

**Wakefield Municipal Gas and Light
Department
Board of Commissioners**



October 4, 2023

NOTICE OF MEETING
WAKEFIELD MUNICIPAL LIGHT & GAS DEPARTMENT
BOARD OF COMMISSIONERS

DATE: October 4, 2023
CALL TO ORDER: 6:30 P.M.
LOCATION: 480 North Ave, Wakefield, MA 01880

This meeting will be in person at 480 North Ave in Wakefield. The public is NOT required to physically attend this meeting. Every effort will be made to allow the public to view and or listen to the meeting in real time. Persons who wish to do so are invited to click on the following link to register for the Zoom Meeting. Once you register for the meeting, you will be sent a link to join Zoom Meeting.

The meeting registration link is:

https://us06web.zoom.us/meeting/register/tZUvf--hrD4iH9S9Jd5_DfxG8DxyGvqWRIF5

Please only use dial in or computer and not both as feedback will distort the meeting when joining the meeting.

**WMGLD BOARD OF COMMISSIONERS MEETING
480 North Ave
Wakefield, Massachusetts 01880**

**October 4, 2023
6:30 PM
AGENDA**

A. **Call to Order**

B. **Opening Remarks**

Chair's Remarks – Jack Warchol
Commissioners Reports
Town Council Liaison Comments
Public Comments

C. **Secretary's Report**

1 Approval of September 6, 2023 Minutes

D. **Old Business**

1 Natural Gas Winter Supply Update – Mark Roberts –
Sprague Energy
2 Project Updates
 A. Energy Park
3 2023 Strategic Planning Discussion
4 Community Solar Program Discussion

E **New Business**

F **Any other matter not reasonably anticipated by the Chair**

G **Executive Session-** If Necessary

H

Adjournment



WMGLD
P.O. BOX 190 480 North Ave.
Wakefield, MA 01880
Tel. (781) 246-6363 Fax (781)
246-0419

Peter D. Dion, General Manager

John J. Warchol, Chair
Elton Prifti, Secretary
Thomas Boettcher
Jennifer Kallay
Sharon Daly

**WAKEFIELD MUNICIPAL GAS & LIGHT DEPARTMENT
BOARD OF GAS & LIGHT COMMISSIONERS MEETING**

September 6, 2023

IN ATTENDANCE:

Comms., Chair Jack Warchol
Elton Prifti, Secretary
Jennifer Kallay
Thomas Boettcher
Sharon Daly

Peter Dion, General Manager, WMGLD
Mark Cousins, Finance Manager
Dave Polson, Engineering and Operations Manager
Sara Ericksen, Facilities and Procurement Manager
Sylvia Vaccaro, Minute Secretary

Julie Smith – Galvin, Town Liaison
Mike Hyland, Executive Director, NEPPA

PLACE:

**480 North Ave., Wakefield, MA
& ZOOM MEETING**

CALL TO ORDER:

Commr. Warchol called the meeting to order at 6:30 pm and advised the meeting was being recorded.

CHAIR REMARKS:

None

COMMISSIONER REMARKS:

Commr. Boettcher noted that Councilor McLane passed on a compliment that he received from a very pleased gas customer on Converse Street. The customer commented that not only was the work performed efficiently and professionally, but the gas supervisor and his crew were both respectful and polite.

A motion to move Section E under New Business, Item #2 out of order was made by Commr. Boettcher and seconded by Commr. Prifti.

Vote: The motion was approved unanimously 5-0.

Discussion of NEPPA Annual Conference

Comm. Boettcher mentioned that he attended the Annual NEPPA Conference which was held in August. Industry experts conducted various sessions about how ISO New England and utilities are addressing the rapidly changing landscape around generation, supply, and transmission while continuing to electrify and move towards net zero goals throughout the region. Some examples of the sessions included fuel futures, technology and innovations, transmission capacity, and legislative updates.

Mike Hyland, Executive Director of NEPPA (New England Public Power) was on hand to present Pete Dion with the NEPPA Distinguished Service Award. This award recognizes individuals or organizations who have gone above and beyond providing service to a NEPPA member utility. Mike stated that Pete has been an effective public power leader. Pete has served as president of MMWEC (Massachusetts Wholesale Electric Company) for the past fourteen years and that Pete is also the president of MEAM (Municipal Electric Association of Massachusetts). Pete extended his appreciation and thanks to Mike for this honor. The Board and staff congratulated Pete on his award.

TOWN COUNCIL LIASON:

Julie Smith Galvin stated that she is the Town Council's liaison and is pleased to offer her assistance to the Board.

Public Comments

None

SECRETARY'S REPORT

Approval of the July 19, 2023, minutes was before the Board for approval.

A motion to approve the July 19, 2023, minutes with amendments provided in the Board book was made by Commr. Prifti and seconded by Commr. Boettcher.

Vote: The motion was approved unanimously 5-0.

Commr. Warchol inquired as to when a presentation on load shedding would be made available. Pete said that he can provide a more detailed presentation for the Board with the ISO requirements, load shed tool functionality, and the load shed process. Comm. Warchol requested this be added to the Commissioner's request log. Pete noted that a reverse 911 call can be made to notify customers if their circuit will be affected by a load shedding event. Commr. Boettcher asked if this would only be for customers who signed up for the town's Code Red program. Pete did confirm that this is true, and that we do encourage customers to sign up for Code Red. Pete said that it is important to educate critical customers that they need to have backup systems in place to withstand a few hours without power. The critical customer list helps us to identify them if there is an extended power outage. Anything more than that, WMGLD would be proactive to help them. Dave Polson noted that critical care list customers are also identified on our GIS system. Commr. Kallay inquired as to how circuits would be prioritized for load shedding. Pete stated that it depends on how much load needs to be shed and the load on the circuit. Dave noted that there is not a prioritization of circuits but an order and a rotation.

OLD BUSINESS:

Project Updates

Energy Park

Pete stated that Representative Kate Lipper-Garabedian was incredibly helpful in shepherding the Home-Rule petition through the House and it is now in the Senate. Pete noted that he reached out to Sen. Lewis's office for help to shepherd it out of the Senate. Pete commented that staff is working on bids for the various equipment all while being careful not to commit before the Home-Rule petition is passed. He mentioned that we are approaching the deadline to order equipment.

Facilities and Procurement Update

Sara Ericksen shared an update on the Facilities and Procurement Department activities. She stated that order lead times have improved slightly over this fiscal year. WMGLD's fleet now includes a new hybrid trouble truck. Two electric transit vans for the gas department have also been added this year. She explained that in January of 2021 she ordered a Ford EV Lighting pickup truck that still has not been received. Ford has now changed this to a 2023 model and it should be built this Fall. A Hyundai Santa Fe hybrid vehicle will be added to the fleet next year. Sara noted that WMGLD is looking to add a hybrid bucket trucks going forward and is working on specifications. She mentioned that the State of Massachusetts has recently recognized the difficulties municipalities are experiencing when ordering

vehicles, so they have removed the vehicle list from their website that you were required to utilize when procuring vehicles. She stated that, as long as you can prove you have done your due diligence, you may procure a vehicle from wherever one is available. Sara commented that based on the numbers since we acquired the new hybrid trouble truck in June 2023, we are anticipating that we will save approximately 1,100 gallons of diesel fuel and 13 tons on carbon emissions, annually. Pete noted that the lift system as well as the heating and cooling of the cab can also be powered by the battery. When the battery runs down and switches to diesel it simultaneously charges the battery. He mentioned that the new trouble truck is equipped with JEMS (Jobsite Energy Management System) that provides a method to eliminate idling. Altec's software program called Altec Connect will be able to provide detailed reports on real-time fuel costs and savings and the associated reductions in carbon emissions.

Commr. Boettcher stated that the Environmental Sustainability Committee (ESC) just completed the greenhouse gas inventory for the Town and would like to have this information forwarded to show the Town's reduction in greenhouse gas as tracking GHG reductions is a requirement of being a Green Community. Commr. Boettcher stated it would be great to have the hybrid trouble truck with the price saving printout and the gas service van at the upcoming EV showcase event.

Sara noted the completion of the garage door installation and the maintenance on the WMGLD roof in preparation for the solar project. The solar project is expected to start installation in the late fall with completion next year. She explained that during the pandemic many long-term contracts were simply extended but now we have gone out to bid and are now back on schedule on all the major recurring contracts such as paving, tree trimming and custodial services.

2023 Strategic Planning Discussion

Pete reached out to Jon Wortmann and he cannot make the October Board meeting, but would be available for October 17, 2023. The Board discussed the calendar for the remaining year and decided to have Jon Wortmann conduct a separate strategic meeting on October 17, 2023 at 6:30pm.

Community Solar Program Discussion

Pete stated that the Board has discussed the structure of the program in the past and there was concern about the delta between low and non-low income being too disparate. Pete said that he shared the spreadsheet with the Board so they could review and adjust the numbers to have further conversations about the program. A discussion ensued as to how to adjust the rates and sign-up fees to make this beneficial for all customers. It was agreed that the payback period should be reduced. Pete mentioned that it is best to keep the program as simple as possible and we also must consider the parameters of our billing system. He said that he and the staff will look at the numbers again and get back to the Board. The program would roll out in the beginning of next year along with marketing/educational sessions for customers with a program start date of April 1, 2024.

New Business

2023 Goals and Objectives Mid-Year Update

Pete and staff provided a mid year update on the 2023 Goals and Objectives.

He noted that there has been one loss time accident and 2 personal injuries to date. He stated that operational performance objectives are on target and ahead of most goals. He said that the key metrics that electric utilities are measured on are SAIFI (System Average Interruption Frequency Index) and CAIDI (System Average Interruption Duration Index). WMGLD has reduced the average number of outages per customer to one every two years. On the gas side we have reduced the class 3 leaks down to 40 already and will be below the target by the end of the year. WMGLD has replaced 792 gas meters and are on target to replace 935 meters.

Pete explained that we continue with awareness of energy efficiency programs through improved marketing. Commr. Kallay inquired if we could have materials available about WMGLD forums at upcoming events like the EV event, Wakefield 101, and Town Day. Commr. Boettcher asked if it is possible to have a QR code available for people to scan so they can easily register for these forums. Pete said that he will have Jeff Morris investigate this. Commr. Prifti suggested tiered rebates, for example, if a customer is installing a heat pump plus installing insulation and or windows. Pete advised that any reductions in other rebates could potentially be applied to the tiered rebates. Commr. Kallay stated that she would like to see community feedback on the community solar project before the program rollout. Julie Smith- Galvin suggested a focus group with perhaps the new Housing Trust Committee may be beneficial. Commr. Warchol suggested an in-person session at the library. Pete said he will plan an event for the beginning of December.

Moving on to the financials, Pete stated that we are on target for most financials but are still behind on having 3 months of cash on hand because of the high prices last year. Commr. Boettcher inquired about the solar project for the Americal building. Pete noted that the DPW had other projects that came up, so this will probably be delayed until next year. Commr. Daly informed the Board that the DOE (Department of Energy) announced formula funding has been released for Massachusetts in the amount of 9 million for fiscal year 2022-2023 and the Massachusetts CEC (Clean Energy Center) is going to have a solicitation process for disbursement of funds for projects. She will forward this announcement to Joe Collins and copy the Board. Pete explained that on the capital plan the electric side is 100% on track. The gas side has seen the reprioritization of some streets due to changes from the Town. The streets submitted for the grant will be pushed to next spring because of requirements of the grant. He noted that we will be caught up with all the dead mains by the end of September. He said that WMGLD is applying for a new federal grant to

complete gas main replacement for the Greenwood side of Town for the 2026 timeframe.

Pete stated that requiring new single-family construction to be all electric will be helpful. Commr. Boettcher said that the utility needs help in getting the town to meet the State's 2050 Net Zero goals and that is where the Massachusetts Building Energy Code or Stretch Energy Code (Stretch Code) combined with the new Municipal Opt-in Specialized Energy Code (Specialized Code) will provide the municipalities the pathway to the 2050 goals. Pete stated that unless you marry the utilities policy with other policies then the builders will take the least cost option.

Environmental Sustainability Committee Representative

Commr. Boettcher advised the Board that due to changes in his job, he will not be able to continue as the liaison to the ESC. Commr. Daly volunteered to be the liaison.

A motion to nominate Commr. Daly as the liaison to the ESC was made by Commr. Boettcher and seconded by Commr. Prifti

Vote: The motion was approved unanimously 5-0.

A motion to adjourn was made at 9:03 pm by Commr. Kallay and seconded by Commr. Boettcher

Vote: The motion was approved unanimously 5-0.



AUGUST 2023 WMGLD COMMISSIONER'S DASHBOARD

Outages (Elec)

	<u>SAIFI</u>	<u>CAIDI</u>
Jun	0.45	53
Jul	0.47	61
Aug	0.40	58
Cal YTD	0.40	58

CYTD Pipe Replacement

	<u>Replaced</u>	<u>System Total</u>
4"	1,000	171,122
6"	1,343	159,463
8"	-	82,722

New Services on the System

	<u>Electric</u>	<u>Gas</u>
Jun	3	2
Jul	6	1
Aug	2	1

Solar Generation 90 Customers

	<u>Generated</u>	<u>Back to WMGLD</u>
CYTD	1,739,700	699,878
Comm'l	9,398,657	2,108,900
Res	2,890,141	1,715,735
Inception	12,288,798	3,824,635

Monthly & Annual Peaks

	<u>Prior Year</u>	<u>Current Year</u>
Jun	31.7 Mw	32.3 Mw
Jul	40.8 Mw	38.4 Mw
Aug	41.3 Mw	31.0 Mw

Summer YTD Peak

<u>8/5/22</u>	<u>9/7/23</u>
41.3 Mw	39.3 Mw

Winter YTD Peak

<u>2/1/22</u>	<u>2/3/23</u>
29.2 Mw	27.7 Mw

All Time Peak

<u>1/2/14</u>	<u>8/2/06</u>
36.5 Mw	50.7 Mw

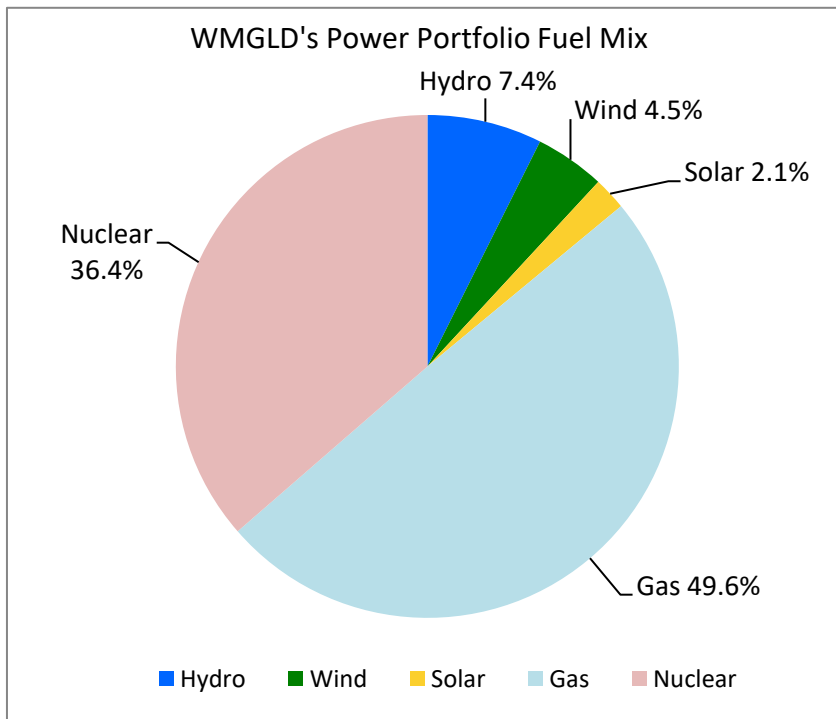
CONSERVATION BUDGET

YTD FY24 Conservation Revenue Billed	\$	143,319
YTD FY24 Paid out to Customers:		
86 Appliances & Thermostats	\$	(5,325)
8 Air Sealing (insulation/windows)		(9,248)
21 Heating & Cooling		(27,520)
4 Residential Solar		(55,698)
41 Cordless Yard Equipment	\$	(2,182)

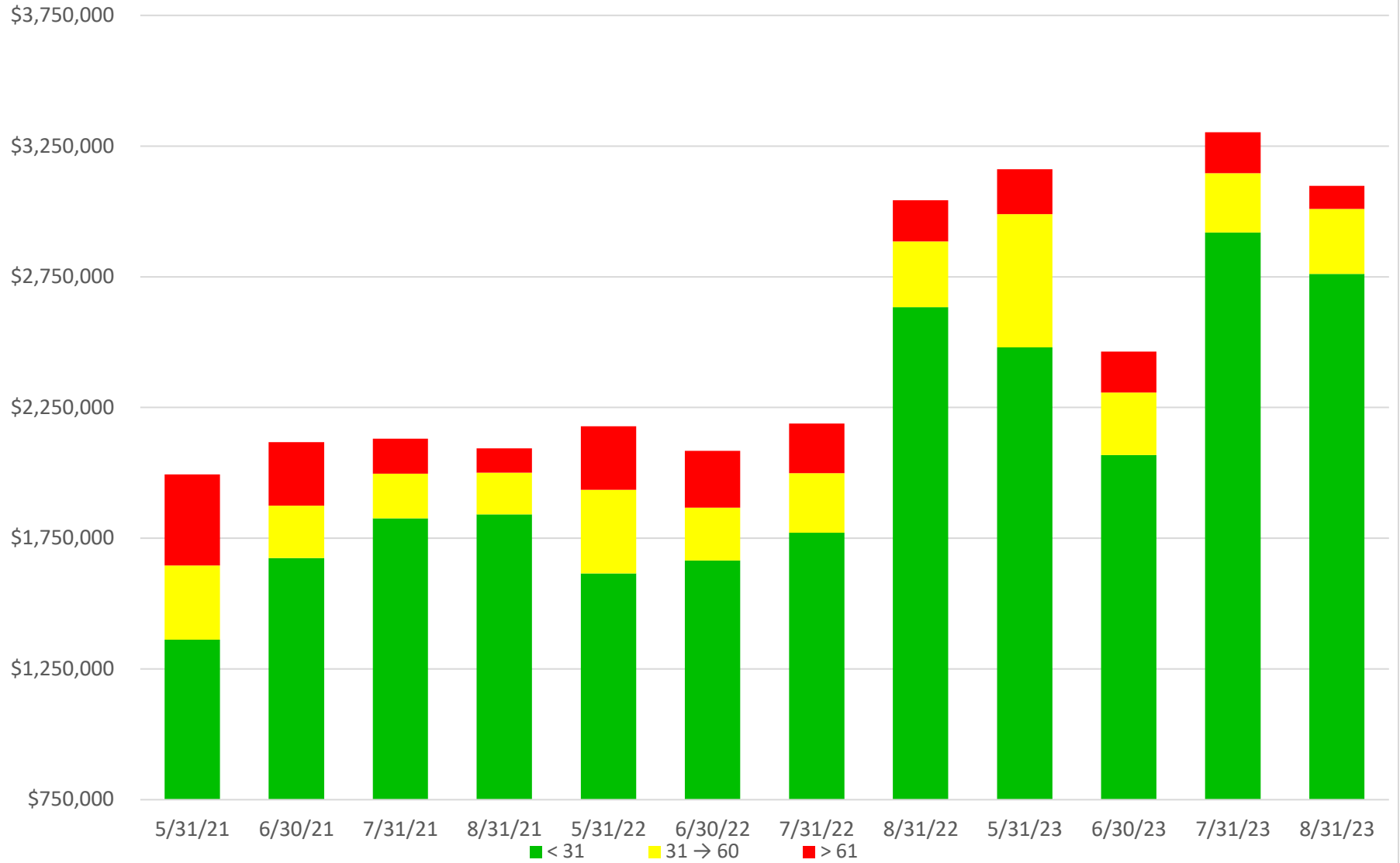
<u>GREEN CHOICE RATE</u>	<u>Aug</u>	<u>CYTD</u>
Green Choice Revenues	\$ 1,392	\$ 8,648
Kwh billed on GC Rate	75,885	471,484
Number of Customers		101

Natural Gas Peak Usage

Current Year Peak (Nov '22 → May '23)	1,001,593 CCF
Prior Year Peak (Nov '21 → May '22)	1,308,885 CCF
All-Time Peak - Jan '18	1,370,554 CCF



Receivables Aging - As of August 31, 2023



COMMISSIONER REQUESTS LOG

	Requested By	Request Date	Completion Date
Add Electric Vehicle prompt on Residential Service Application	TB	9/7/22	9/26/22
Add Current and Historical Electric and Gas Rates to Website	TB	10/5/22	10/20/22
Provide Environmental Sustainability Committee with Consumption data	JK	10/24/22	11/29/22
Analysis on Gas Consumption since Moritorium and Heat Pump Program	JK	1/14/23	2/3/23
Webpage for Energy Park on our website	TB, JK	2/8/23	3/3/23
Create Separate Rates Tab on Website	JW, TB	3/8/23	3/29/23
Share Community Solar Design Spreadsheet	JW, TB	6/21/23	7/7/23
Presentation on ISO-NE Load Shedding Requirements	JW	9/6/23	

Wakefield Municipal Gas & Light Department Customer Issues Log

Date	Issue	Resolution
April 5, 2023	Customer on Gumwood joined board meeting in regards to opposing an additional potential streetlight desired by customer who reached out in November 29, 2022 customer issue.	WMGLD informed customer that streetlight placement must be dealt with through the town, and that WMGLD has added LED lights to brighten current streetlighting on Gumwood.
February 15, 2023	Customer contacted board of commissioners and WMGLD management with concerns about increase in natural gas prices.	WMGLD met with the customer to discuss the driving factors that lead to gas supply rate. In addition, referred customer to November 2022 board meeting with our gas supplier.
January 24, 2023	Customer reached out with a service issue.	WMGLD is currently working to resolve this issue with customer.
November 29, 2022	Customer reached out with a concern about appropriate lighting of street lights on Gumwood.	WMGLD replaced streetlights with LEDs and was prepared additional street lights, however residents pushed back on this addition.
October 5, 2022	Customer correspondence was read into the meeting record. Correspondence was regarding increasing WMGLD rebates for Heat Pumps.	Evaluated Energy Conservation Charge for the budget; board to vote on the budget during 11.2.22 meeting.

General Manager's Report

The following is the General Managers Report for October, 2023

Engineering and Operations Report

Working:

- **259 Water St. at Delcarmine** - New 16 unit residential building, building in progress, convert OH to UG - **Complete**
 - **7-11 Audubon Road** – New 3000 amp service commercial service upgrade – **Complete**
 - **610 Salem St.** – New 34 unit apartment building – **Working**
 - **581-583 Salem St.** – New 19-unit apartment build – **Complete**
 - **404 Lowell St.** – 8 Residential units – **Working**
 - **Hopkins Street @ Tarrant Lane** - Project approved by the town 173 apartments 4 buildings proposed – **Working**
 - **330 Salem St. - 19 Residential units** – **Working**
 - **62 Foundry Street phase 2** – 55 unit condo complex and commercial space – **Sale complete and working again**
 - **200 Quannapowitt** – 440 Apartments / 3 buildings / parking garage – **Working**
 - **Building Demolition/Disconnect** – Q2- 2023
 - **Temporary Power** – Q1/2024
 - **Permanent Power**
 - **Building 1** – 8/1/2025 64 units
 - **Building 3a** – 1/26/2026 160 units and garage
 - **Building 3b** – 4/20/2026 130 units
 - **Building 2** – 7/22/2026 86 units
- Full Occupancy: Q3 2026

Permitting:

- **97-99 Water St** – 5 Residential Apartments – **Permitting**
- **596 North Ave** – 38 Residential Apartments – **Permitting**
- **369 – 371 Main St** – 20 Residential apartments/commercial space **Permitting**
- **10 Broadway St.** - 124 Residential apartments – **Permitting**
- **46 Crescent St.** - 56 Residential units – **Permitting**
- **184 Water St** – 8 Residential units and commercial – **Permitting**

Planning:

- **369 – 371 Main St** – 20 residential apartments and rehab of the existing commercial space (former Santander Bank)

- **460-472 Main St – 16 residential apartments and commercial space (former Molise Building)**
- **Albion St @ Lake St. - 9 unit apartment building – Planning stage**
- **1000 Main Street – 30 Residential units proposed – Planning stage**
- **525-527 Salem St – New 22-unit building – On-Hold**
- **401-405 Main Street- Renovating office building, adding office space**

Gas Department

- Gas services began service installations are on going on Central Street which will complete all the dead main conversion work.
- 868 meters were replaced so far this year with a target of 975 for the year.
- There are currently 1900 inside gas services and 3220 outside services. 67 services have been moved outside this year.
- Leaks Class 1 – 0* Class 2 – 0 Class 3 –39

Financial Reports

Monthly Financials for through June and Consumption Reports through August are enclosed.

Winter Natural Gas Supply Update

Mark Roberts from Sprague Energy will present the annual update on the winter natural gas supply.

Information for Discussion at this time

Project Updates

Energy Park

- **Bill H3995 – update:** June, July and August was spent working closely with Energy & Environmental Affairs (EEA) and State Representative Kate Lipper-Garabedian's office reviewing and providing comments to Bill H3995. On 8/17/2023 the final amended bill was moved from the House to the Senate.
- **Generator Bid:** Pending award
- **Switchgear Bid:** preparing bid package
- **Finalizing the operating plan, design and engineering documents**
- **Meetings with battery vendor Delorean and MMWEC to finalize contract language**

NEMT:

- Meetings held bi-weekly with the NEMT design team and OPMs
- Poles and associated wire relocated to facilitate the construction of the access road – **COMPLETED**
- Temporary Services provided for construction trailers – **COMPLETED**
- Finalized the permanent utility service design – **COMPLETED**
- Solar design- working with Zapotec Energy and NEMT design team – **WORKING**
- Starting the procurement process for long lead time items – (3) Transformers – **Bid September**

- Temporary construction power – **March 2024**
- Permanent power -**January 2026**
- Occupancy - **September 2026**

WMHS:

- Meetings held bi-weekly with the WMHS design team and OPMs
- Working with design team on permanent power design – **WORKING**
- Solar design- working with Zapotec Energy and WMHS design team – **WORKING**
- Starting the procurement process for long lead time items – (3)
Transformers – **Bid September**
- Temporary service for construction of the new building – **July 2024**
- Permanent and emergency power for testing and commissioning: **November 2025**
- Substantial completion / occupancy: **Phase 1 February 2026 & Phase 2 November 2026**

Major Projects:

Solar Projects:

- 480 North Ave. (228.76 kW DC total) – Reviewing design and approving submittals
 - Building system – 108 kW DC
 - Community Solar – 120 kW DC
 - Construction scheduled to start in the Fall
- 1 Wakefield Ave –rebidding in 2023 - on hold
 - Building system – 33 kW DC

Convert remaining 2 MAT type enclosures to Padmount or OH construction

- Lowell at Vernon
- 50 Audubon Rd

Electric Meter Inspections - Progress

- Residential – in progress 9,375 of 13,800 meters inspected, 68% complete
 - ○ 1781 had missing or cut seals - 19% (list has been provided to Building Dept.)
 - 750 have been re-inspected and new seals installed
 - 2 theft of current found
 - 1 meter & socket that needed immediate attention
 - 4 customer services found in poor condition – pictures and information provided to wiring inspector and homeowner contacted
- Commercial – CT Testing scheduled to start this month
- **Pole replacements:**

- Verizon replacing Poles & WMGLD crews transferring 110 total – **Working**

4kv to 13.8kv conversions:

- Converting portions of ckt 9 on Water to ckt 0012 – **Completed**
- Preston St – converting 4kv step-down area to 13.8kv – **80% complete**

Hurricane and pre-winter system preparation:

- **Overhead circuit / line patrols** – in progress by Line Dept Superintendent: Identify deficiencies and schedule follow-up based on priorities
- **Hot Spot tree trimming and Hazard Tree Removals**
- Installed 3 mid-circuit reclosers to reduce customer outages – Ckts 443-W31, 126-W27 & 0012

Vegetation:

- Tree Trimming for 2023 scheduled to start April 2023 – Area 2 (Greenwood Section of Town) – **COMPLETED on 5/5/2023**
- Private property tree planting program – 50 trees a combination of utility friendly and shade trees. (Scheduled to start late September & early October 2023) **(47 people have signed up as of 6/15/2023)**
- Hazard Tree Removals Survey Scheduled Spring 2023 – **Completed** (17 public and 39 private property trees identified as hazards)
- Hazard Tree Removals in progress started on 8/25/2023
- Tree Plantings in the public way scheduled to start late September & early October 2023

Substations:

- **Beebe Substation** – Relay upgrades on main breakers and NGrid communications project - **Working**
- **Burns Station** – Remove remaining equipment (Fall of 2023) and site remediation (Spring of 2024)

Town Projects:

- **North Ave** – Utility Pole relocation in front of the cemetery. Move the poles to the back of the sidewalk to allow for sidewalk construction and bike path. Going out to bid to install 14 poles. Once poles are installed WMGLD crews will relocate primary, secondaries and services to the new poles. Communication Companies will then follow their transfers before the old poles can be removed. WMGLD removed 14 of 14 poles. **COMPLETED**
- **Vets Field Lighting** – Upgrade lighting at Vets field with LED fixtures and install secondary cable – **Progress, Fall completion**

Information for Discussion at this time

**Board of Commissioners
October 4, 2023
Agenda Item No. D-3**

Strategic Planning Discussion

Jon Wortmann will be joining us on October 17 for a strategic planning session. The Board can continue to discuss his recommendations for content and goals for the session.

Information for Discussion at this time

**Board of Commissioners
October 4, 2023
Agenda Item No. D-4**

Community Solar

Based on the feedback from prior discussions, staff has reviewed possible structures for a Community Solar program and is providing cost and payback data. Additional discussion of the sample format for feedback and options will be discussed.

Information for Discussion at this time

Executive Session- If necessary

APPENDICIES

Wakefield Municipal Gas and Light Department
Budget vs Actual - Electric Division
For the Twelve Months Ending, June 30, 2023

	CURRENT MONTH	YEAR TO DATE		
	FY 2023	FY 2022	FY 2023	FY 2023 Budget
Energy Revenue (Net of Discounts)				
Residential Sales	\$ 1,267,242.43	\$ 14,068,226.49	\$ 16,810,322.12	\$ 16,217,000.00
Commercial Sales	1,157,944.47	11,722,072.17	13,993,597.67	13,582,000.00
Street Lighting	15,678.00	188,131.00	188,131.00	188,131.00
Municipal Sales	139,476.32	1,288,720.11	1,571,083.58	1,539,000.00
Private Area Lighting	7,351.00	88,381.54	87,989.17	89,000.00
Green Choice Revenue	851.04	8,863.76	11,968.11	-
EV Chargers	104,395.54	-	155,103.31	-
Total Energy Revenue	<u>2,692,938.80</u>	<u>27,364,395.07</u>	<u>32,818,194.96</u>	<u>31,615,131.00</u>
Other Revenues				
Unbilled Revenue	161,983.25	(33,583.31)	161,983.25	-
Interest Income-Consumer Deposits	2,392.36	4,278.56	23,750.53	15,000.00
Interest Income-Depreciation Fund	387.47	355.81	2,964.20	-
Interest Income-Self Ins Sinking Fund	815.55	577.70	7,326.63	-
Interest Income-MMWEC	(525.18)	(32,871.61)	30,224.48	-
Income (Exp) - Merchandise & Jobbing	93,043.61	63,347.44	81,459.78	60,000.00
Other Revenues	-	700.00	1,100.00	1,000.00
Sales Tax	62,656.91	606,235.17	736,086.63	660,000.00
Conservation Charge	49,282.92	353,182.34	599,142.97	564,300.00
Reconnect Fees	350.00	2,475.00	2,500.00	4,000.00
Comcast & RCN Pole Fees	23,209.46	271,796.03	142,432.00	120,000.00
Insurance Reimbursements	672.00	26,719.21	1,918.28	-
Other Electric Revenue	24,694.39	35,201.75	275,709.42	160,000.00
Total Other Revenue	<u>418,962.74</u>	<u>1,298,414.09</u>	<u>2,066,598.17</u>	<u>1,584,300.00</u>
Total Revenue	<u>3,111,901.54</u>	<u>28,662,809.16</u>	<u>34,884,793.13</u>	<u>33,199,431.00</u>
Power Costs				
Purchased Power	(1,092,372.49)	(15,394,154.61)	(19,180,113.29)	(19,200,000.00)
Power Expense Generation	45,477.73	(100,601.34)	(32,347.12)	(1,369,447.00)
Power Expense Battery	(5,764.65)	(77,273.24)	(71,756.97)	(253,727.00)
Total Power Costs	<u>(1,052,659.41)</u>	<u>(15,572,029.19)</u>	<u>(19,284,217.38)</u>	<u>(20,823,174.00)</u>
Gross Profit	<u>\$ 2,059,242.13</u>	<u>\$ 13,090,779.97</u>	<u>\$ 15,600,575.75</u>	<u>\$ 12,376,257.00</u>
Operating Expenses				
Miscellaneous Operating Expenses				
Depreciation Expense	(189,529.33)	(2,905,224.87)	(2,602,025.70)	(2,929,536.00)
Sales Tax	(62,656.91)	(606,235.17)	(736,086.63)	(660,000.00)
Interest Expense-Consumer Deposits	(2,833.58)	(8,323.74)	(12,110.70)	(18,000.00)
Interest Expense-Sub + MMWEC	(17,220.80)	(227,683.19)	(199,217.30)	(215,483.00)
Total Misc Operating Expenses	<u>(272,240.62)</u>	<u>(3,747,466.97)</u>	<u>(3,549,440.33)</u>	<u>(3,823,019.00)</u>
Distribution Expenses				
Supervision and Engineering	(30,478.46)	(260,068.30)	(258,343.14)	(270,000.00)
Substation Salaries and Expense	(72,904.50)	(692,547.33)	(629,306.68)	(660,000.00)
Customer Installation Expenses	(631.15)	(7,525.24)	(7,173.85)	(25,000.00)
Distribution Operations Expense	(48,610.94)	(648,223.93)	(678,297.14)	(680,000.00)
Total Distribution Expenses	<u>(152,625.05)</u>	<u>(1,608,364.80)</u>	<u>(1,573,120.81)</u>	<u>(1,635,000.00)</u>

Wakefield Municipal Gas and Light Department
Budget vs Actual - Electric Division
For the Twelve Months Ending, June 30, 2023

	CURRENT MONTH	YEAR TO DATE		
	FY 2023	FY 2022	FY 2023	FY 2023 Budget
Maintenance Expenses				
Supervision and Engineering	(32,286.60)	(226,500.07)	(242,622.53)	(240,000.00)
Maintenance of Station Equipment	(193.08)	(1,101.94)	(2,458.74)	(15,000.00)
Maintenance of Other Equipment	-	(4,337.44)	(1,662.44)	-
Maintenance of Overhead Lines	(82,875.32)	(1,234,044.58)	(1,318,173.15)	(1,250,000.00)
Maintenance of Underground Lines	-	(2,668.78)	(2,852.47)	(15,000.00)
Maintenance of Line Transformers	-	(5,630.00)	-	(10,000.00)
Maintenance of Street Lighting	-	(476.28)	-	(5,000.00)
Maintenance of Meters	(8,681.31)	(7,525.24)	(45,969.09)	(10,000.00)
Maintenance of Distribution Plant	(1,422.81)	(16,878.59)	(15,642.93)	(24,000.00)
Total Maintenance Expenses	(125,459.12)	(1,499,162.92)	(1,629,381.35)	(1,569,000.00)
Customer Account Expense				
Meter Reading Expense	(5,664.19)	(42,537.19)	(49,519.56)	(48,000.00)
Customer Records & Collection Exp	(114,298.72)	(784,981.68)	(1,030,122.89)	(860,000.00)
Total Customer Account Exp	(119,962.91)	(827,518.87)	(1,079,642.45)	(908,000.00)
Administrative and General Expenses				
Community Relations & Advertising	(25,927.26)	(80,610.33)	(616,885.17)	(80,000.00)
Administrative Salaries and Expense	(30,642.73)	(205,486.32)	(222,509.67)	(240,000.00)
Business Mgr, Office Salaries & Exp	(11,789.11)	(204,440.56)	(193,475.76)	(220,000.00)
MIS Salaries and Expense	(32,188.30)	(333,797.65)	(344,513.78)	(350,000.00)
Outside Services	-	(20,625.00)	(21,750.00)	-
Conservation & Rebates	(44,909.25)	(452,564.00)	(894,463.15)	(564,300.00)
Property & Liability Insurance, Damages	(11,914.11)	(133,988.48)	(137,423.37)	(140,000.00)
Employee Pensions and Benefits	(30,844.96)	(168,320.64)	(1,496,526.51)	(1,200,000.00)
General Administrative Expense	(361,557.67)	(159,118.83)	(414,559.04)	(160,000.00)
Maintenance of General Plant	(8,399.71)	(87,747.82)	(86,748.67)	(110,000.00)
Total Admin & General Expenses	(558,173.10)	(1,846,699.63)	(4,428,855.12)	(3,064,300.00)
Net Income (Loss) Before Surplus				
Adjustments	\$ 830,781.33	\$ 3,561,566.78	\$ 3,340,135.69	\$ 1,376,938.00
Surplus Adjustments				
Additions				
Sale of Scrap	-	47,460.39	19,209.15	20,000.00
MMWEC Refund	-	374,857.80	-	60,000.00
Total Additions to Surplus	-	422,318.19	19,209.15	80,000.00
Subtractions				
Interest on Sinking Fund	815.55	577.70	7,326.63	3,000.00
Payment in Lieu of Taxes	59,114.25	698,887.52	709,371.00	709,370.00
Plant Removal Costs	57,528.23	236,512.38	113,274.28	140,000.00
Total Subtractions from Surplus	117,458.03	935,977.60	829,971.91	852,370.00
Net Income (Loss)	\$ 713,323.30	\$ 3,047,907.37	\$ 2,529,372.93	\$ 604,568.00

Wakefield Municipal Gas and Light Department
Income Statement - Gas Division
For the Twelve Months Ending, June 30, 2023

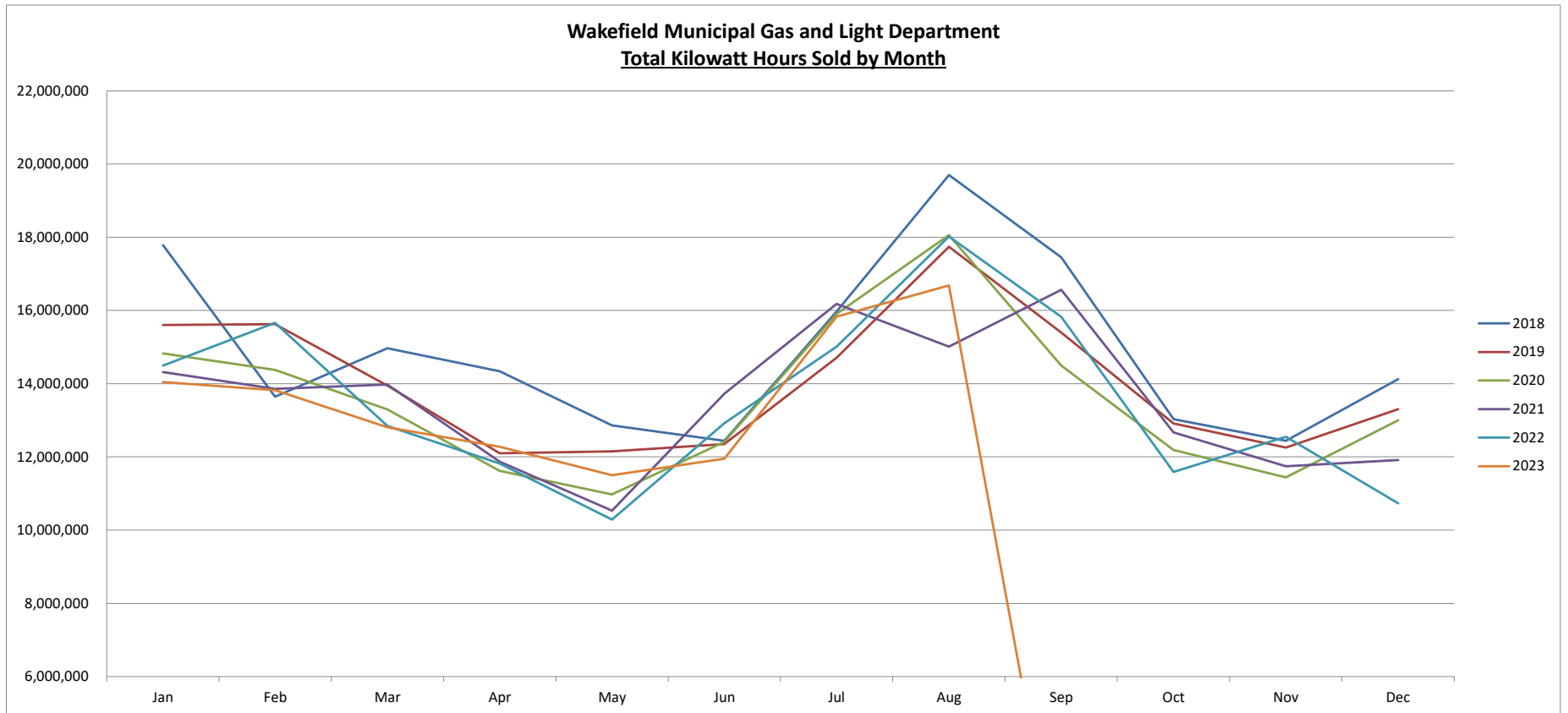
	CURRENT MONTH	YEAR TO DATE		
	FY 2023	FY 2022	FY 2023	FY 2023 Budget
Energy Revenue (Net of Discounts)				
Residential Sales	\$ 319,751.00	\$ 7,893,826.94	\$ 9,425,572.83	\$ 9,664,000.00
Commercial Sales	101,349.48	2,353,069.70	2,814,104.55	3,015,000.00
Municipal Sales	14,252.27	809,321.20	1,002,991.48	977,000.00
Total Energy Revenue	435,352.75	11,056,217.84	13,242,668.86	13,656,000.00
Other Revenues				
Unbilled Revenue	16,024.66	21,903.98	16,024.66	-
Interest Income-Consumer Deposits	598.09	444.11	5,937.64	4,000.00
Interest Income-Self Ins Sinking Fund	815.54	655.65	7,326.63	-
Income from Merchandise & Jobbing	-	13,145.47	25,874.43	20,000.00
Special Gas Charges	5,074.03	350.60	12,363.29	2,000.00
Sales Tax	5,006.32	101,645.91	131,134.32	120,000.00
Reconnect Fees	-	-	100.00	-
Insurance Reimbursements	-	143.25	-	-
Other Gas Revenue	108,325.55	112,413.56	185,323.73	80,000.00
Total Other Revenue	135,844.19	250,702.53	384,084.70	226,000.00
Total Revenue	571,196.94	11,306,920.37	13,626,753.56	13,882,000.00
Gas Purchased	(162,692.87)	(6,921,345.14)	(11,134,877.54)	(8,500,000.00)
Gross Profit	\$ 408,504.07	\$ 4,385,575.23	\$ 2,491,876.02	\$ 5,382,000.00
Operating Expenses				
Miscellaneous Operating Expenses				
Depreciation Expense	(180,071.11)	(2,020,172.63)	(2,117,363.88)	(2,075,000.00)
Sales Tax	(5,006.32)	(101,645.91)	(131,134.32)	(120,000.00)
Interest Expense-Consumer Deposits	(708.39)	(2,212.64)	(3,027.67)	(5,000.00)
Total Misc Operating Expenses	(185,785.82)	(2,124,031.18)	(2,251,525.87)	(2,200,000.00)
Distribution Expenses				
Supervision and Engineering	(12,162.97)	(232,416.03)	(276,342.31)	(240,000.00)
Station Labor and Expenses	(26,798.97)	(215,843.45)	(268,328.61)	(220,000.00)
Mains and Service	10,017.53	60,906.11	46,570.65	(60,000.00)
Customer Installation Expenses	(25,243.03)	(264,501.55)	(229,819.67)	(160,000.00)
Miscellaneous Plant Expenses	(1,525.33)	(79,107.21)	(37,836.10)	(106,000.00)
Total Distribution Expenses	(55,712.77)	(730,962.13)	(765,756.04)	(786,000.00)
Maintenance Expenses				
Maintenance of Mains	(82,566.36)	(571,840.09)	(559,958.55)	(590,000.00)
Maint of Meters and House Regulators	-	(11,079.77)	(20,333.01)	(20,000.00)
Maintenance of Distribution Plant	(547.44)	(51,344.23)	(27,984.54)	(30,000.00)
Total Maintenance Expenses	(83,113.80)	(634,264.09)	(608,276.10)	(640,000.00)
Customer Account Expense				
Meter Reading Expense	(1,888.05)	(15,274.30)	(16,506.36)	(20,000.00)
Customer Record and Collection Expenses	(38,099.52)	(274,011.56)	(339,421.34)	(285,000.00)
Total Customer Account Expenses	(39,987.57)	(289,285.86)	(355,927.70)	(305,000.00)

**Wakefield Municipal Gas and Light Department
Income Statement - Gas Division
For the Twelve Months Ending, June 30, 2023**

	CURRENT MONTH	YEAR TO DATE		
	FY 2023	FY 2022	FY 2023	FY 2023 Budget
Administrative and General Expenses				
Community Relations & Advertising	(3,294.85)	(7,253.94)	(10,809.35)	(10,000.00)
Administrative Salaries and Expense	(9,922.85)	(63,778.63)	(70,135.77)	(70,000.00)
Business Mgr, Office Salaries & Exp	(3,624.50)	(63,259.60)	(58,471.47)	(70,000.00)
MIS Salaries and Expense	(10,729.43)	(111,265.75)	(114,892.67)	(120,000.00)
Outside Services	-	(7,716.59)	(22,611.30)	(20,000.00)
Property & Liability Insurance, Damages	(2,630.22)	(33,586.73)	(33,831.01)	(38,000.00)
Employee Pensions and Benefits	15,871.86	152,270.06	(285,621.53)	(360,000.00)
General Administrative Expense	(59,831.68)	(118,376.27)	(77,033.36)	(100,000.00)
Maintenance of General Plant	(2,799.93)	(29,249.29)	(28,996.36)	(40,000.00)
Total Admin & General Expenses	(76,961.60)	(282,216.74)	(702,402.82)	(828,000.00)
Net Income (Loss) Before Surplus Adjustments	(\$33,057.49)	\$324,815.23	(\$2,192,012.51)	\$623,000.00
Surplus Adjustments				
Additions				
	-	-	-	-
Subtractions				
Interest on Sinking Fund	815.54	577.70	7,326.63	3,000.00
Payment in Lieu of Taxes	19,704.75	232,962.48	236,457.00	236,457.00
Plant Removal Costs	196,218.52	866,349.88	409,838.88	75,000.00
Total Subtractions from Surplus	216,738.81	1,099,890.06	653,622.51	314,457.00
Net Income (Loss)	(\$249,796.30)	(\$775,074.83)	(\$2,845,635.02)	\$308,543.00

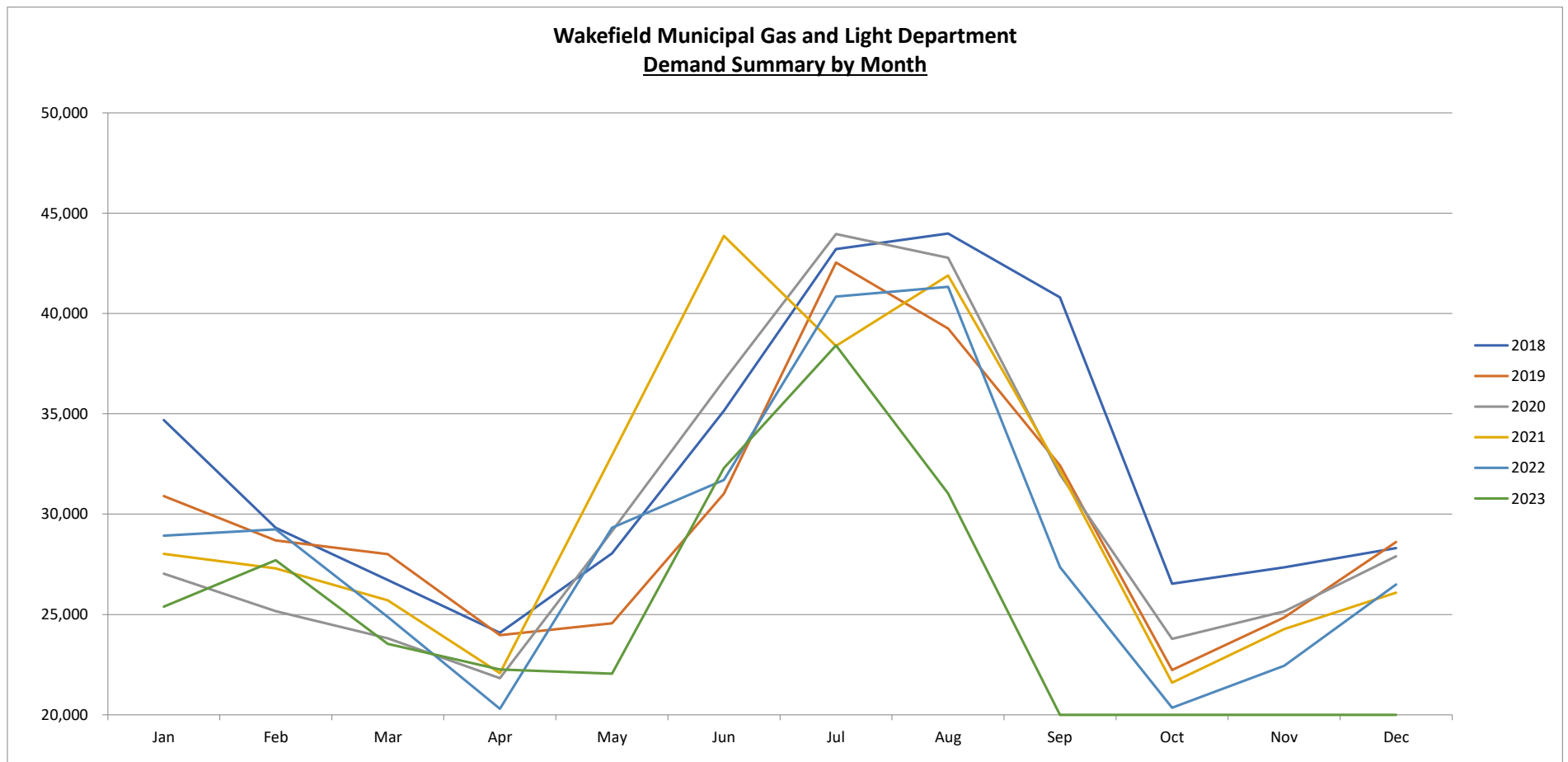
Wakefield Municipal Gas and Light Department
Total Kilowatt Hours Sold by Month

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date Thru August	Annual Total	Increase (Decrease)
2017	16,621,327	15,070,229	15,380,671	14,453,301	13,037,016	13,930,871	16,639,208	18,069,872	14,713,966	14,432,674	13,077,414	13,830,767	123,202,495	179,257,316	(5.2%)
2018	17,781,658	13,643,198	14,968,016	14,337,800	12,863,470	12,441,286	15,974,013	19,698,047	17,452,170	13,030,487	12,439,795	14,124,456	121,707,488	178,754,396	(0.3%)
2019	15,603,457	15,622,295	13,945,735	12,101,427	12,149,665	12,351,319	14,712,024	17,745,521	15,394,404	12,913,523	12,257,655	13,307,183	114,231,443	168,104,208	(6.0%)
2020	14,828,122	14,373,838	13,299,621	11,620,258	10,978,443	12,406,390	15,909,116	18,062,379	14,494,332	12,189,623	11,444,845	12,998,123	111,478,167	162,605,090	(3.3%)
2021	14,315,035	13,860,939	13,975,661	11,872,008	10,531,822	13,728,211	16,181,525	15,008,717	16,563,996	12,671,184	11,747,642	11,913,051	109,473,918	162,369,791	(0.1%)
2022	14,493,854	15,665,202	12,846,264	11,814,998	10,293,528	12,923,009	15,012,617	18,027,075	15,822,886	11,590,549	12,547,838	10,732,987	111,076,547	161,770,807	(0.4%)
2023	14,045,840	13,821,742	12,806,211	12,275,410	11,500,963	11,949,119	15,829,221	16,686,719	0	0	0	0	108,915,225	108,915,225	(32.7%)



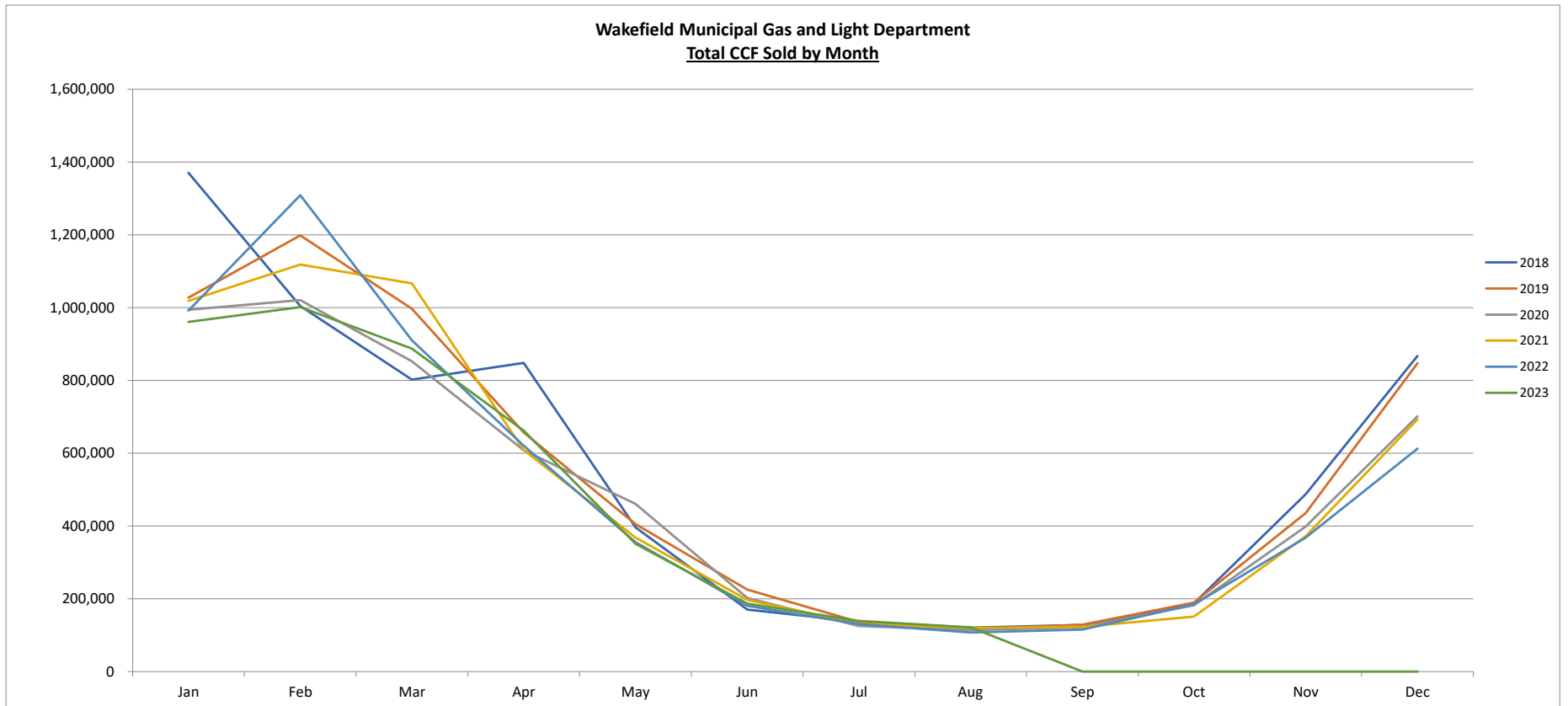
**Wakefield Municipal Gas and Light Department
Demand Summary by Month**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Peak	Increase (Decrease)
2016	32,943	32,626	28,103	27,751	34,030	37,581	45,442	47,999	41,318	26,069	29,200	33,750	47,999	5.6%
2017	32,945	31,399	28,795	26,326	37,549	44,504	41,984	40,522	35,784	27,334	27,166	34,658	44,504	(7.3%)
2018	34,692	29,316	26,712	24,091	28,039	35,145	43,210	43,982	40,807	26,527	27,350	28,308	43,982	(1.2%)
2019	30,896	28,694	28,005	23,973	24,561	31,013	42,538	39,245	32,423	22,226	24,847	28,610	42,538	(3.3%)
2020	27,031	25,166	23,806	21,823	29,147	36,658	43,966	42,773	31,971	23,789	25,149	27,898	43,966	3.4%
2021	28,023	27,300	25,704	22,075	32,944	43,864	38,381	41,900	32,172	21,605	24,276	26,091	43,864	(0.2%)
2022	28,929	29,248	24,881	20,295	29,315	31,702	40,840	41,328	27,367	20,345	22,445	26,493	41,328	(5.8%)
2023	25,385	27,704	23,537	22,260	22,042	32,290	38,405	31,029	20,000	20,000	20,000	20,000	38,405	



**Wakefield Municipal Gas and Light Department
Total CCF Sold by Month**

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Year to Date Thru August	Annual Total	Increase (Decrease)
2017	992,147	922,194	871,001	770,881	341,035	219,847	138,513	127,619	122,846	150,433	318,338	704,061	4,383,237	5,678,915	7.3%
2018	1,370,550	1,004,477	802,171	848,137	396,183	170,309	137,249	120,845	127,950	187,532	487,660	867,528	4,849,921	6,520,591	14.8%
2019	1,027,554	1,198,806	997,533	657,267	405,201	224,983	136,083	116,142	129,215	189,712	435,624	847,819	4,763,569	6,365,939	(2.4%)
2020	994,568	1,020,971	852,440	608,122	461,181	202,283	125,139	113,927	122,475	182,071	398,894	701,805	4,378,631	5,783,876	(9.1%)
2021	1,018,323	1,118,751	1,067,083	609,268	368,207	197,298	131,406	120,133	122,771	151,033	371,698	693,323	4,630,469	5,969,294	3.2%
2022	992,152	1,308,855	910,767	620,801	355,552	180,737	130,599	107,477	115,762	184,235	368,178	612,837	4,606,940	5,887,952	(1.4%)
2023	961,207	1,001,593	887,721	662,622	351,528	186,758	139,576	121,858	0	0	0	0	4,312,863	4,312,863	





WMGLD – NG Review and Update

Mark A. Roberts

October 4, 2023



Our Energy Makes the Difference™

- Review Budget Performance
- Discuss Current Market Conditions
- Review Hedging and Preparation Steps Taken
- Q and A

2021-22 Budget Performance and 21-22 Actual



WINTER	TYPE	MDQ	VOLUME DTHs	PER UNIT	TOTAL
2021-22	BGC CAPACITY	2453	406,732	\$ 5.13	\$ 2,086,535.16
	EVERETT LNG	1500	121,000	\$ 18.00	\$ 2,178,000.00
	BGC PEAKING BUDGET	732	7,320	\$ 15.00	\$ 109,800.00
	EVERETT LNG PK DEMAND	3000			\$ 441,000.00
	EVERETT LNG PEAKING	3000	15,000	\$ 20.00	\$ 300,000.00
	SPRAGUE BUDGET*	7685	535,052	\$ 10.31	\$ 5,115,335.16

*** = EXCLUDES BALANCING**

2021-22	SPRAGUE ACTUAL		415,253	\$ 6.23	\$ 2,585,309.00
	EVERETT LNG PKG DEM				\$ 441,000.00
	EVERETT LNG SUPPLY		121,000	\$ 18.94	\$ 2,291,135.00
	TOTAL ACTUAL	5787	536,253	\$ 9.09	\$ 4,876,444.00

2022-23 Budget Forecast and 22-23 Actual



2022-23	BGC CAPACITY	2453	406,732	\$ 6.61	\$ 2,688,498.52
	BGC PEAKING BUDGET	732	7,320	\$ 15.00	\$ 109,800.00
	SPRAGUE BASELOAD	1500	119,147	\$ 31.47	\$ 3,749,794.38
	SPRAGUE PEAKING	0	30,000	\$ 25.00	\$ 750,000.00
	SPRAGUE BUDGET*	4685	563,199	\$ 13.71	\$ 7,298,092.90

* = EXCLUDES BALANCING

Adj. Budget	\$ 14.46	\$ 8,142,891.40
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2022-23	SPRAGUE ACTUAL	496,610	\$ 14.90	\$ 7,399,980.40
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2023-24 Budget Forecast



2023-24	BGC CAPACITY	3199	529,750	\$ 7.34	\$ 3,888,365.00
	BGC PEAKING BUDGET	920	7,320	\$ 15.00	\$ 109,800.00
	SPRAGUE BASELOAD	0	-	\$ -	\$ -
	SPRAGUE PEAKING	0	-	\$ -	\$ -
	SPRAGUE BUDGET*	4119	537,070	\$ 8.19	\$ 3,998,165.00

* = EXCLUDES BALANCING

Adj. Budget	\$ 9.44	\$ 5,072,305.00
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3185 to 4118.5 Capacity Adjustment

Boston Logan Degree Days – Base 65

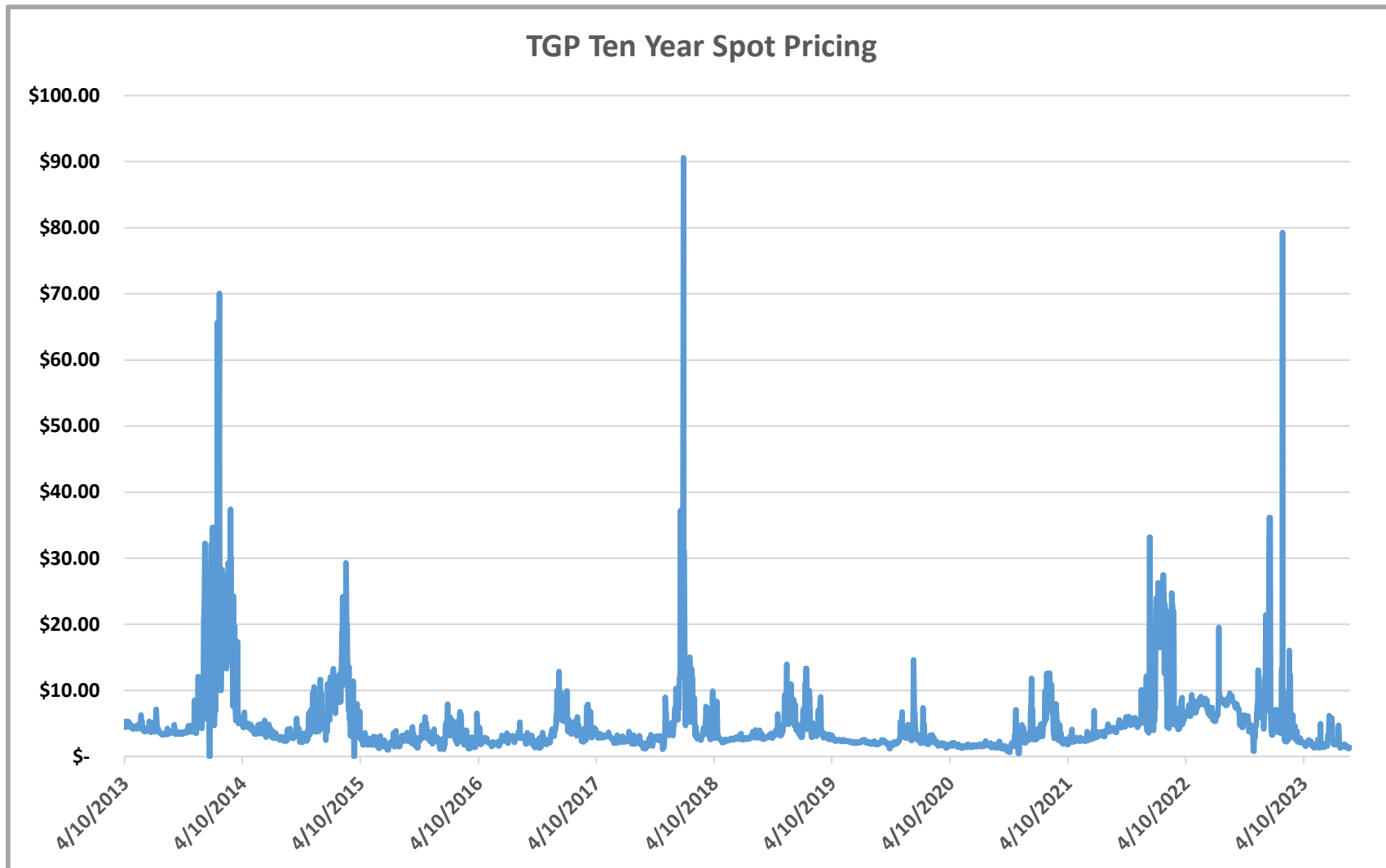


NOWData - NOAA Online Weather Data [Enlarge results](#) [Print](#)

Monthly Total HDD for Boston Area, MA (ThreadEx)
 Click column heading to sort ascending, click again to sort descending.

Year	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Season
2011-2012	0	0	44	251	430	766	947	797	569	365	172	74	4415
2012-2013	0	0	72	264	677	817	1030	942	839	475	221	25	5362
2013-2014	2	0	83	267	664	973	1157	1002	970	501	210	28	5857
2014-2015	0	0	76	271	666	823	1198	1281	977	502	137	98	6029
2015-2016	1	0	33	332	489	603	1001	871	688	535	234	17	4804
2016-2017	7	0	46	305	557	916	919	789	951	410	304	50	5254
2017-2018	10	2	37	145	633	1057	1119	749	853	583	153	56	5397
2018-2019	0	0	29	344	651	854	1054	874	796	398	234	21	5255
2019-2020	0	0	28	235	659	853	829	784	713	606	283	38	5028
2020-2021	0	2	70	315	500	894	1045	951	704	420	167	3	5071
2021-2022	9	0	12	164	603	792	1159	883	726	438	182	36	5004
2022-2023	0	0	57	257	483	850	835	834	744	424	183	74	4741
Mean	2	0	49	263	584	850	1024	896	794	471	207	43	5185
Max	10 2017	2 2020	83 2013	344 2018	677 2012	1057 2017	1198 2015	1281 2015	977 2015	606 2020	304 2017	98 2015	6029 2015
Min	0 2022	0 2022	12 2021	145 2017	430 2011	603 2015	829 2020	749 2018	569 2012	365 2012	137 2015	3 2021	4415 2012

TGP City Gate Cash Pricing Review



GLOBAL

- Asian LNG Imports – Stable to Potentially Increasing
- European Storage 94% Filled
- European Demand Down 7% - Power Sector Down 15%
- Nordstream Pipelines Mothballed
- LNG Imports Up
- Renewable and Alternative Sources Up
- Conservation Measures and Mindset Up

LOCAL

- Weather Forecast – Awaiting October Winter Update
- Mystic Closure Next Year Impact TBD

EU City Gate Pricing Review



TRADING
ECONOMICS

Calendar News Markets Indicators Countries

EU Natural Gas

2022 Data

Summary Forecast Stats Alerts Export

EU Natural Gas is expected to trade at 138.57 EUR/MWh by the end of this quarter, according to Trading Economics global macro models and analysts expectations. Looking forward, we estimate it to trade at 191.68 in 12 months time.



EU City Gate Pricing Review



Natural Gas EU Dutch TTF (EUR/MWh) 35.59 +0.40 (+1.15%)



100% Hedged on Forecasted 2023-24 Winter Baseload Volume (100% Available) \$7.34
in a ~\$12-20 Dth Market

19% Hedged on Forecasted 2024-25 Winter Volume (25% Available) \$8.29

All Peaking will be purchased at market as needed.

Monitoring layering additional hedges

Reassess Ngrid Capacity/Peaking Options in Q2 of 2024

Thank you very much for the opportunity to meet with you!!!!

Questions?

Community Solar Structure

- 129 Solar Array (KW)
- 20 Useful Life (Years)
- \$ 25,225 Annual Lease Payment
- \$ 11.00 \$/KW/Month Community Solar Subscription Charge (CSSC)
- \$ 10.50 Low Income \$/KW/Month Community Solar Subscription Charge (CSSC)
- \$ 75 Sign-Up Fee
- 25% Percentage Low-Income (Waive Fee)

Year	Lease Payment	CSSC Collected	Sign-Up Fee	Net Lease Pymt
1	\$ 25,225	\$ 16,835	\$ 7,275	\$ 1,116
2	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
3	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
4	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
5	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
6	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
7	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
8	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
9	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
10	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
11	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
12	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
13	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
14	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
15	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
16	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
17	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
18	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
19	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
20	\$ 25,225	\$ 16,835	\$ -	\$ 8,391
Totals:	\$ 504,500	\$ 336,690	\$ 7,275	\$ 160,535

Equivalent \$\$\$/W Incentive \$ 1.24

Customer Outlook

- 1 Portion of Solar Array (KW)
- 20 Useful Life (Years)
- \$ 0.136 85% of WMGLD Energy Charge (\$/kWh) **MMWEC 20-year price projections (See Next Page)**
- \$ 11.00 \$/KW/Month Community Solar Subscription Charge (CSSC)
- \$ 10.50 Low Income \$/KW/Month Community Solar Subscription Charge (CSSC)
- \$ 75 Sign-Up Fee
- 25% Percentage Low-Income (Waive Fee)

Year	kWh	Gross Benefit	CSSC Paid	Sign-Up Fee	Net Benefit	Net Benefit (Low Income)
1	1,065	\$ 143.52	\$ 132.00	\$ 75.00	\$ (63.48)	\$ 19.51
2	1,059	\$ 150.05	\$ 132.00	\$ -	\$ 18.05	\$ 24.05
3	1,053	\$ 153.13	\$ 132.00	\$ -	\$ 21.13	\$ 27.13
4	1,047	\$ 157.33	\$ 132.00	\$ -	\$ 25.33	\$ 31.33
5	1,042	\$ 152.44	\$ 132.00	\$ -	\$ 20.44	\$ 26.44
6	1,036	\$ 145.27	\$ 132.00	\$ -	\$ 13.27	\$ 19.27
7	1,031	\$ 138.56	\$ 132.00	\$ -	\$ 6.56	\$ 12.56
8	1,025	\$ 134.36	\$ 132.00	\$ -	\$ 2.36	\$ 8.36
9	1,019	\$ 133.15	\$ 132.00	\$ -	\$ 1.15	\$ 7.15
10	1,014	\$ 132.22	\$ 132.00	\$ -	\$ 0.22	\$ 6.22
11	1,008	\$ 132.10	\$ 132.00	\$ -	\$ 0.10	\$ 6.10
12	1,003	\$ 132.47	\$ 132.00	\$ -	\$ 0.47	\$ 6.47
13	998	\$ 131.56	\$ 132.00	\$ -	\$ (0.44)	\$ 5.56
14	992	\$ 129.59	\$ 132.00	\$ -	\$ (2.41)	\$ 3.59
15	987	\$ 130.27	\$ 132.00	\$ -	\$ (1.73)	\$ 4.27
16	982	\$ 130.64	\$ 132.00	\$ -	\$ (1.36)	\$ 4.64
17	976	\$ 133.19	\$ 132.00	\$ -	\$ 1.19	\$ 7.19
18	971	\$ 132.57	\$ 132.00	\$ -	\$ 0.57	\$ 6.57
19	966	\$ 130.20	\$ 132.00	\$ -	\$ (1.80)	\$ 4.20
20	961	\$ 128.13	\$ 132.00	\$ -	\$ (3.87)	\$ 2.13
Totals:	20,234	\$ 2,750.77	\$ 2,640.00	\$ 75.00	\$ 35.77	\$ 232.75

**20-YR Mass Hub Power Pricing Projections
WMGLD Projected Energy Charge Impact**

Annual wholesale spot power price (nominal \$/MWh)
Mass Hub

Fuel Charge 0.0700 **Energy Charge** 0.09080

Year	On-peak	Off-peak	Full Energy		
			Fuel Charge	Charge	85%
2024	49.48	40.35	0.070	0.1608	0.1367
2025	55.36	42.85	0.076	0.1667	0.1417
2026	59.83	44.52	0.080	0.1711	0.1454
2027	64.65	47.68	0.086	0.1767	0.1502
2028	59.62	46.27	0.081	0.1722	0.1463
2029	51.86	43.83	0.074	0.1649	0.1402
2030	46.28	39.85	0.067	0.1582	0.1345
2031	43.50	37.03	0.063	0.1542	0.1311
2032	43.59	36.16	0.063	0.1537	0.1306
2033	42.77	36.63	0.063	0.1534	0.1304
2034	42.25	38.11	0.063	0.1541	0.1310
2035	41.94	40.23	0.065	0.1554	0.1321
2036	41.55	40.29	0.064	0.1551	0.1319
2037	40.42	39.32	0.063	0.1537	0.1306
2038	40.90	41.16	0.065	0.1553	0.1320
2039	41.22	42.65	0.066	0.1566	0.1331
2040	42.47	46.95	0.070	0.1605	0.1364
2041	41.75	47.84	0.070	0.1606	0.1365
2042	40.43	46.31	0.068	0.1586	0.1348
2043	39.06	45.31	0.066	0.1569	0.1334

20-Year Average Residential Solar Energy Credit (per kWh) 0.1359