Marketing Plan. The plan lays out monthly CMLP e-newsletter topics for which ENE will develop content and graphics. Some of the themes and graphics developed for the September 2024 EV Showcase will be featured. We will evaluate the success of the marketing campaign using a number of metrics, including the number of help requests received by ENE's EV Specialist

Team, the number of EV-related rebate applications CMLP receives and Concord's EV adoption rates relative to other high adoption communities in MA. Customer surveys at the beginning and end of 2025 will also help us gauge changes in perception and knowledge as a result of the marketing campaign.

Battery Storage and Solar Project Updates

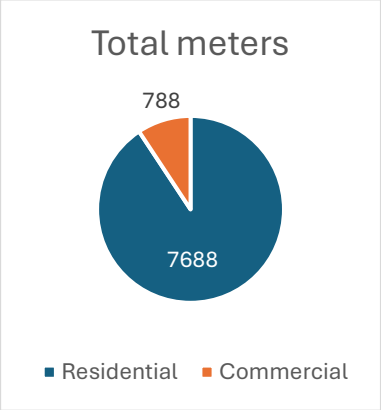
- CMLP attended the School Committee meeting in early December and the Middle School Building Committee in mid-December to provide updates on the solar/battery project there. We have the RFP package for the solar ready and are waiting for the School Committee to execute the site license, which was given to the Superintendent in November.

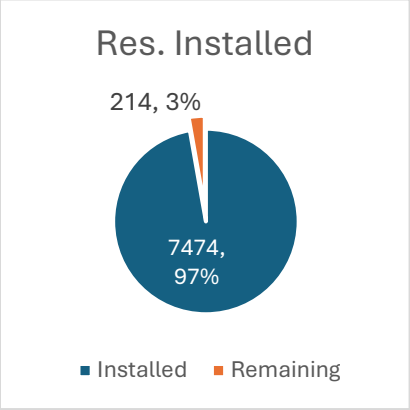
Advanced Metering Project Updates

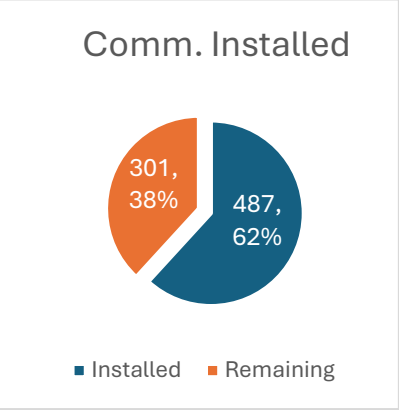
Figure 1: January 2025 Meters

- We have just 515 meters left to install. Our projected completion date is dependent on weather, but could be as early as late March.
- We continue to install the last of the residential meters, many of these also have load control relays and require appointments to be made with the customers. Our staff members have attempted to contact customers 4-6 times via phone calls, emails, and registered letters. After the December 10th billing is completed, we will remove customers from our load control programs if we have not heard back from them so their rates will be changed to the residential rate and controlled water heating customers will no longer receive the $10 bill credit.
- The Metering Division and Hercules Electrical are installing commercial meters with 300 meters left to install. The commercial meters tend to be located inside buildings and require us to make arrangements with the building property management for the meter change outs. There is no loss of power for many of the commercial meters; however, we still take precautions to inform the property managers to make them aware. Emerson Hospital John Cummings building is scheduled on January 12th as an early Sunday morning project.

- CMLP's electrician completed installations of approximately 343 load control relays – roughly 238 controlled water heating and 105 electric thermal storage heaters. After the December 10th billing completed, we began removing customers from our load control programs and their rates will be changed to the residential rate. Controlled water heating customers will no longer receive the $10 bill credit. Staff made repeated attempts to contact these customers to schedule appointments by email, phone, and certified letters.
- To date, 35 customers with 38 meters have opted out of receiving a new AMI meter. As we're wrapping up the residential AMI installations, we'll next focus on changing the meters for the opt-out customers.







Engineering and Operations

- The Engineering team met with Fractal engineers to discuss the battery storage project at the middle school.
- The Line and Engineering team assisted with a general service meter at Emerson Hospital.
- Tree trimming bids are due back in early January, and we hope to have most of the work done by the end of April.
- The holiday tree lighting takes place on Sunday, December 1, 2024. CMLP procured the lighting and assisted with the installation of the lights.

Power Supply

- CMLP sent Minuteman Arc's consultant hourly usage data so they can plan for their fleet electrification.

- We helped the Massachusetts Department of Conservation & Recreation calculate the emissions benefit of the solar array located at the Walden Visitor's Center.
- Concord Greene residents asked their Board to consider installing another EV charger. CMLP provided CG with usage statistics for the existing charger and direction that the financial returns do not justify installation of additional charging infrastructure by CMLP.
- Concord will increase its offtake percent 1.6% from 3% to 4.6% in the recently executed Pontook and Williams contracts with Brookfield Hydro as a result of Reading's decision to exit these contracts. Reading's entitlement was offered to those buyers who decided to decline D.E. Shaw's proposed price increase on Broadleaf from $57.50 to $110.15/MWh fixed.
- We had an introductory call with Shell Energy North America to discuss potential to supply physical electricity with bundled RECs. Shell will discuss and get back to us in January.
- Our battery energy storage consultant completed preparation of the RFP for the Middle School battery

Customer Service / Metering

- Since the new rates were approved at the last Light Board meeting, Carole Hilton completed programming the rates in the billing system. Donna De Gray, Laura Scott, and Carole completed the first level of testing. Once the year-end process ran on 12/31/24, NISC could begin the bill print programming changes needed to add the PCA to the bills, as well as program for the new EV rate. We expect them to wrap up their programming by early next week. Donna, Laura, and Carole will conduct the last levels of testing for the new rates and bill print changes at that point. Their testing needs to be completed by Friday, January 10th before the first billing runs for January.
- We are in the DPU Winter Moratorium on disconnecting residential customers' electricity through April 15, 2025. We will continue collections efforts up to the point of disconnections for residential customers, but we can cut off service to commercial electric or Broadband customers with past due balances. Over the winter months, Customer Service is reviewing our collections process to update the documentation and door tags, applications, and other processes.

TOWN OF CONCORD
MUNICIPAL UTILITIES
ELECTRIC | WATER | SEWER | TELECOMMUNICATIONS

December 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 second Senior Network Engineer began on Monday, November 25, 2024, and we are thrilled to have him become part of our team. Welcome, Ahmed!

The team has been working on procuring a new core switch capable of the 100GB/s speeds needed to tie together our 3 ISPs and the next generation XGS-PON OLTs. After several meetings with vendor representatives, we have decided on a course of action and are moving forward with procurement. We should have the equipment shortly after the new year.

Internet Safety: Staying Safe in the Digital World

The internet offers incredible opportunities for connection, learning, and entertainment. However, it's crucial to be aware of online safety best practices to ensure a positive and secure digital experience for everyone in your household, especially seniors and teens.

For Seniors:

- **Beware of Scams:** Be wary of unsolicited calls, emails, or messages asking for personal information like bank details or Social Security numbers.
- **Strong Passwords:** Create unique and strong passwords for all your online accounts. Avoid using easily guessable information like birthdays or pet names.
- **Phishing Awareness:** Learn to identify phishing emails, which attempt to trick you into clicking on malicious links or downloading harmful files.
- **Limit Sharing:** Be cautious about sharing personal information online, such as your full name, address, and phone number.
- **Use Strong Wi-Fi:** Secure your home Wi-Fi network with a strong password to prevent unauthorized access.

Upcoming Maintenance

The fiber splicing maintenance mentioned in the October update was not needed! We had scheduled the time in the event we had to resplice all fiber in the case. Once opened, it turned out it was in excellent shape and only a few fibers needed to be carefully returned to the inside of the case.

Learn more on our maintenance page here:

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

For Teens:

- **Cyberbullying:** Discuss the dangers of cyberbullying and the importance of reporting any incidents.
- **Privacy Settings:** Encourage teens to review and adjust privacy settings on social media platforms to control who can see their posts and information.
- **Online Predators:** Warn teens about the dangers of interacting with strangers online and the importance of never sharing personal information with unknown individuals.
- **Screen Time Management:** Establish healthy screen time limits and encourage regular breaks from digital devices.
- **Digital Footprint:** Explain the concept of a digital footprint and how online actions can have long-term consequences.

Resources:

- **ConnectSafely:** This non-profit organization provides valuable resources and information on online safety for all ages.
- **National Center for Missing & Exploited Children (NCMEC):** NCMEC offers resources and tools to help parents and children stay safe online.

By following these tips and having open conversations about online safety, you can help create a safer and more positive digital experience for everyone in your family.

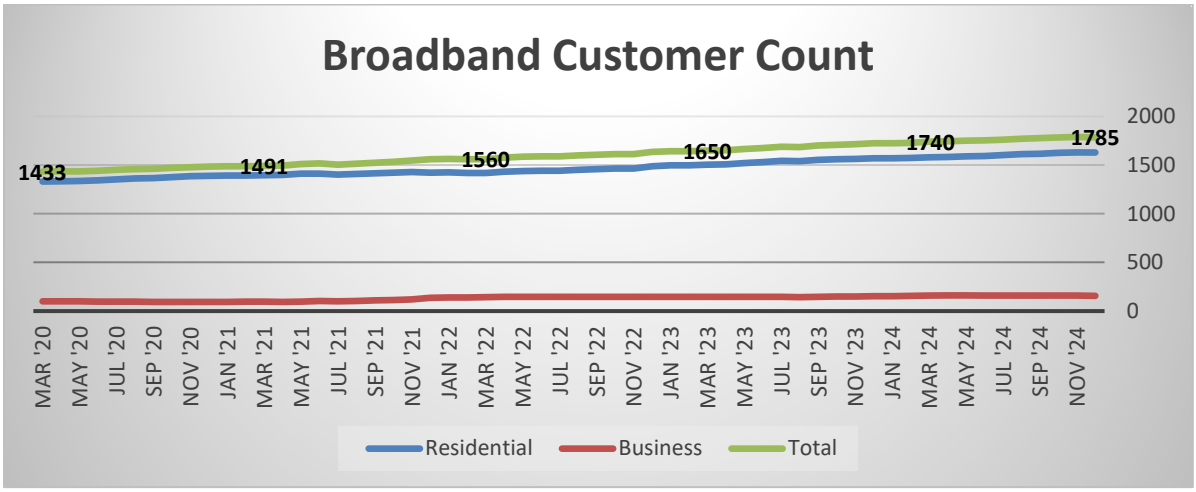
The Benefits of Dig Safe

Our modern world relies heavily on underground infrastructure, from gas and water lines to essential communication networks like fiber optic cables. These buried lines are vital to our daily lives, yet they remain largely invisible beneath the surface. Accidental damage to these lines can result in service disruptions, costly repairs, and even pose significant safety hazards. This is where the Dig Safe program plays a critical role.

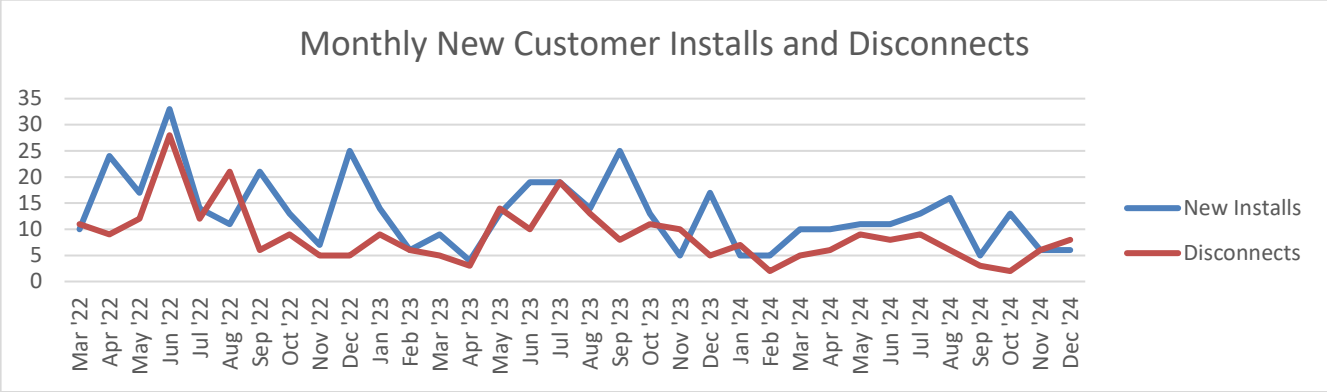
Before any digging project, whether it's installing a fence, planting a tree, or building a deck, it's crucial to contact Dig Safe. By simply calling 8-1-1, property owners and contractors initiate a process where utility companies are notified of the planned work. These companies then carefully mark the approximate locations of underground lines with flags or paint, clearly indicating safe digging zones. This vital step allows excavators to work safely and efficiently, avoiding costly and disruptive damage to essential infrastructure.

Participating in the Dig Safe program is not only a legal requirement in many areas, but also a responsible and proactive approach to protecting our communities. By prioritizing safety and respecting the vital infrastructure beneath our feet, we ensure the continued reliability of essential services and safeguard the well-being of our communities.

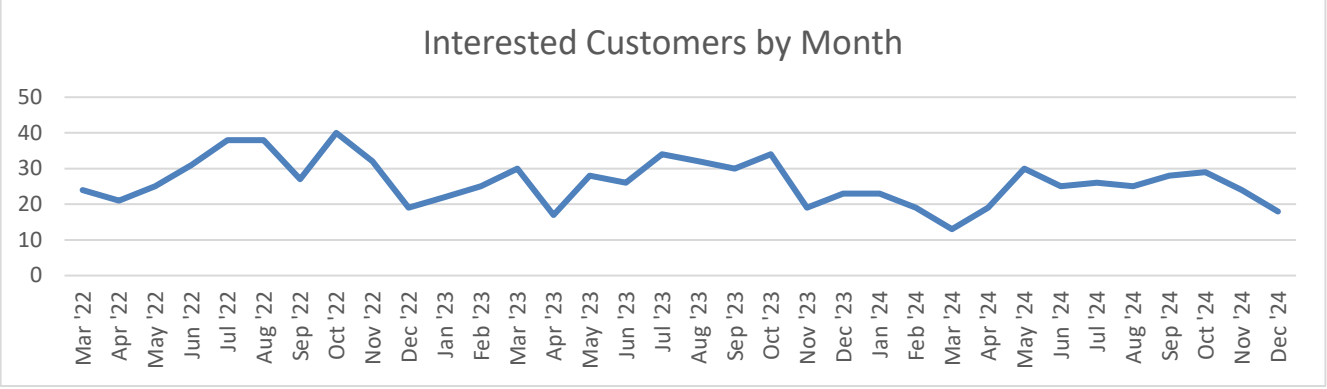
Monthly Metrics and Business Data



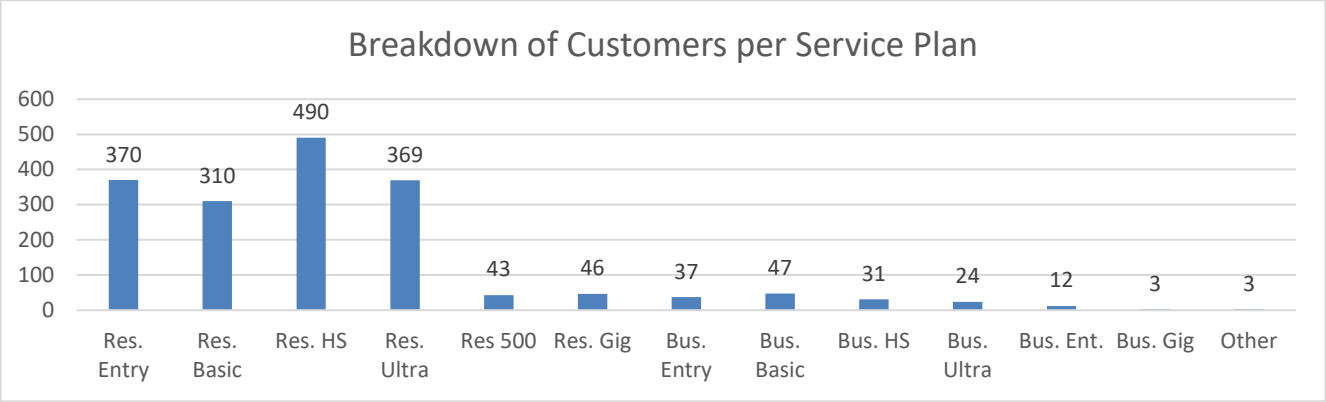
(*Customer count: March 2020 – December 2024*)



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

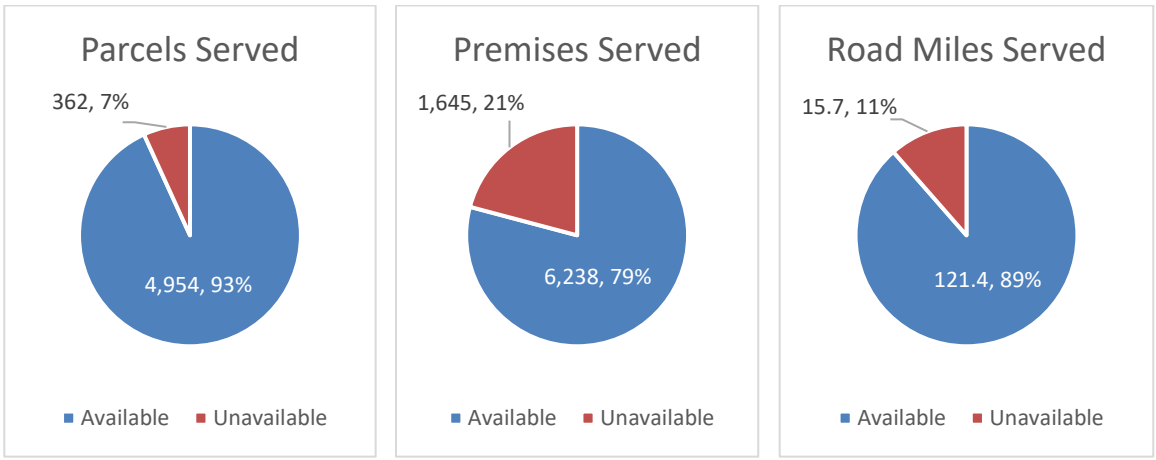


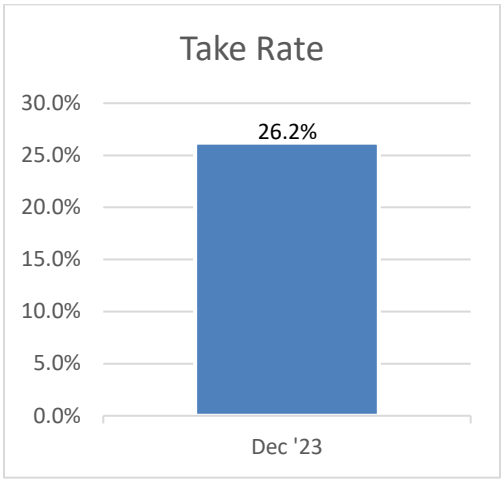
(*This is the number of individuals who submit the Broadband interest form, whether they are in the current service area or not.*)



(*This is the number of each customer on our different service plans as of 12/31/2024.)*

Other Metrics





(As of 12/1/2023)

Appendix

Fiber Broadband Completion Task Force's 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	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	
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	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.
Strategic Planning Goals (p.43)				
• Marketing and growth	Metric	High	Light Board/Town Staff	Working on this
• 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	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
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	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

Time of Use – Background and Purpose

- Current residential rate structure philosophy: the more you use, the more you pay.
- The philosophy is rooted in reducing electric consumption.

Capacity and Transmission Charge:	
First 657 kWhs	$0.04116 per kWh
Next 178 kWhs	$0.05353 per kWh
All in excess of 835 kWhs	$0.07725 per kWh

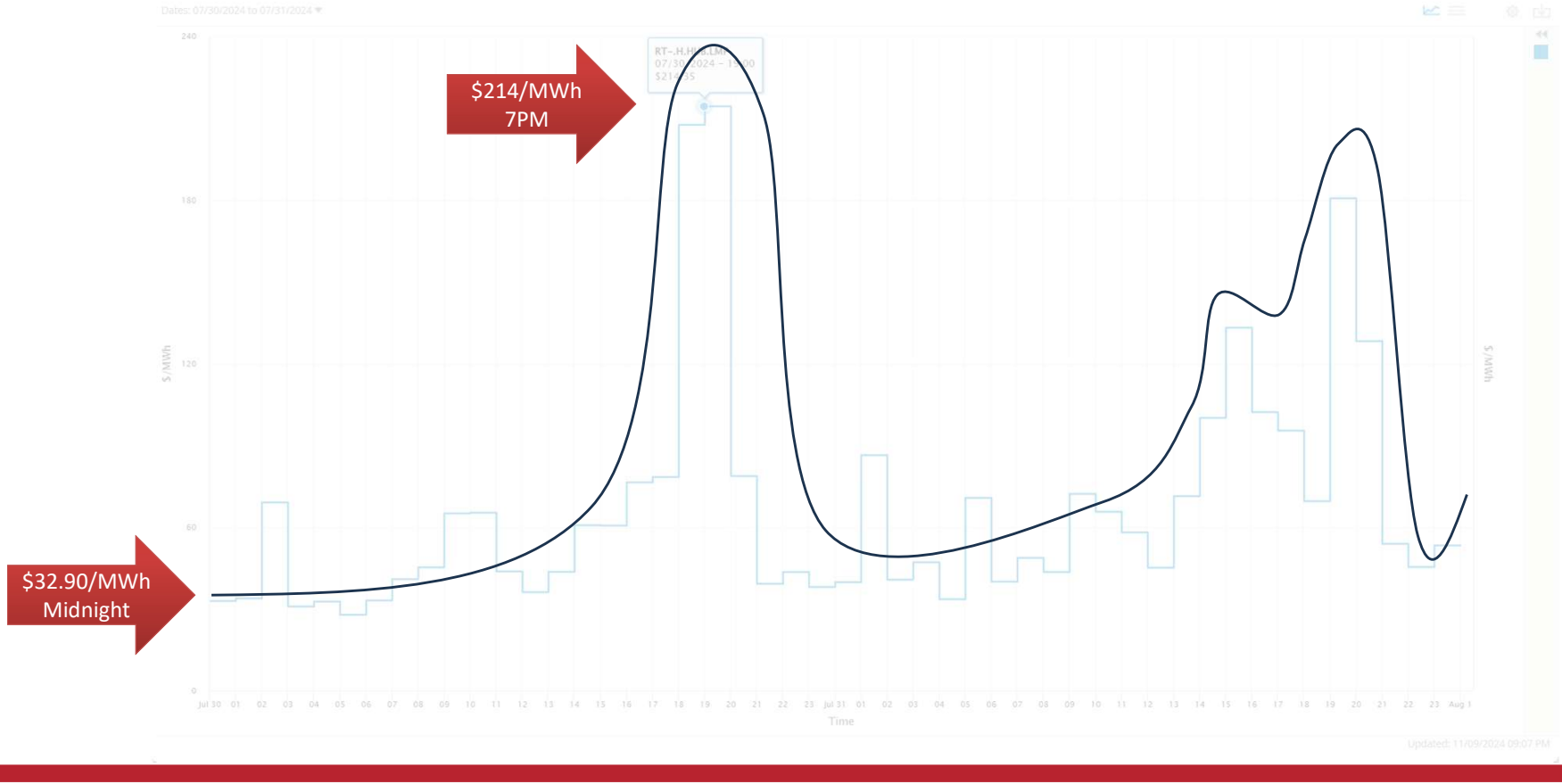
Time of Use – Background and Purpose

- To cut greenhouse gas emissions, we need to shift to electrification powered by renewables.
- Customers should not have to pay more for using more clean electricity.
- If usage is not the variable we are after, what is? What drives cost fluctuations in power supply and transmission?

Time of Use – Background and Purpose

- To note: the energy costs are revenue neutral. Extreme costs are absorbed by the Plant and distributed across all users.
- Peak avoidance has substantial savings for all customers.
- Transmission costs are expected to increase dramatically to accommodate the anticipated electricity needs.

Time of Use – Background and Purpose



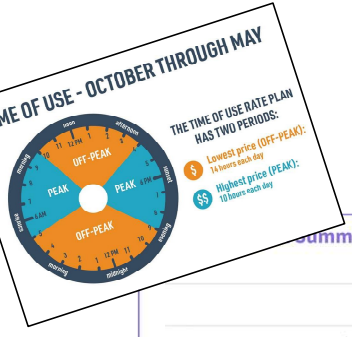
Time of Use – Background and Purpose

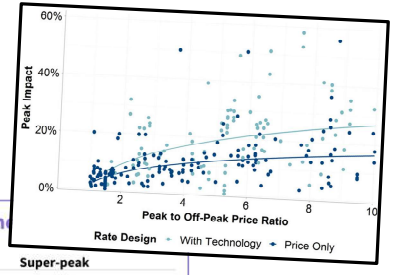
Goals:

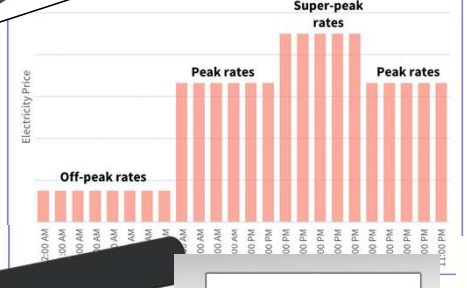
1. Align customers' electricity costs with CMLP's cost for obtaining electricity.
2. Lower prices for all customers.
3. Allow people who make decisions and investments that save them money continue to support our collective efforts to decarbonize.

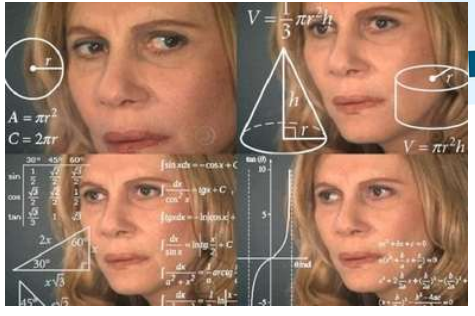
Time of Use – Background and Purpose

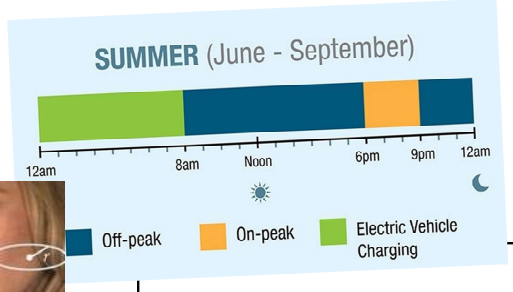
Simple concept, difficult execution and education

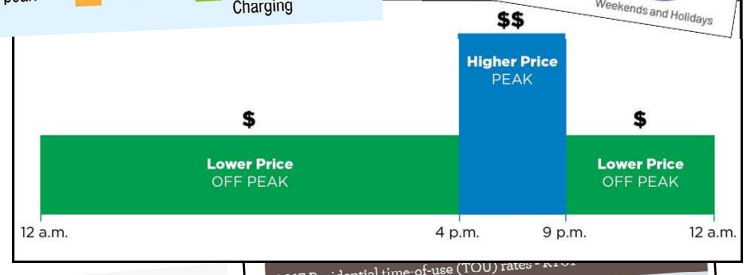


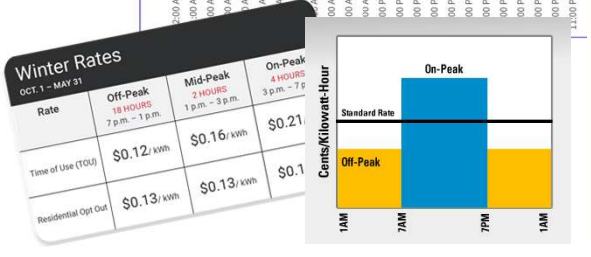








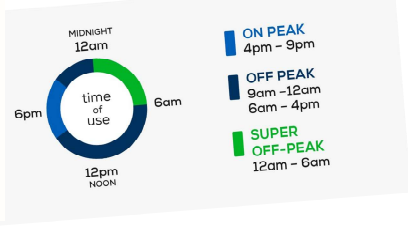


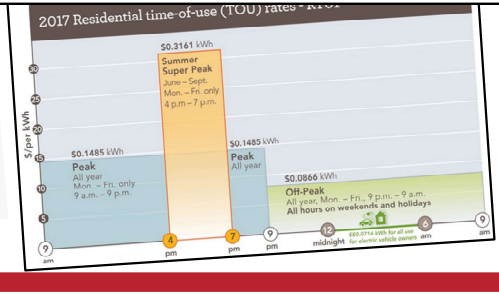


April 16 - October 15
2 p.m. to 6 p.m.
Weekdays

October 16 - April 15
6 a.m. to 9 a.m.
Weekdays

10 p.m. to 5 a.m.
Every day





Time of Use – History

2017 Strategic Plan

Rate Design

- Time of Use Rate
  - Opt Out
  - On-Peak to Off-Peak Rate Ratio is 2.5:1
  - On-Peak is 2pm to 7pm on Weekdays
- Higher Fixed Charges (aka Straight Fixed/Variable Charges)
  - Applies to all customers
  - Residential and G1 charge increases to $30/month by 2021.

2020 Rate Redesign

CMLP'S STORY AND STRATEGIC PLAN

bakertilly
now, for tomorrow.

Rate strategy that is an integral part of CMLP's strategic initiatives:

Goal	Target Value
1. Time of use rates	Sending a price signal to customers to shift their consumption to off-peak periods
2. Higher fixed charges	Increasing residential and general service charges, sending a clearer price signal to customers and grid services providers about the value of the connection they are using
3. Beneficial electrification for electric vehicles	Mechanisms needed to ensure that charging is done off-peak, including participation in TOU rates or controlled charging programs

Time of Use – History

2021 CMLB Goals

Concord Municipal Light Board Draft Specific Goals

1. Review and approve CMLP annual budget ensuring fiscal accountab… account inherent risks in market fluctuations [SB Goal #2]
2. Update Strategic Plan to reflect Article 51, Envision Concord and the Concord Climate and Resiliency Plan, and Concord's GHG Inventory [SB Goal #1,3, 4, 5, 9] and utility market changes (#3 and #4 are inherently part of this)
    a. For discussion: review 2030 goal; role of distributed energy storage; community updates on progress towards goals
3. Power Supply – review non-emitting policy decision regarding nuclear as a percent in power portfolio
4. Develop and implement AMI multi-year strategy –[SB Goals # 4, 9]
    a. Approve RFP technical specs for installation of advanced meters in 2023
    b. Approve opt-out policy [SB Goal #4]
    c. Develop marketing and education plan for customers on the implications and benefits of AMI and related TOUR rate structure
5. Develop Board competency and knowledge of Time of Use Rates to inform better policy and rate decisions [SB Goals #1,3,4,6]7,10,11]
    a. Review rate design ensuring that TOUR rates are compatible with Residential Assistance and Farm Rider Rates, and distributed energy assets.
6. Research and implement utility scale battery storage [SB Goals # 4,9]
7. Evaluate incentive programs for scalability, financial and marketing commitments and

"We need a rate structure that is unsubsidized – fair to the other customers – but also rewards those that are doing the investments we need to level our load."

2023 TOU Presentation

The Opportunity

Rates should be:

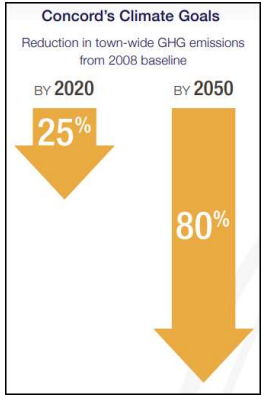
1. Equitable: costs should be paid by those who incur them
2. Simple, understandable, feasible
3. Effective in meeting CMLP's revenue needs
4. Successful in sending price signals to customers, providing them with tools to meet their own energy use goals, which will also create savings for CMLP. (the Win-Win)
5. Support Concord's Energy Goals (Article 51) by fairly collecting expense from the individual creating them

Time of Use – History

Climate Action Plan

(June 2020)

- Reduce greenhouse gas emissions 80% by 2050
- Time of Use rates: a major component of the plan



Action Implementation Blueprints

ACTION NAME

Redesign electricity rates to support energy conservation, peak load management, electrification, and renewable energy generation.

DESCRIPTION OF ACTION	Concord Municipal Light Plant (CMLP) plans to deploy smart meters for all customers. Smart meters will allow CMLP to implement Time of Use (TOU) rates better align customer, utility, and grid expenses. TOU rates provide peak load savings, benefits to the grid, allowing customers to best utilize solar + energy storage and providing environmental benefits.
CHAMPION	CMLP

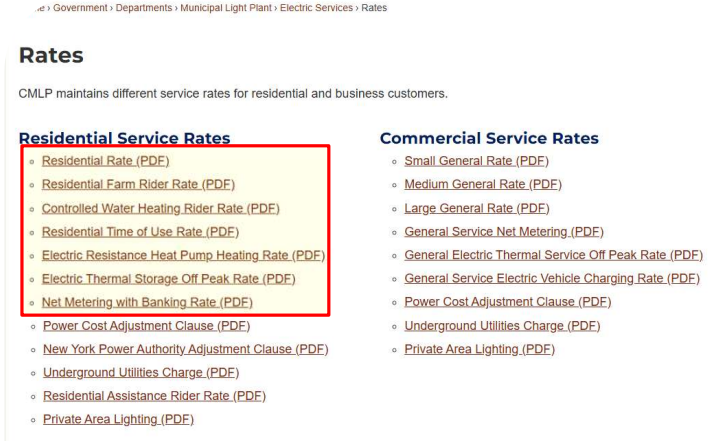
IMPLEMENTATION STEPS	PLANNING CONSIDERATIONS	
	TIME FRAME	KEY PARTNERS
1. Model how time-of-use (TOU) rates would affect peak load management, renewable energy generation, energy conservation, and electrification efforts. Analysis of existing rates and modeling of new TOU rates should be performed collectively to ensure the outcome reaches the right balance between customer value and utility goals.	2020-2021	• CMLP • Concord Municipal Light Board • Sustainability Division
2. Deploy smart meters to all CMLP customers with advanced metering infrastructure to provide communication network and data management system.	2022-2025	• CMLP

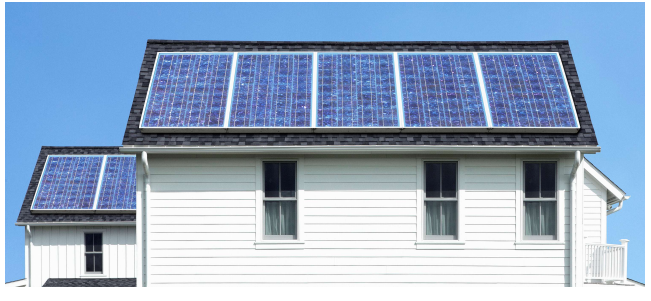
Time of Use – What has been decided?

1. That we are doing it
2. The purpose/motivation
3. That we want to connect the final rates to actual costs (non-arbitrary)
4. That we want to keep it as simple as possible
5. That we want to find ways to help customers save money and avoid peaks

Time of Use – Questions that remain

1. Which rates will go away once opt-out Time of Use is here?
2. What will the opt out rate structure be?
3. How are we addressing solar net metering?
4. Do we continue to increase the fixed monthly customer charge?





Time of Use – Cost of service and rate determinations

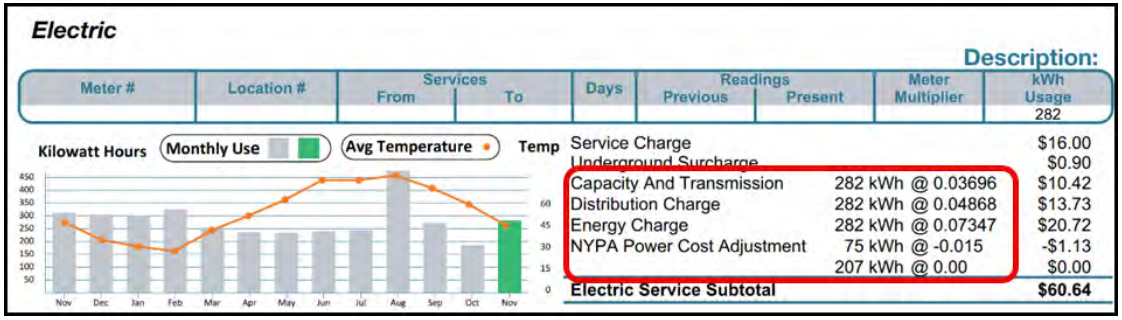
1. At what interval do we plan on collecting transmission and capacity costs? How long are the periods we use to calculate?
2. What level of detail do we include on bills?
3. What are best practices and lessons learned can the COSS consultant bring to the table?

TOU Bill Print Options

January 8, 20245 Light Board Meeting

Introduction

- Our current bills break out Capacity/Transmission, Distribution, and Energy charges for each kWh.
- With Time-of-Use rates, it may be difficult and confusing to break out all three elements for each time period on a bill.
- We are looking for feedback on the level of detail to include after viewing how other utilities are handling this.



Electric

Description:

Meter #	Location #	Services From	Services To	Days	Readings Previous	Readings Present	Meter Multiplier	kWh Usage
								282

Kilowatt Hours | Monthly Use | Avg Temperature | Temp

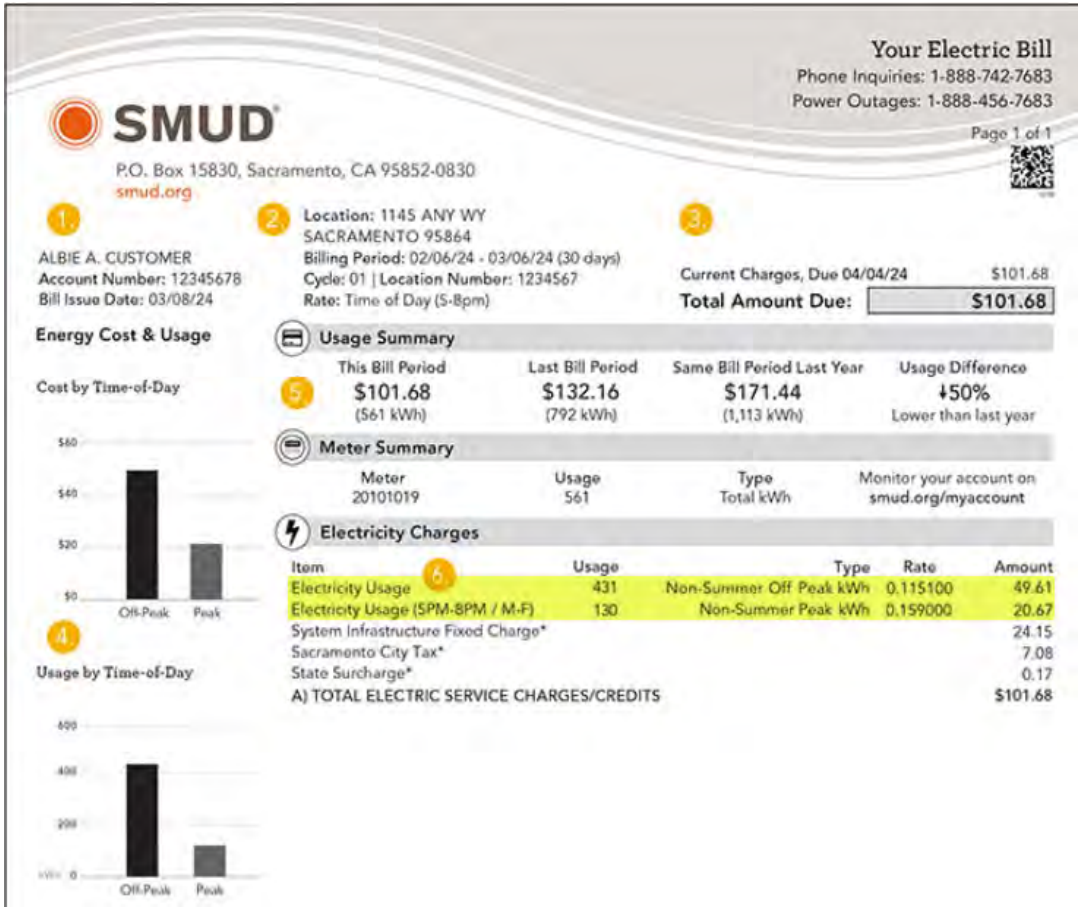
Service Charge		$16.00
Underground Surcharge		$0.90
Capacity And Transmission	282 kWh @ 0.03696	$10.42
Distribution Charge	282 kWh @ 0.04868	$13.73
Energy Charge	282 kWh @ 0.07347	$20.72
NYPA Power Cost Adjustment	75 kWh @ -0.015	-$1.13
	207 kWh @ 0.00	$0.00
Electric Service Subtotal		**$60.64**

Examples

- Sacramento Municipal Utility District
- Toronto Hydro
- Kankakee Valley
- Hendricks Power
- Cobb EMC
- Southern California Edison

Sacramento Municipal Utility District

- One line per time period
- Single, bundled rate
- Two charts show prior month only
  - Cost per time period
  - Usage per time period



SMUD

P.O. Box 15830, Sacramento, CA 95852-0830
smud.org

Your Electric Bill
Phone Inquiries: 1-888-742-7683
Power Outages: 1-888-456-7683
Page 1 of 1

1. ALBIE A. CUSTOMER
Account Number: 12345678
Bill Issue Date: 03/08/24

2. Location: 1145 ANY WY
SACRAMENTO 95864
Billing Period: 02/06/24 - 03/06/24 (30 days)
Cycle: 01 | Location Number: 1234567
Rate: Time of Day (5-8pm)

3. Current Charges, Due 04/04/24 $101.68
Total Amount Due: $101.68

Energy Cost & Usage

Cost by Time-of-Day

4. Usage by Time-of-Day

Usage Summary

5.

This Bill Period	Last Bill Period	Same Bill Period Last Year	Usage Difference
$101.68 (561 kWh)	$132.16 (792 kWh)	$171.44 (1,113 kWh)	↓50% Lower than last year

Meter Summary

Meter	Usage	Type	Monitor your account on
20101019	561	Total kWh	smud.org/myaccount

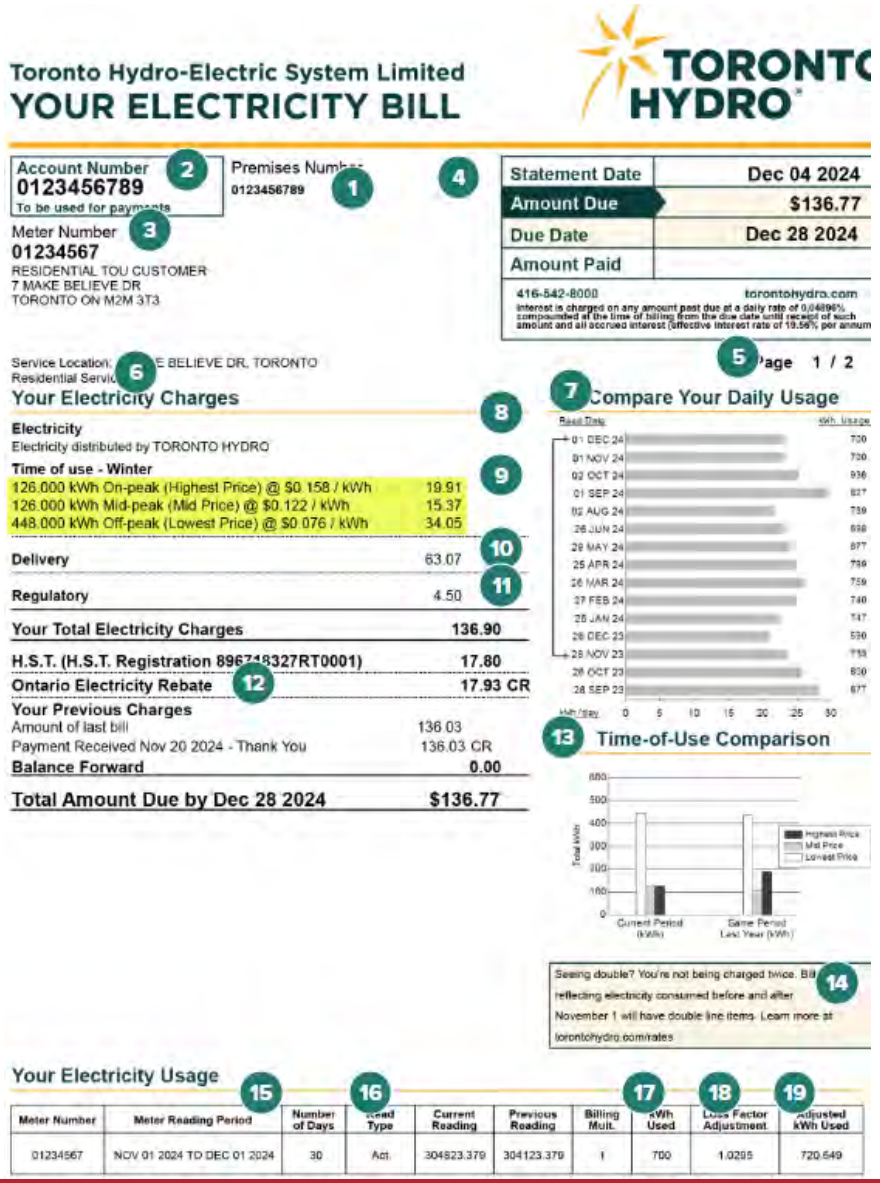
Electricity Charges

6.

Item	Usage	Type	Rate	Amount
Electricity Usage	431	Non-Summer Off Peak kWh	0.115100	49.61
Electricity Usage (5PM-8PM / M-F)	130	Non-Summer Peak kWh	0.159000	20.67
System Infrastructure Fixed Charge*				24.15
Sacramento City Tax*				7.08
State Surcharge*				0.17
A) TOTAL ELECTRIC SERVICE CHARGES/CREDITS				$101.68

Toronto Hydro

- One line per time period
- Single, bundled rate
- Two charts show
  - Total kWh past 12 months
  - kWh per time period last month vs year ago
- Meter register readings



Toronto Hydro-Electric System Limited

YOUR ELECTRICITY BILL

TORONTO HYDRO

Account Number 0123456789 (2) — To be used for payments

Premises Number 0123456789 (1)

(4)

Meter Number (3) 01234567

RESIDENTIAL TOU CUSTOMER
7 MAKE BELIEVE DR
TORONTO ON M2M 3T3

Statement Date	Dec 04 2024
Amount Due	$136.77
Due Date	Dec 28 2024
Amount Paid	

416-542-8000 torontohydro.com

Interest is charged on any amount past due at a daily rate of 0.04896% compounded at the time of billing from the due date until receipt of such amount and all accrued interest (effective interest rate of 19.56% per annum

(5) Page 1 / 2

Service Location: (6) E BELIEVE DR, TORONTO
Residential Servi

Your Electricity Charges (8)

Electricity
Electricity distributed by TORONTO HYDRO

Time of use - Winter (9)

126.000 kWh On-peak (Highest Price) @ $0.158 / kWh	19.91
126.000 kWh Mid-peak (Mid Price) @ $0.122 / kWh	15.37
448.000 kWh Off-peak (Lowest Price) @ $0.076 / kWh	34.05
Delivery (10)	63.07
Regulatory (11)	4.50
Your Total Electricity Charges	**136.90**
H.S.T. (H.S.T. Registration 896718327RT0001)	**17.80**
Ontario Electricity Rebate (12)	**17.93 CR**

Your Previous Charges

Amount of last bill	136.03
Payment Received Nov 20 2024 - Thank You	136.03 CR
Balance Forward	**0.00**
Total Amount Due by Dec 28 2024	**$136.77**

(7) Compare Your Daily Usage

(13) Time-of-Use Comparison

Seeing double? You're not being charged twice. Bill (14) reflecting electricity consumed before and after November 1 will have double line items. Learn more at torontohydro.com/rates

Your Electricity Usage

(15) (16) (17) (18) (19)

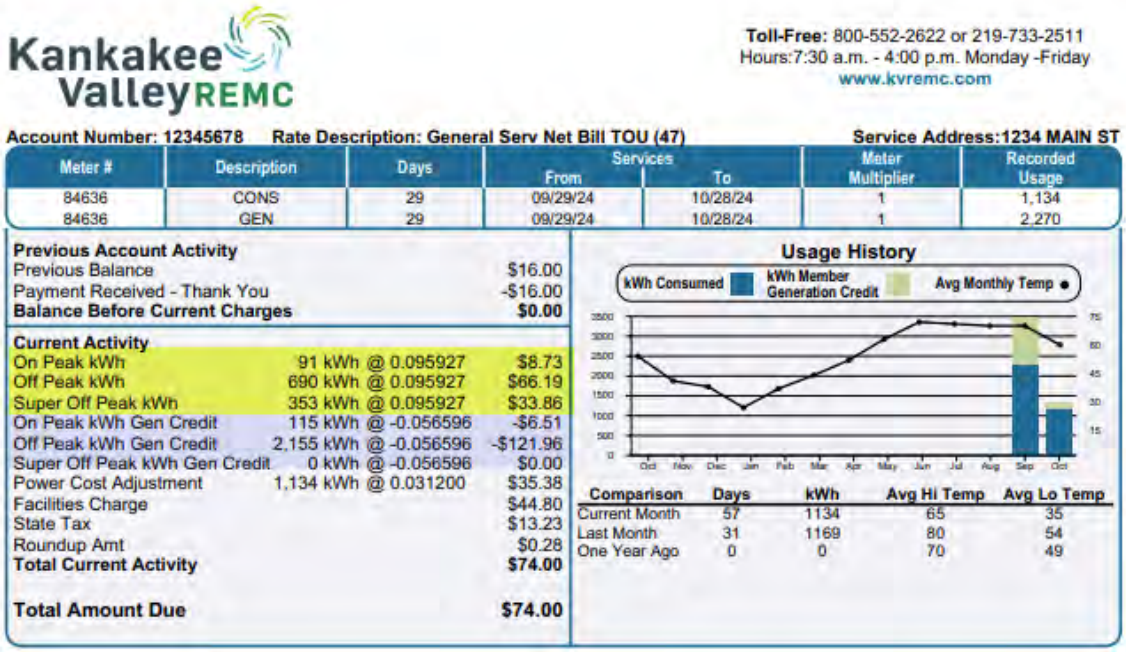
Meter Number	Meter Reading Period	Number of Days	Read Type	Current Reading	Previous Reading	Billing Mult.	kWh Used	Loss Factor Adjustment	Adjusted kWh Used
01234567	NOV 01 2024 TO DEC 01 2024	30	Act.	304823.379	304123.379	1	700	1.0295	720.649

CONCORD MUNICIPAL LIGHT PLANT
ELECTRIC | BROADBAND | ENERGY MANAGEMENT

We're here to serve you

Kankakee Valley

- One line per time period
- Single, bundled rate
- Chart shows last 12 months
  - Total kWh delivered past 12 months
  - Generation credit past 12 months
- Meter register readings



Kankakee Valley REMC

Toll-Free: 800-552-2622 or 219-733-2511
Hours:7:30 a.m. - 4:00 p.m. Monday -Friday
www.kvremc.com

Account Number: 12345678 **Rate Description: General Serv Net Bill TOU (47)** **Service Address:1234 MAIN ST**

Meter #	Description	Days	Services From	Services To	Meter Multiplier	Recorded Usage
84636	CONS	29	09/29/24	10/28/24	1	1,134
84636	GEN	29	09/29/24	10/28/24	1	2,270

Previous Account Activity		
Previous Balance		$16.00
Payment Received - Thank You		-$16.00
Balance Before Current Charges		**$0.00**
Current Activity		
On Peak kWh	91 kWh @ 0.095927	$8.73
Off Peak kWh	690 kWh @ 0.095927	$66.19
Super Off Peak kWh	353 kWh @ 0.095927	$33.86
On Peak kWh Gen Credit	115 kWh @ -0.056596	-$6.51
Off Peak kWh Gen Credit	2,155 kWh @ -0.056596	-$121.96
Super Off Peak kWh Gen Credit	0 kWh @ -0.056596	$0.00
Power Cost Adjustment	1,134 kWh @ 0.031200	$35.38
Facilities Charge		$44.80
State Tax		$13.23
Roundup Amt		$0.28
Total Current Activity		**$74.00**
Total Amount Due		**$74.00**

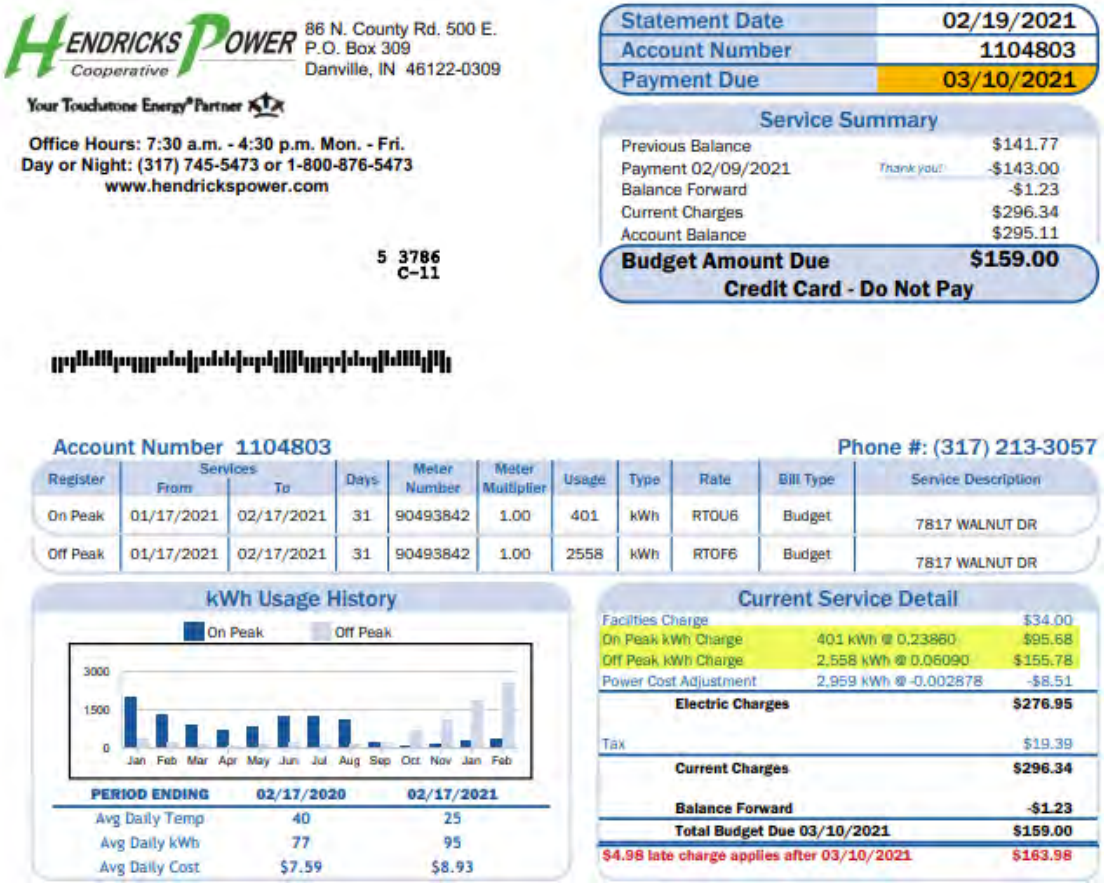
Usage History

kWh Consumed | kWh Member Generation Credit | Avg Monthly Temp

Comparison	Days	kWh	Avg Hi Temp	Avg Lo Temp
Current Month	57	1134	65	35
Last Month	31	1169	80	54
One Year Ago	0	0	70	49

Hendricks Power

- One line per time period
- Single, bundled rate
- One chart shows last 12 months clustered columns
  - On-peak usage
  - Off-peak usage
- Meter register readings



HENDRICKS POWER Cooperative
86 N. County Rd. 500 E.
P.O. Box 309
Danville, IN 46122-0309

Your Touchstone Energy® Partner

Office Hours: 7:30 a.m. - 4:30 p.m. Mon. - Fri.
Day or Night: (317) 745-5473 or 1-800-876-5473
www.hendrickspower.com

5 3786
C-11

Statement Date	02/19/2021
Account Number	1104803
Payment Due	03/10/2021

Service Summary

Previous Balance		$141.77
Payment 02/09/2021	Thank you!	-$143.00
Balance Forward		-$1.23
Current Charges		$296.34
Account Balance		$295.11
Budget Amount Due		**$159.00**

Credit Card - Do Not Pay

Account Number 1104803 Phone #: (317) 213-3057

Register	Services From	Services To	Days	Meter Number	Meter Multiplier	Usage	Type	Rate	Bill Type	Service Description
On Peak	01/17/2021	02/17/2021	31	90493842	1.00	401	kWh	RTOU6	Budget	7817 WALNUT DR
Off Peak	01/17/2021	02/17/2021	31	90493842	1.00	2558	kWh	RTOF6	Budget	7817 WALNUT DR

kWh Usage History

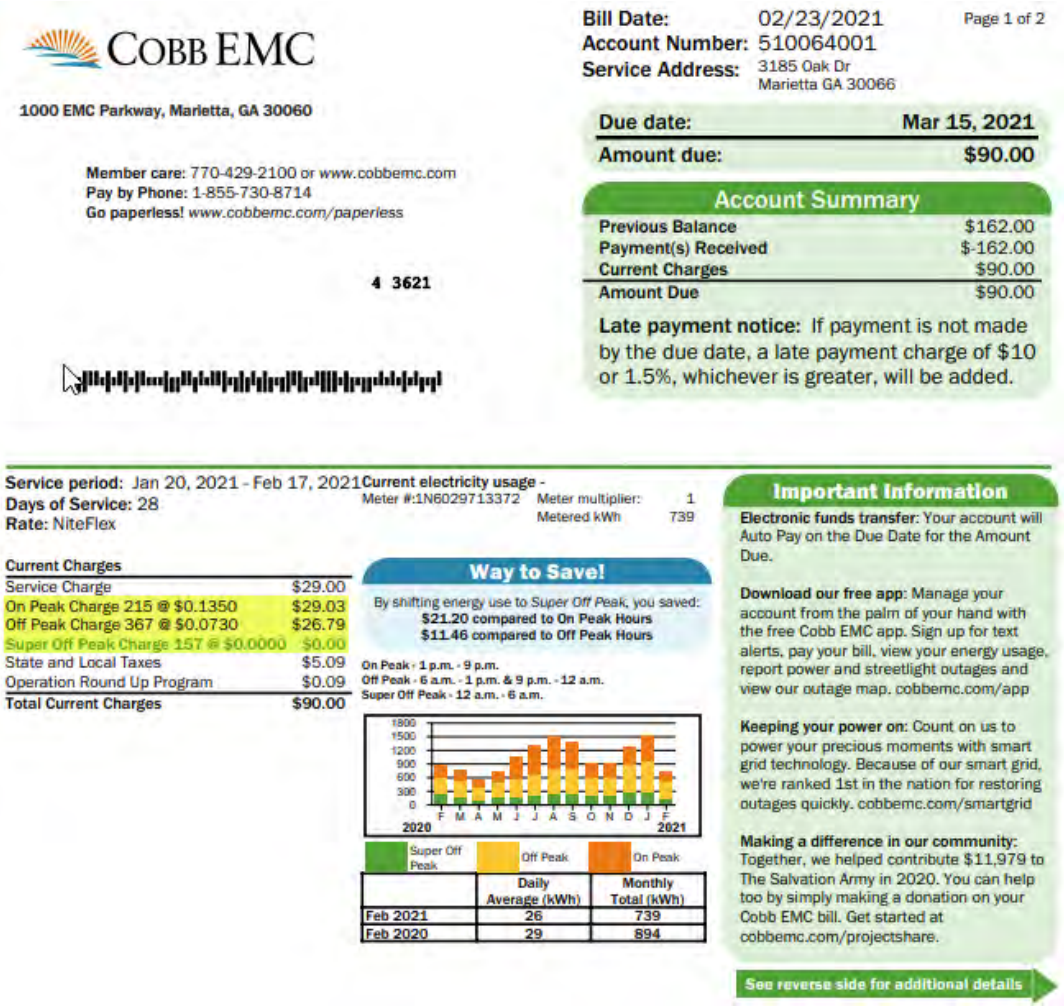
PERIOD ENDING	02/17/2020	02/17/2021
Avg Daily Temp	40	25
Avg Daily kWh	77	95
Avg Daily Cost	$7.59	$8.93

Current Service Detail

Facilities Charge		$34.00
On Peak kWh Charge	401 kWh @ 0.23860	$95.68
Off Peak kWh Charge	2,558 kWh @ 0.06090	$155.78
Power Cost Adjustment	2,959 kWh @ -0.002878	-$8.51
Electric Charges		**$276.95**
Tax		$19.39
Current Charges		**$296.34**
Balance Forward		**-$1.23**
Total Budget Due 03/10/2021		**$159.00**
$4.98 late charge applies after 03/10/2021		**$163.98**

Cobb EMC

- One line per time period
- Single, bundled rate
- One chart shows last 12 months stacked columns
  - On-peak usage
  - Off-peak usage
  - Super off-peak



COBB EMC

1000 EMC Parkway, Marietta, GA 30060

Member care: 770-429-2100 or www.cobbemc.com
Pay by Phone: 1-855-730-8714
Go paperless! www.cobbemc.com/paperless

4 3621

Bill Date: 02/23/2021 Page 1 of 2
Account Number: 510064001
Service Address: 3185 Oak Dr
Marietta GA 30066

Due date:	Mar 15, 2021
Amount due:	$90.00

Account Summary

Previous Balance	$162.00
Payment(s) Received	$-162.00
Current Charges	$90.00
Amount Due	$90.00

Late payment notice: If payment is not made by the due date, a late payment charge of $10 or 1.5%, whichever is greater, will be added.

Service period: Jan 20, 2021 - Feb 17, 2021
Days of Service: 28
Rate: NiteFlex

Current electricity usage -
Meter #:1N6029713372 Meter multiplier: 1
Metered kWh 739

Current Charges	
Service Charge	$29.00
On Peak Charge 215 @ $0.1350	$29.03
Off Peak Charge 367 @ $0.0730	$26.79
Super Off Peak Charge 157 @ $0.0000	$0.00
State and Local Taxes	$5.09
Operation Round Up Program	$0.09
Total Current Charges	$90.00

Way to Save!

By shifting energy use to *Super Off Peak*, you saved:
$21.20 compared to On Peak Hours
$11.46 compared to Off Peak Hours

On Peak - 1 p.m. - 9 p.m.
Off Peak - 6 a.m. - 1 p.m. & 9 p.m. - 12 a.m.
Super Off Peak - 12 a.m. - 6 a.m.

	Daily Average (kWh)	Monthly Total (kWh)
Feb 2021	26	739
Feb 2020	29	894

Important Information

Electronic funds transfer: Your account will Auto Pay on the Due Date for the Amount Due.

Download our free app: Manage your account from the palm of your hand with the free Cobb EMC app. Sign up for text alerts, pay your bill, view your energy usage, report power and streetlight outages and view our outage map. cobbemc.com/app

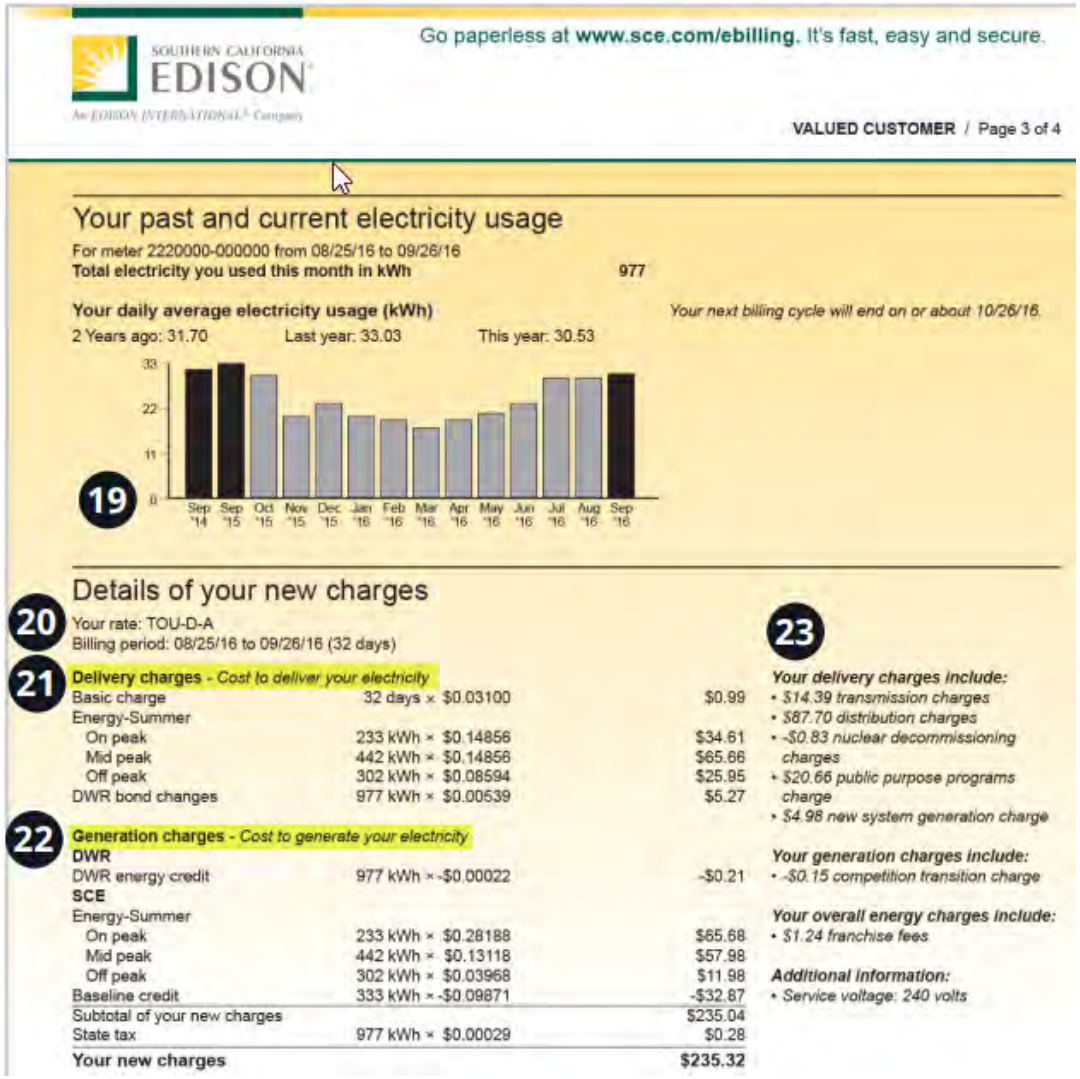
Keeping your power on: Count on us to power your precious moments with smart grid technology. Because of our smart grid, we're ranked 1st in the nation for restoring outages quickly. cobbemc.com/smartgrid

Making a difference in our community: Together, we helped contribute $11,979 to The Salvation Army in 2020. You can help too by simply making a donation on your Cobb EMC bill. Get started at cobbemc.com/projectshare.

See reverse side for additional details

Southern California Edison

- Broken out into Delivery and Energy charges
- One line per time period for each charge type
- Single, bundled rate
- One chart shows last 12 months total usage only



SOUTHERN CALIFORNIA EDISON
An EDISON INTERNATIONAL Company

Go paperless at **www.sce.com/ebilling.** It's fast, easy and secure.

VALUED CUSTOMER / Page 3 of 4

Your past and current electricity usage

For meter 2220000-000000 from 08/25/16 to 09/26/16
Total electricity you used this month in kWh 977

Your daily average electricity usage (kWh)

Your next billing cycle will end on or about 10/26/16.

2 Years ago: 31.70 Last year: 33.03 This year: 30.53

19

Details of your new charges

20 Your rate: TOU-D-A
Billing period: 08/25/16 to 09/26/16 (32 days)

21 **Delivery charges** - *Cost to deliver your electricity*		
Basic charge	32 days × $0.03100	$0.99
Energy-Summer		
On peak	233 kWh × $0.14856	$34.61
Mid peak	442 kWh × $0.14856	$65.66
Off peak	302 kWh × $0.08594	$25.95
DWR bond changes	977 kWh × $0.00539	$5.27
22 **Generation charges** - *Cost to generate your electricity*		
DWR		
DWR energy credit	977 kWh × -$0.00022	-$0.21
SCE		
Energy-Summer		
On peak	233 kWh × $0.28188	$65.68
Mid peak	442 kWh × $0.13118	$57.98
Off peak	302 kWh × $0.03968	$11.98
Baseline credit	333 kWh × -$0.09871	-$32.87
Subtotal of your new charges		$235.04
State tax	977 kWh × $0.00029	$0.28
Your new charges		**$235.32**

23

Your delivery charges include:
- *$14.39 transmission charges*
- *$87.70 distribution charges*
- *-$0.83 nuclear decommissioning charges*
- *$20.66 public purpose programs charge*
- *$4.98 new system generation charge*

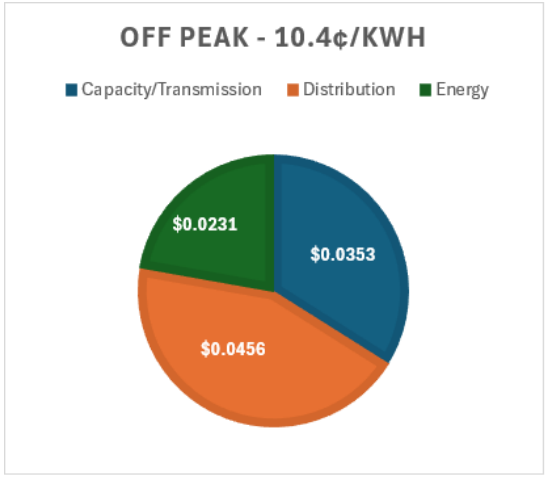
Your generation charges include:
- *-$0.15 competition transition charge*

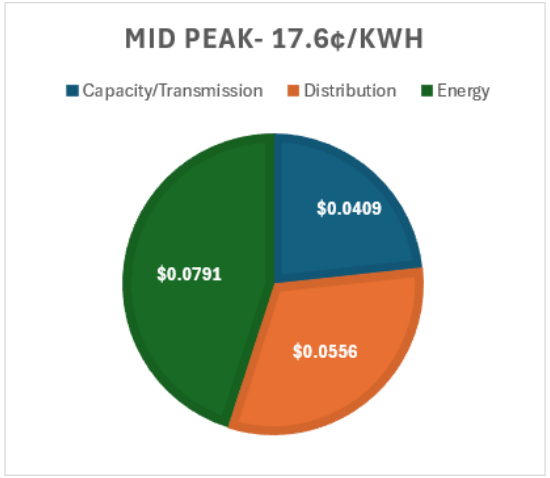
Your overall energy charges include:
- *$1.24 franchise fees*

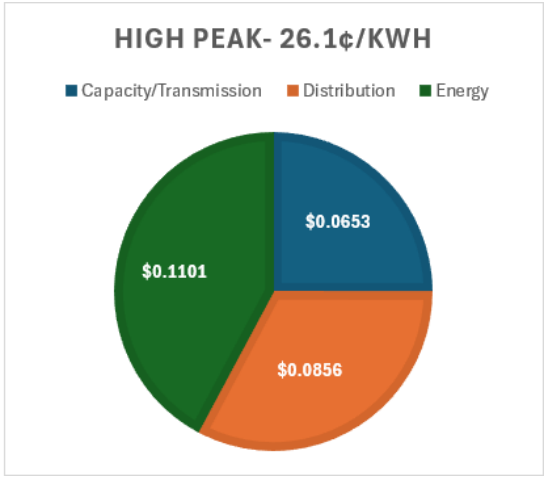
Additional information:
- *Service voltage: 240 volts*

Other Options

- QR Code to provide extensive detail about the bill.
- One explanation for all times of day







Questions

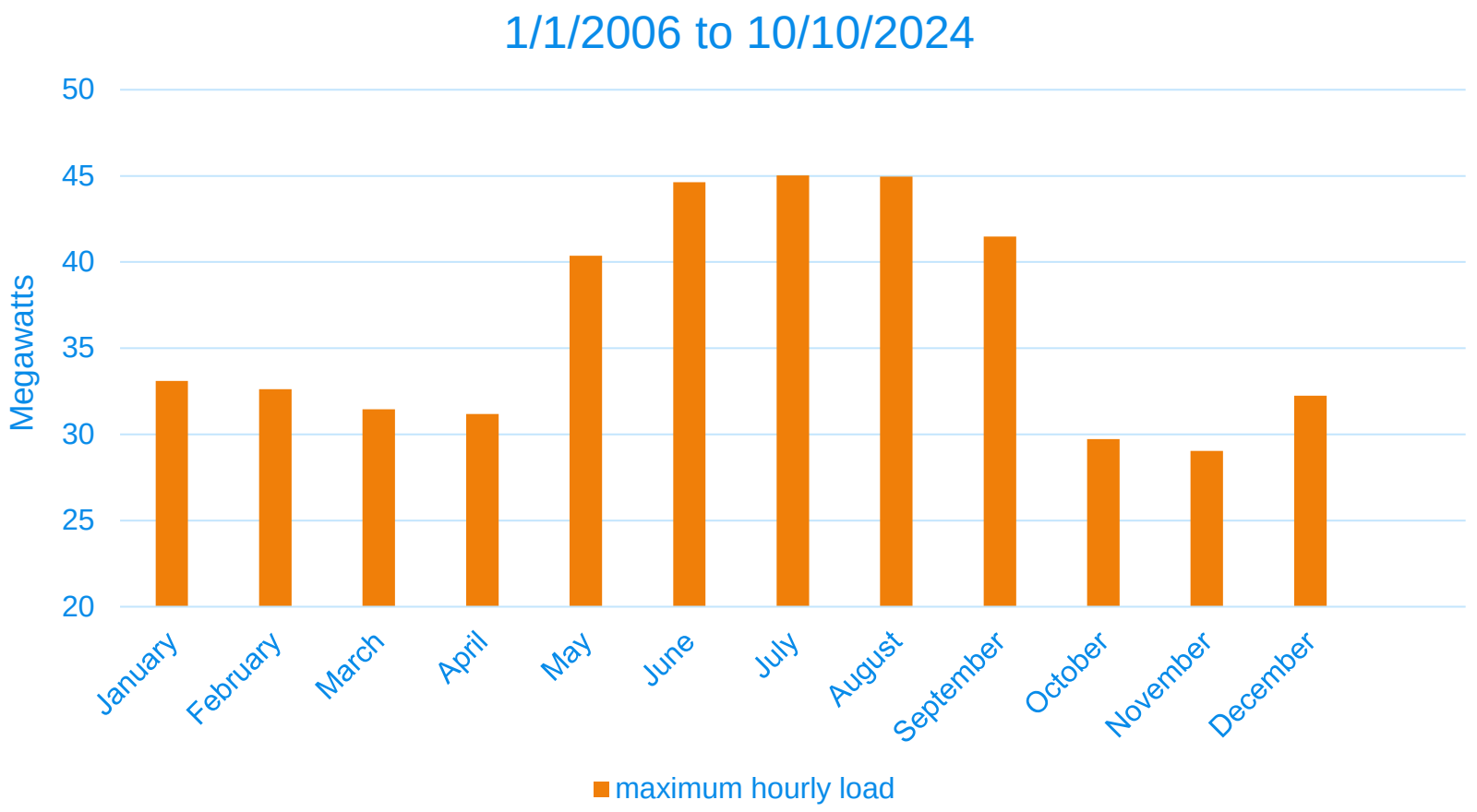
- Show on, mid and off-peak prices for
  - 1) energy, 2) capacity & transmission, 3) distribution or just a total of all 3?
- Show graph of total use or use by time period for
  - Last 12 months
  - Last month only

CMLP Load Statistics

1/1/2006 - 10/10/2024

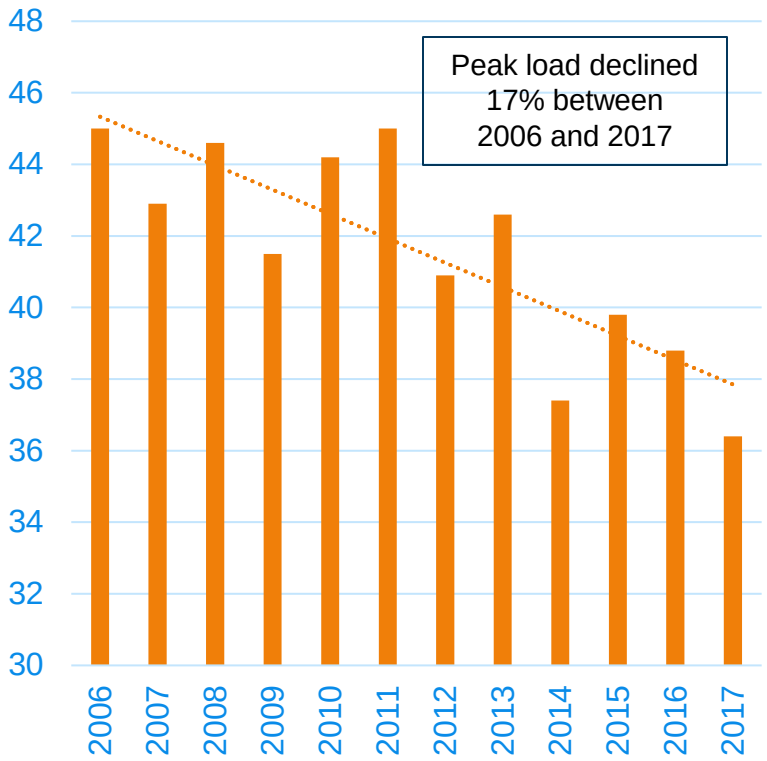
November 15, 2024 Light Board Meeting

CMLP peaks in the summer

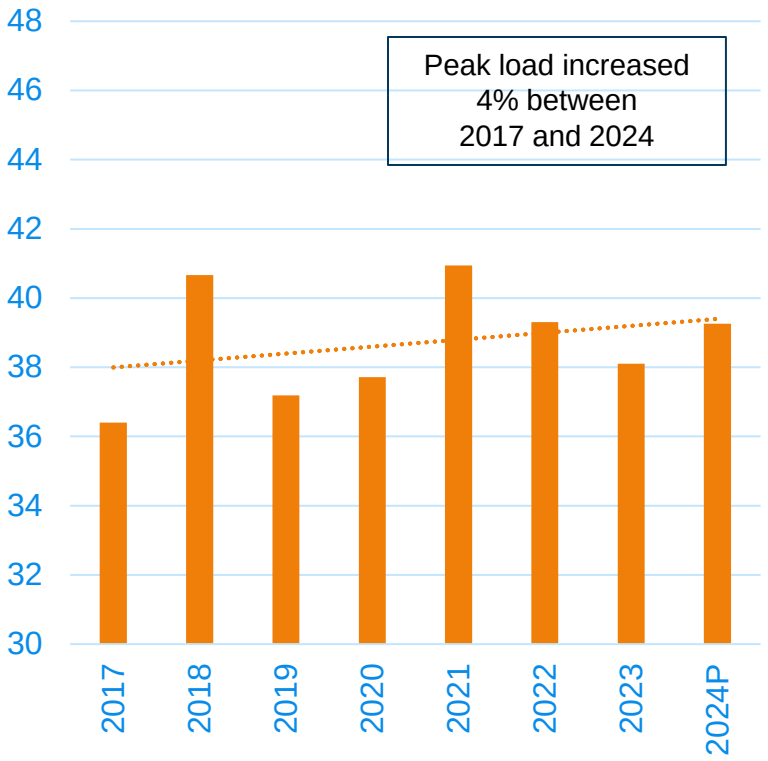


Maximum Annual Load

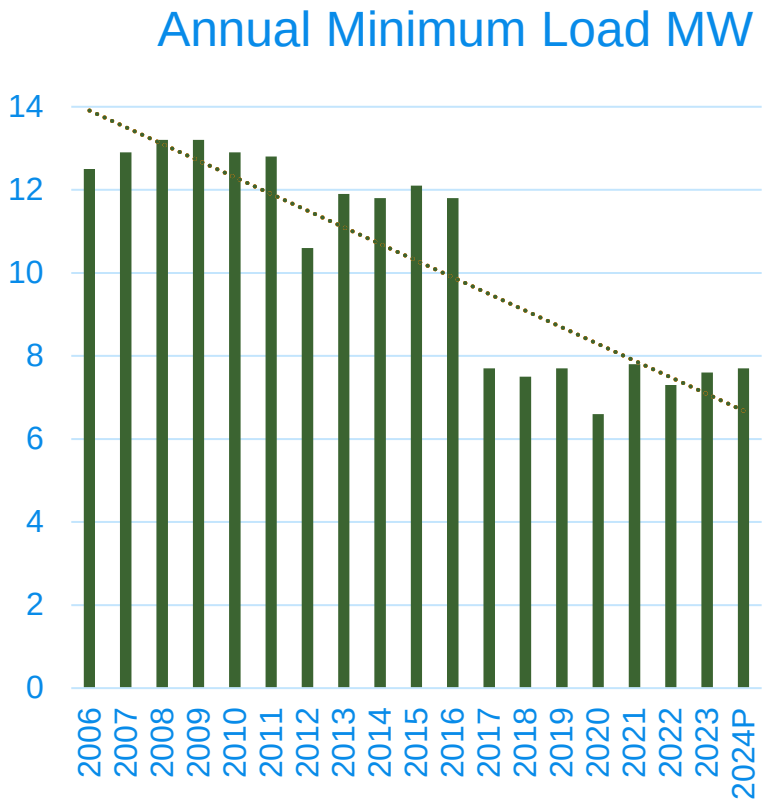
Annual Peak Load MW



Annual Peak Load MW

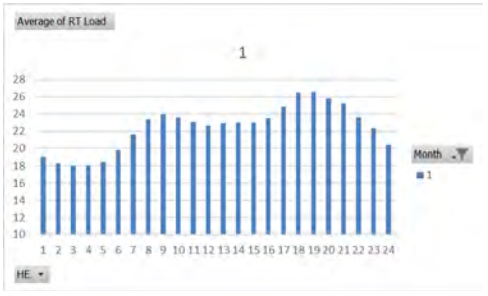


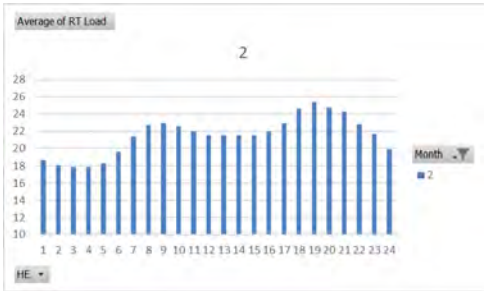
Minimum Annual Load

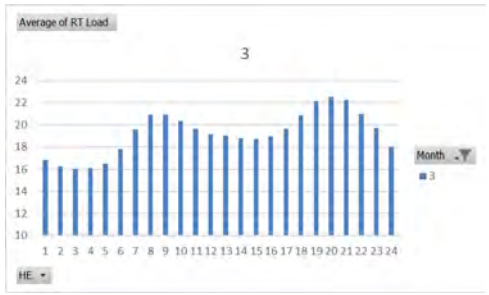


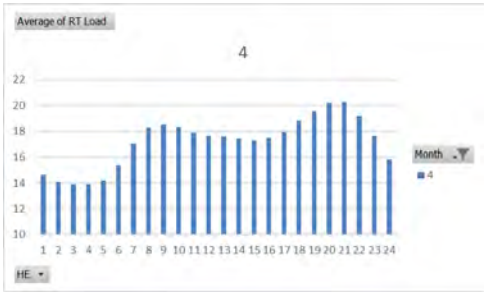
- Minimum load declined **52%** between 2006 and 2024
- The WR Grace 4.5 MW solar facility came online in 2016

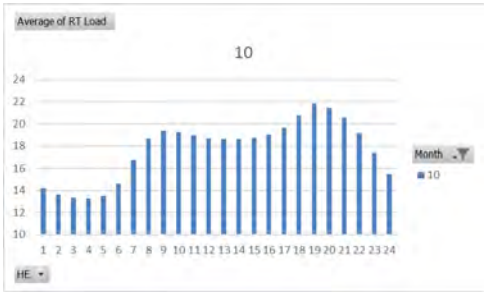
Winter Hourly Usage Patterns

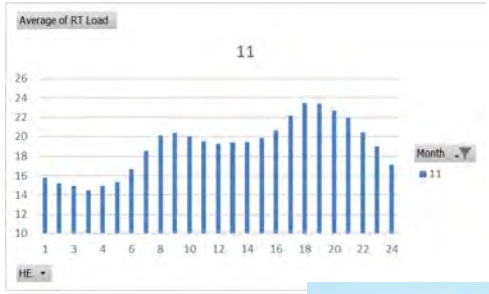


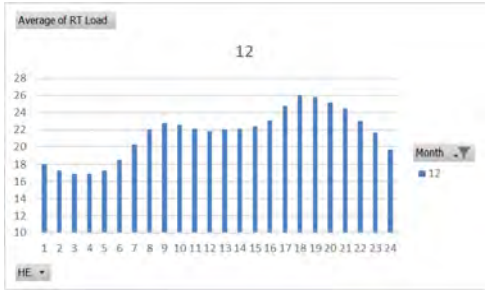






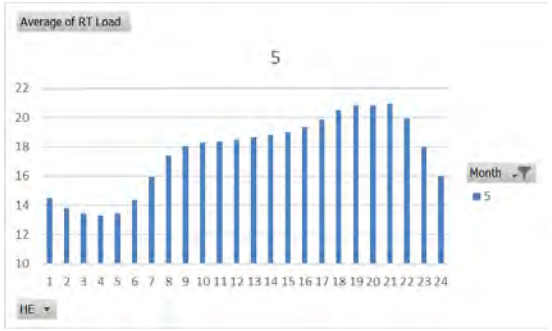


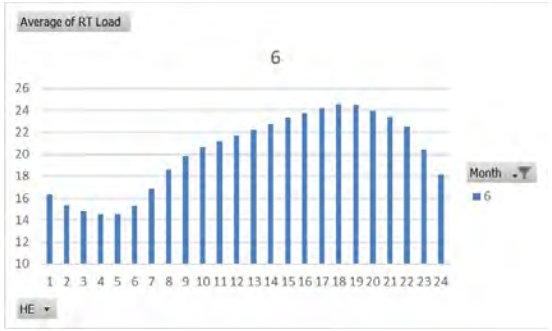


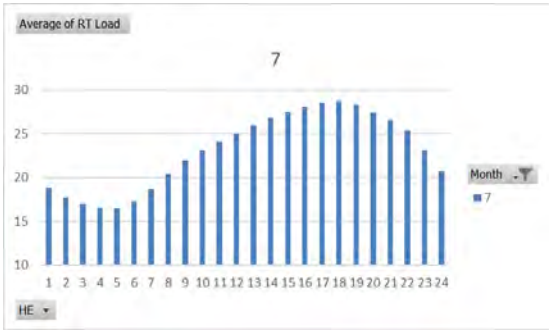


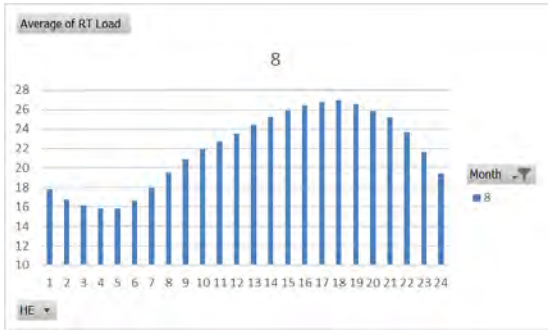
"double hump" pattern where there is a smaller peak in the morning and a larger peak in the evening

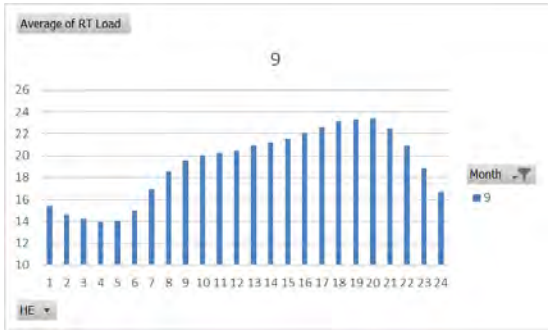
Summer Hourly Usage Patterns





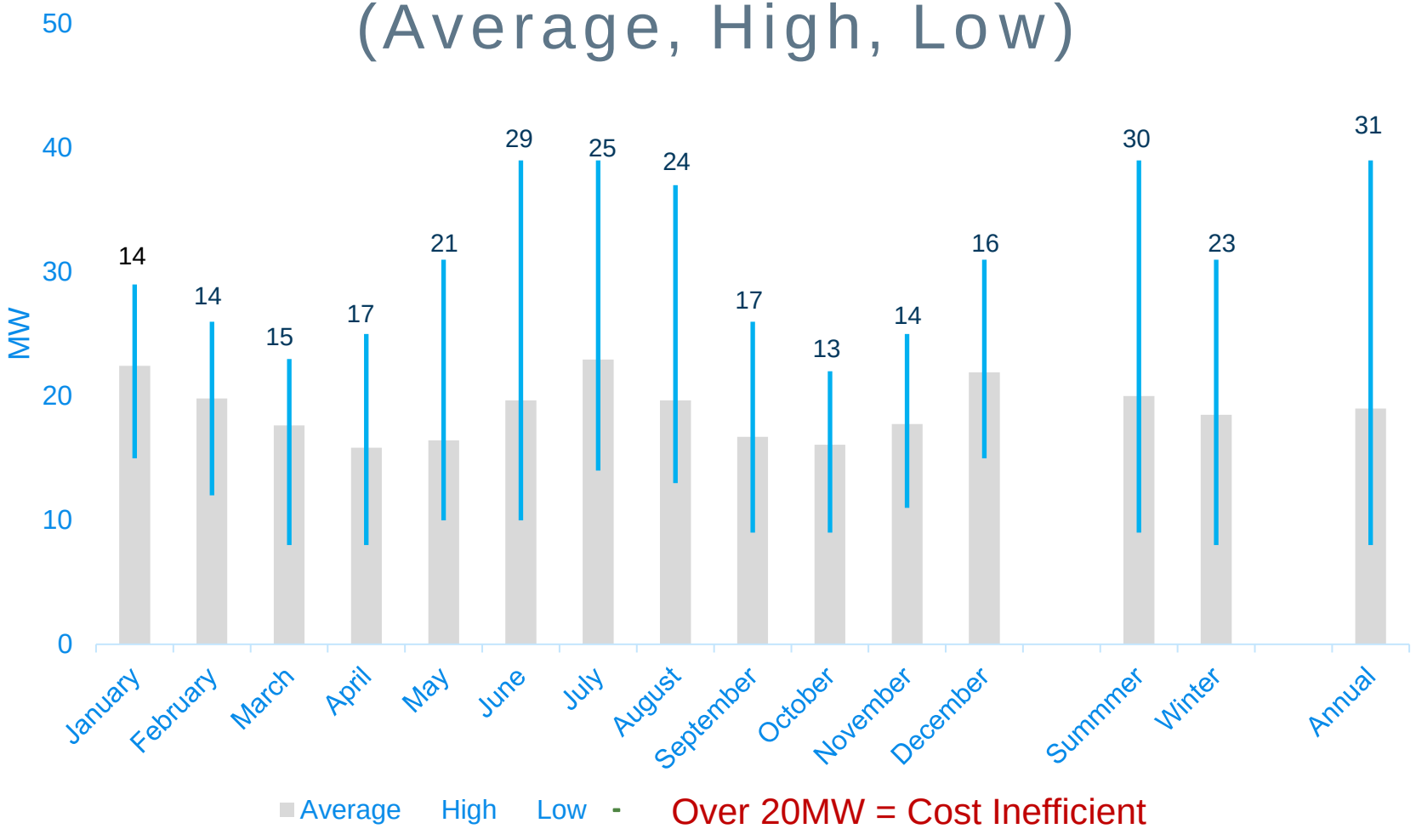






"gradual rise" to an evening peak

2024 Substation Load
(Average, High, Low)



ISO-Assessed Costs

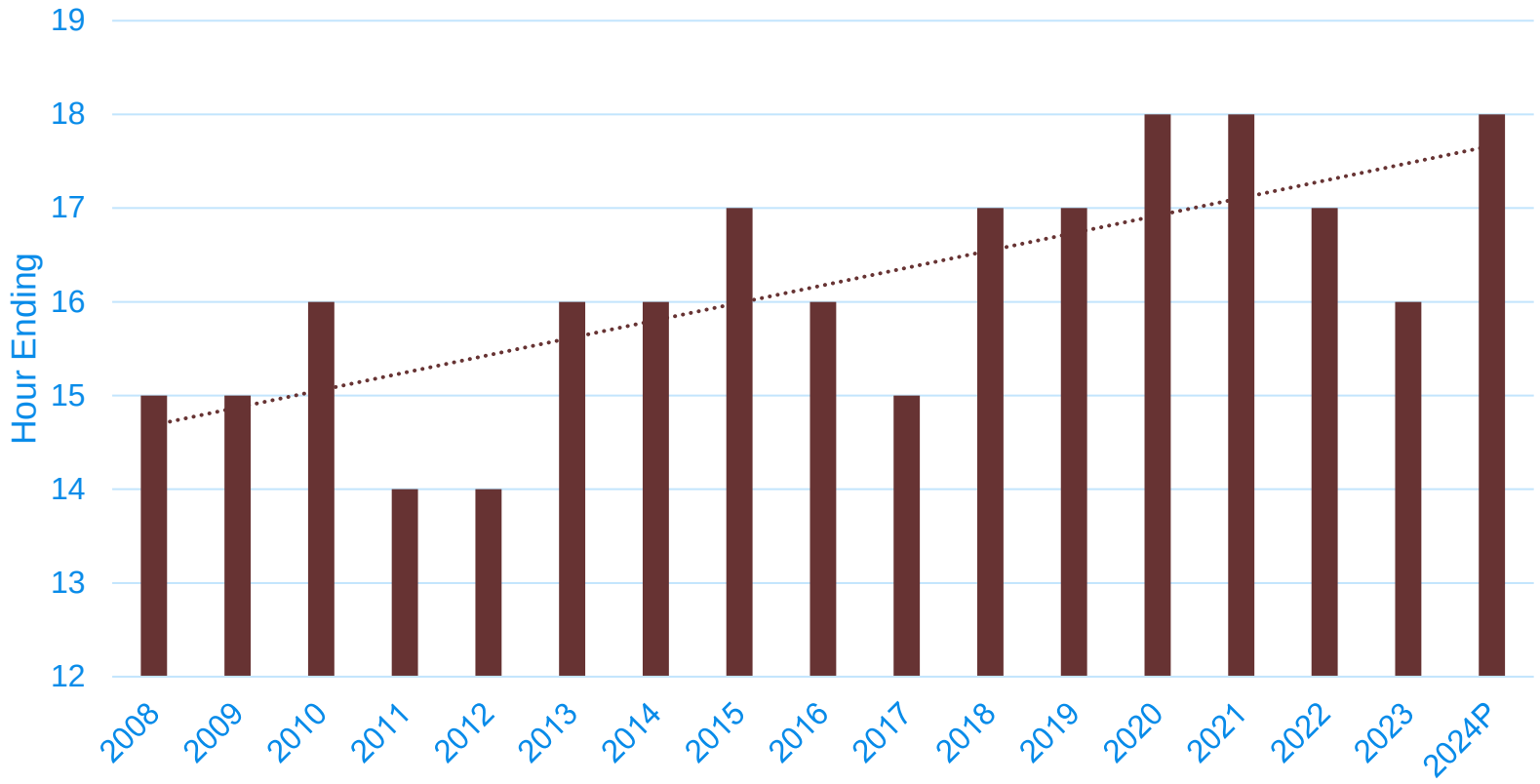
- We've been looking at CMLP's min and max loads over time
- The costs imposed by ISO New England are based not on when CMLP peaks, but rather on *what CMLP's load is during the hour that the wider grid peaks*
- Two types of cost

Cost Type	Assessed Cost Hour	Cost per kW per month
Capacity	New England region peak hour of the year	$4
Transmission	local region peak hour of the month	$16

- So when does the grid peak?

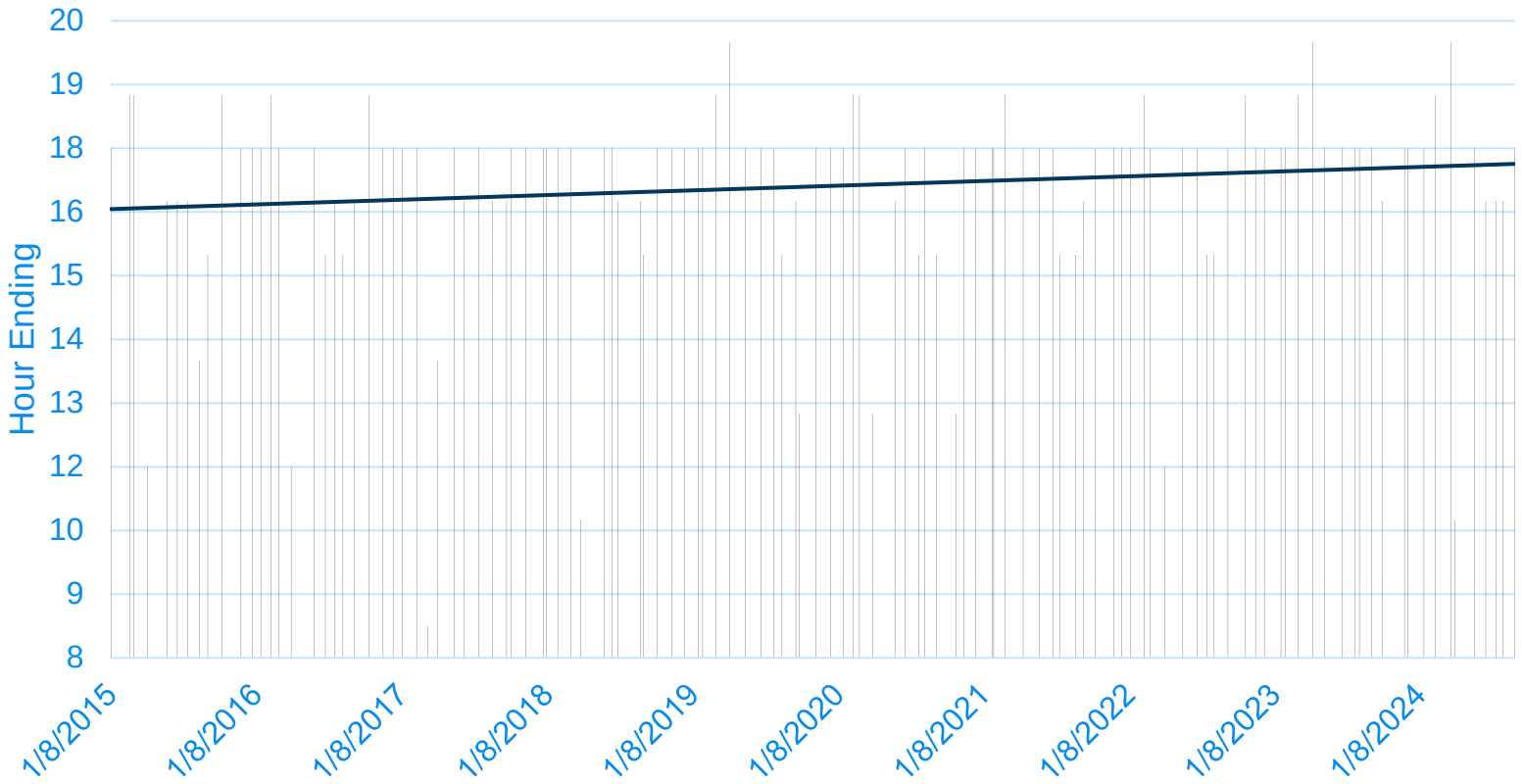
New England ISO Annual Capacity Peak Hour

Peaks have been occurring later in the day

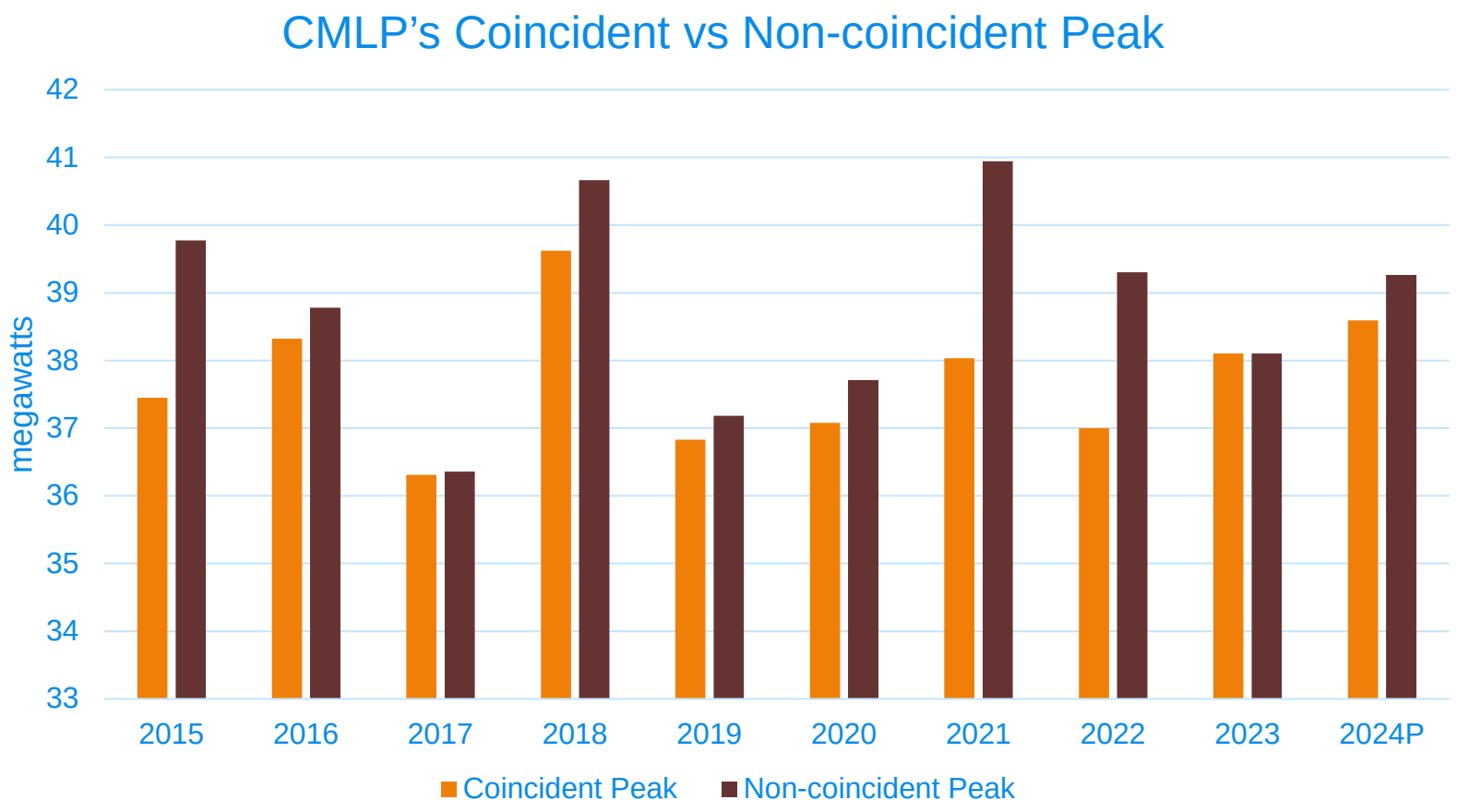


New England ISO Annual Transmission Peak Hour

Peaks have been trending slightly later in the day



CMLP's coincident peak will always be less than or equal to its non-coincident peak



Transmission Cost

	Peak MW	Less Solar	Obligation	RNS Rate	Cost
	MW	MW	MW	$/MW-mo	$
Jan	30.277	0.02	30.257	$15,850	$479,579
Feb	31.746	0.13	31.616	$15,850	$501,114
Mar	27.637	3.41	24.227	$15,850	$383,991
Apr	24.793	2.57	22.223	$15,850	$352,240
May	32.867	2.66	30.207	$15,850	$478,786
Jun	43.643	2.31	41.333	$15,850	$655,126
Jul	40.446	2.02	38.426	$15,850	$609,059
Aug	41.524	2.23	39.294	$15,850	$622,814
Sep	39.514	2.5	37.014	$15,850	$586,666
Oct	25.538	0.37	25.168	$15,850	$398,912
Nov	26.907	0.13	26.777	$15,850	$424,408
Dec	27.192	0	27.192	$15,850	$430,993
Year					$5,923,688

Capacity Cost

Set on 9/7/23 5pm-6pm

Provisional from 7/16/24 5pm-6pm

2025	Peak MW MW	Multiplier	Obligation MW	ICAP Rate $/MW-mo	Cost $
Jan	38.102	1.413	53.838	$4,504	$242,487
Feb	38.102	1.412	53.800	$4,504	$242,315
Mar	38.102	1.424	54.257	$4,504	$244,375
Apr	38.102	1.424	54.257	$4,504	$244,375
May	38.102	1.424	54.257	$4,504	$244,375
Jun	38.591	1.405	54.704	$3,095	$167,812
Jul	38.591	1.405	54.704	$3,095	$167,812
Aug	38.591	1.405	54.704	$3,095	$167,812
Sep	38.591	1.391	54.159	$3,095	$166,140
Oct	38.591	1.392	54.198	$3,095	$166,259
Nov	38.591	1.412	54.976	$3,095	$168,648
Dec	38.591	1.412	54.976	$3,095	$168,648
Year					$2,391,057

Lowering Costs

- We can't change the rate we are charged for capacity nor transmission
- We can change how much we are using during the ISO peak hours
  - energy storage
  - **time-of-use rates**
  - load control programs
  - in-town solar generation