UTILITIES ADVISORY COMMISSION
Regular Meeting
Wednesday, January 03, 2024
Council Chambers & Hybrid
6:00 PM

Utilities Advisory Commission meetings will be held as "hybrid" meetings with the option to attend by teleconference/video conference or in person. To maximize public safety while still maintaining transparency and public access, members of the public can choose to participate from home or attend in person. Information on how the public may observe and participate in the meeting is located at the end of the agenda. Masks are strongly encouraged if attending in person. The meeting will be broadcast on Cable TV Channel 26, live on YouTube https://www.youtube.com/c/cityofpaloalto, and streamed to Midpen Media Center https://midpenmedia.org.

VIRTUAL PARTICIPATION **CLICK HERE TO JOIN** (https://cityofpaloalto.zoom.us/j/96691297246)
Meeting ID: 966 9129 7246 Phone: 1(669)900-6833

PUBLIC COMMENTS
Public comments will be accepted both in person and via Zoom for up to three minutes or an amount of time determined by the Chair. All requests to speak will be taken until 5 minutes after the staff's presentation. Written public comments can be submitted in advance to UACPublicMeetings@CityofPaloAlto.org and will be provided to the Council and available for inspection on the City's website. Please clearly indicate which agenda item you are referencing in your subject line.

PowerPoints, videos, or other media to be presented during public comment are accepted only by email to UACPublicMeetings@CityofPaloAlto.org at least 24 hours prior to the meeting. Once received, the Clerk will have them shared at public comment for the specified item. To uphold strong cybersecurity management practices, USB's or other physical electronic storage devices are not accepted.

TIME ESTIMATES
Listed times are estimates only and are subject to change at any time, including while the meeting is in progress. The Commission reserves the right to use more or less time on any item, to change the order of items and/or to continue items to another meeting. Particular items may be heard before or after the time estimated on the agenda. This may occur in order to best manage the time at a meeting to adapt to the participation of the public, or for any other reason intended to facilitate the meeting.

CALL TO ORDER 6:00 PM - 6:05 PM

AGENDA CHANGES, ADDITIONS AND DELETIONS 6:05 PM - 6:10 PM
The Chair or Board majority may modify the agenda order to improve meeting management.

PUBLIC COMMENT 6:10 PM - 6:25 PM
Members of the public may speak to any item NOT on the agenda.

APPROVAL OF MINUTES 6:25 PM - 6:30 PM

1. Approval of the Minutes of the Utilities Advisory Commission Meeting Held on December 6, 2023

UTILITIES DIRECTOR REPORT 6:30 PM - 6:45 PM

NEW BUSINESS (a 10 minute break will be imposed during this section)

2. Discussion and Update on the Fiscal Year 2025 Preliminary Utilities Financial Forecast and Rate Projections *(**DISCUSSION** 6:45 PM – 7:45 PM)* Staff: Micah Babbitt and Lisa Bilir

3. Discussion and Update on Utilities Department Five-Year Capital Improvement Program Progress and Projections *(**DISCUSSION** 7:45 PM – 8:45 PM)* Staff: Mohammad Fattah and Silvia Santos

COMMISSIONER COMMENTS AND REPORTS FROM MEETINGS/EVENTS

FUTURE TOPICS FOR UPCOMMING MEETING

ADJOURNMENT

SUPPLEMENTAL INFORMATION
The materials below are provided for informational purposes, not for action or discussion during UAC Meetings (Govt. Code Section 54954.2(a)(3)).

INFORMATIONAL REPORTS
Informational Report: Utilities Quarterly Report for FY24-Q1

12-Month Rolling Calendar
Public Letter(s) to the UAC

PUBLIC COMMENT INSTRUCTIONS

Members of the Public may provide public comments to teleconference meetings via email, teleconference, or by phone.

1. **Written public comments** may be submitted by email to UACPublicMeetings@cityofpaloalto.org.
2. **Spoken public comments using a computer** will be accepted through the teleconference meeting. To address the Council, click on the link below to access a Zoom-based meeting. Please read the following instructions carefully.
    - You may download the Zoom client or connect to the meeting in- browser. If using your browser, make sure you are using a current, up-to-date browser: Chrome 30 , Firefox 27 , Microsoft Edge 12 , Safari 7 . Certain functionality may be disabled in older browsers including Internet Explorer.
    - You may be asked to enter an email address and name. We request that you identify yourself by name as this will be visible online and will be used to notify you that it is your turn to speak.
    - When you wish to speak on an Agenda Item, click on "raise hand." The Clerk will activate and unmute speakers in turn. Speakers will be notified shortly before they are called to speak.
    - When called, please limit your remarks to the time limit allotted. A timer will be shown on the computer to help keep track of your comments.
3. **Spoken public comments using a smart phone** will be accepted through the teleconference meeting. To address the Council, download the Zoom application onto your phone from the Apple App Store or Google Play Store and enter the Meeting ID below. Please follow the instructions B-E above.
4. **Spoken public comments using a phone** use the telephone number listed below. When you wish to speak on an agenda item hit *9 on your phone so we know that you wish to speak. You will be asked to provide your first and last name before addressing the Council. You will be advised how long you have to speak. When called please limit your remarks to the agenda item and time limit allotted.

CLICK HERE TO JOIN **Meeting ID: 966 9129 7246 Phone:1-669-900-6833**

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CITY OF PALO ALTO

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: January 3, 2024
Staff Report: 2312-2360

TITLE
Approval of the Minutes of the Utilities Advisory Commission Meeting Held on December 6, 2023

RECOMMENDATION
Staff recommends that the UAC consider the following motion:

Commissioner _____ moved to approve the draft minutes of the Decemeber 6, 2023 meeting as submitted/amended.

Commissioner _____ seconded the motion.

ATTACHMENTS
Attachment A: 12-06-2023 DRAFT UAC Minutes

AUTHOR/TITLE:
Jenelle Kamian, Program Assistant I

UTILITIES ADVISORY COMMISSION MEETING
MINUTES OF DECEMBER 6, 2023 REGULAR MEETING

CALL TO ORDER

Chair Segal called the meeting of the Utilities Advisory Commission (UAC) to order at 6:12 p.m.

Present: Chair Segal, Vice Chair Scharff, Commissioners Croft, Forssell, Mauter, Metz, and Phillips

Absent:

AGENDA REVIEW AND REVISIONS

None

ORAL COMMUNICATIONS

None

APPROVAL OF THE MINUTES

ITEM 1: ACTION: Approval of the Minutes of the Utilities Advisory Commission Meeting Held on October 11, 2023

Chair Segal invited comments on the October 11, 2023, UAC draft meeting minutes.

ACTION: Commissioner Phillips moved to approve the draft minutes of the October 11, 2023, meeting as submitted.

Commissioner Croft seconded the motion.

The motion carried 7-0 with Chair Segal, Vice Chair Scharff, Commissioners Croft, Mauter, Metz, and Phillips, voting yes.

ITEM 2: ACTION: Approval of the Minutes of the Utilities Advisory Commission Meeting Held on November 1, 2023

Commissioner Phillips questioned whether the City received a letter from the DOE regarding grants and if anything was learned from that.

Dean Batchelor, Utilities Director, responded there was a short letter about that. One area that was lacking was long-term job opportunities as most of Palo Alto's work was going to be temporary; once the projects were complete, the jobs would go away. The other thing was that other areas were more

devastated and in need of upgrade. There were no large amounts given out, and they were spread amongst 10 or 12 cities across the country. The City will reinitiate the grant process in the coming year for when it is reoffered.

Commissioner Metz moved to approve the draft minutes of the November 1, 2023, meeting as submitted.

Commissioner Mauter seconded the motion.

The motion carried 7-0 with Chair Segal, Vice Chair Scharff, Commissioners Croft, Mauter, Metz, and Phillips, voting yes.

UNFINISHED BUSINESS

None

UTILITIES DIRECTOR REPORT

Dean Batchelor, Utilities Director, delivered the Director's Report as follows.

Advanced Metering Infrastructure Project Update: The City continues its work on the Advanced Metering Infrastructure (AMI) project to install what are commonly referred to as "smart meters" for our utilities customers. We are currently installing meters in residential areas through a phased rollout so we can test and validate the quality assurance of AMI meters and systems as the project progresses. Our contractor, Utility Partners of America (UPA), is exchanging electric meters with new advanced electric meters and retrofitting existing gas and water meters with AMI radios. City of Palo Alto Utilities (CPAU) staff are contacting customers directly by mail and email to notify them when their area is scheduled for AMI installation. Once on-site, UPA will attempt to notify a resident by knocking on the front door or ringing the doorbell. If UPA cannot contact the customer in person, they will leave a door hanger to inform them about the status of meter installation. If unable to access a meter, UPA may call the customer to schedule an appointment to complete the installation. If customers have questions about the installation process, they can contact UPA at (650) 331-2479 or (800) 747-1062. Note that return phone calls from UPA's direct call center ID displays a phone number with 864 area code. If there are any questions about the AMI project, customers may contact Utilities Customer Service. Information about the AMI project including FAQs can be found at cityofpaloalto.org/AMI

Gas Safety Outreach: Throughout the year, the CPAU delivers a variety of outreach materials to the community about utilities safety. An important element of our public awareness program is the annual distribution of our gas safety awareness brochure. Per Federal Department of Transportation regulations, we directly mail this information to all customers, non-customers living near a gas pipeline, public officials, emergency responders, excavators, contractors, and locators working in Palo Alto. Gas safety brochures are being delivered now. If interested in additional details about gas safety or this outreach, please visit cityofpaloalto.org/safeutility

Facility Managers Meeting: On November 7, CPAU hosted a Facility Managers Meeting for our commercial and Key Account customers. The meeting was held on Zoom and there were 40 participants, including a handful of small to medium business customers. Topics included a presentation on forecasted gas prices, commercial energy efficiency, electrification, water conservation programs, and upcoming

Advanced Metering Infrastructure (AMI) rollout for commercial customers. The feedback after the meeting has been overwhelmingly positive and we hope to host our next Facility Managers Meeting in Spring 2024.

Chair Segal questioned if the attendees of the Facility Managers Meeting were customers or service providers.

Director Batchelor responded that they are customers. There are some industrial and some light customers in the Stanford Research Park. There has been a big effort to get out to the medium to small commercial customers as well. He continued the Director's Report.

Full Service Heat Pump Water Heater program update: On November 1, 2023, the Full Service HPWH program begins a new round of lower pricing on a limited time basis, thanks to the new statewide HPWH incentives through the TECH Clean program. This new pricing includes up to $1500 of subsidy for site preparation work such as long conduit runs, relocation of the water heater, etc. The program installer has expanded its staff capacity to shorten the time to provide project estimates and increase the number of installations per week to meet the anticipated increase in program demand. For homeowners who wish to choose their own contractor, they will be eligible to receive a $3000 state incentive if they choose a TECH-certified contractor, plus $1500 rebate from CPAU.

Community Events and Workshops: CPAU hosted 5 well-attended events and workshops in November and early December 2023. The average turnout was around 50+ participants. The list includes:

- November 1: Save Money with an EV Now Webinar
- November 2: Edible Gardening Online Workshop
- November 11: Multilingual EV Financial Incentives Clinic with EV Expo at Mitchell Park
- November 16: EV Charging Online Workshop
- December 5: EV 102

From the beginning of the year to the first week of December 2023, CPAU hosted a total of 30 EV-related workshops. These events have ranged from topics such as “The Ultimate Guide to Purchasing an EV in 2023” to “EVs for Back-Up Power.” There were workshops hosted on E-Bikes, as well as staff participation in Earth Day events. In addition, staff ran a variety of water-related workshops (8 total) on topics such as “Tree Selection, Watering, and Care” and “Edible Gardening.”

Staff also worked with non-profit Acterra to host several EV Expos. These have become very popular in the community and allow EV enthusiasts to “show-off” their EVs to the public. Typically, there are 6-8 EVs parked in one area, giving the public a chance to get inside and “try out” each of the vehicles. Many of the EVs on display are less well-known and expose the public to the array of EVs on the market today.

In 2023, CPAU workshops and events attracted over 4,200 participants from the community! More details and registration at cityofpaloalto.org/workshops.

NEW BUSINESS

ITEM 3: ACTION: Staff Requests the Utilities Advisory Commission Recommend the City Council Approve the Continuation of the Cross-Bore Verification Program

Dean Batchelor, Utilities Director, asked for the support to move this recommendation to City Council to continue the last phase of the cross bore.

Aaron Perkins, Principal Engineer, Water Gas Wastewater Engineering, provided background on cross bores, the unintentional drilling of a new pipeline through an existing underground pipeline using a trenchless drilling method. In Palo Alto, the typical trenchless installation method for natural gas pipelines is by horizontal directional drilling. Cross bores between sewer laterals and gas lines are rare but do happen and pose a potential hazard during sewer line cleaning or plumbing work. The majority of cross bores found during the Cross-Bore Inspection Program since 2011 were found on private property. As a cross bore intersects the pipeline, grease and debris come down and clog the sewer line and the customer experiences a backup in their home. Their typical response is to call in a plumber, who will often send a root cutter or an auger bit down the lateral to clear it out and subsequently damage the gas pipeline. The sewer will later fill up with gas and present itself at manholes in the street and potentially in customers' toilets, shower, or sink.

The laterals throughout the City have been divided into six groups for phase 4 and categorized in a way to focus on where to begin, and he presented a chart demonstrating this. There are 966 laterals that still need inspection. The intention is to focus on the higher-priority, before inspecting the ones with a greater distance between the gas main and lateral. He gave some examples on how prioritization is done. From a risk standpoint, he stated he would focus on those in groups 1 through 3 that are within 11 to 15 because that can be done rather quickly, and then move to the 94 in group 4 before moving on to group 1 locations that are 21 feet or more away.

Chair Segal asked if phases 1, 2, and 3 had something higher risk than what is on the chart for the proposed phase 4.

Mr. Perkins stated the available data is analyzed and put it in boxes to help assess the risks to focus on. As the data is updated and research is done, errors may be fixed.

Commissioner Mauter noted that since the inspection process happens by putting a camera down the sewer line, there would be a lot of data collected about the lines. She asked if that data was used to inform sewer upgrades. She questioned if this is expected to be an ongoing project as new gas lines get drilled all the time.

Mr. Perkins explained that part of the inspection program includes a NASSCO coding, a recognized assessment of sewer laterals. The City pays an additional bid price for each lateral inspected to assess the lower lateral from the cleanout or property line to the main, and that is then rolled into the maintenance program for the sewer group. He also noted that for contract installs, sewer camera inspections have been done on gas main replacement projects since 2001, so the laterals being inspected with this program are prior to 2001. In-house crew installs have had inspections since 2011, and that is an ongoing process.

Commissioner Forssell asked what other communities do about inspections and how frequent the scenario of puncturing a gas line is.

Mr. Perkins noted that he had previously worked for the City of Long Beach, which had the same process with camera inspections. Some cities do complete trenching to avoid inspections, but searching for the presence of a cross bore via camera is common. Regarding adverse incidents, if a cross bore is hit and

there is no reportable incident, it will be repaired by the utility. If there is a defined incident that causes a specific amount of damage, a death, or a large gas release, it is required to be reported. He did not have the actual number of reportable incidents but would get the information.

Commissioner Phillips asked about the remediation and cost when a cross bore is found. He questioned if the program is over once the remaining 966 sewer laterals are inspected or if there is a potential that more will be found.

Mr. Perkins explained that typically when these are discovered, it is handled as an emergency. After notifying the property owner, a crew will excavate down to the cross bore. The gas line is pulled out of the sewer, the sewer is repaired, and then it is backfilled. The cost for this program is purely inspection of the existing laterals. He noted the plan is that these 966 laterals complete the program. If anything new is found, it would be handled internally by the City sewer crews.

Director Batchelor clarified that every time a new gas service is introduced to a home, it has to be inspected by camera from the beginning on the homeowner's side out to the main side. Any issues, such as tree roots blocking a view of a gas line, would be handled in house and not require contractors.

Chair Segal asked who performs the inspection in that scenario.

Director Batchelor responded the City or a contractor working for the City performs the inspection, not the homeowner.

Vice Chair Scharff felt the first phase of this program made sense and found the ones that were most concerning. The second and third phases found less and were more costly per cross bore. He stated the phase 4 inspections were the least dangerous and felt the odds of finding more than one or two cross bores was pretty low. UAC needs to decide if this is fiscally prudent, and he felt it did not seem to be at this point. He asked if there had been a cross bore incident in Palo Alto that cost hundreds of thousands of dollars.

Matt Zucca, Assistant Director Water Gas Wastewater Engineering and Operations, agreed that this is what Staff struggles with in evaluating this program. It is a risk decision. He noted the outcome might be fine but is the decision not to do something appropriate? The Staff's recommendation is based on unknown risk. It takes only once incident to make $1.5M seem cost effective.

Vice Chair Scharff stated it is not a risk-free endeavor and wanted more information about what those risks are. Given the historical data, he viewed the risk as very low. He asked what the worst-case scenario was and how frequently that has occurred in California. He wanted, at the time of the motion, to have Staff come back with the data and options and also the risk in terms of consequences. He knew there had not been a major incident in Palo Alto with lives lost and major damages.

Mr. Zucca added that part of the risk equation is not just the economics. If a cross bore gets nicked, the result could be as simple as the sewer lines fill up with gas and the City is alerted, shuts it off, and squeezes it, done; or it could be that a house explodes and causes fatalities. Staff will not recommend taking a risk given that the range of potential consequences of the same incident can be fairly broad. The most recent cross bore found was on a sewer lateral at Church. It was not nicked. The sewer started backing up, and the City was on site quickly to intercept. That is the real data and experience within the last nine months. He agreed a sewer backup itself was not life threatening but added that the nick typically happens when

going in to clean out that sewage backup. He stated Staff was happy to bring back more data but that Staff's recommendation was one of fairly low risk tolerance.

Commissioner Phillips felt this was like buying an insurance policy. He stated it was easy to be entirely risk averse and spend $1.XM and all sleep better, but it did not seem prudent without understanding the other side of the insurance policy. He also questioned the meaning of "other" in the table that refers to gas cross bore and other cross bore.

Mr. Zucca noted it was not impossible to quantify, but the range was big. It could be 0 because no cross bores are found, and that would be very cost ineffective. The range goes up from there but is not infinite. To capture that, Staff could look at recorded numbers to determine the ranges because the damage estimates would have been reported. He also responded that "other" could refer to a telecom cross bore, which is not a concern. The risk in that situation would be a sewage backup.

Commissioner Metz noted phase 1 found 26 natural gas cross bores. He asked if there was a common denominator among those found, such as lines close together, one contractor, or one neighborhood.

Mr. Perkins responded that those 26 were sporadic. Most of them were found on private property, but there was no common theme of one individual neighborhood or project.

Commissioner Croft asked who is putting new gas pipes in.

Mr. Perkins responded that all of the City-owned gas pipelines are put in by City crews or a City-qualified contractor.

Commissioner Croft clarified that the sewer lines are being inspected for gas lines the City may have put it, so it is the City's responsibility. She felt a big incident was such a high risk that it seemed prudent to do the inspections. She alternatively suggested a possible rule that there has to be a check before someone comes in to clean out a blocked sewer.

Mr. Perkins was not aware of a requirement for a camera before sending a root cutter or auger down.

Mr. Zucca added that it also depends on where the clog is. The City would respond to a clog in the lower lateral or if there was an indication of a cross bore, but if it is on private property, it is the owner's responsibility.

Commissioner Forssell asked to have the $1.35M in perspective of the overall gas utility budget. She felt there was not a good definition of "incident," and stated she was interested in data on both the existence of a cross bore and reportable incidents.

Director Batchelor noted the budget was $76M, about 2%.

Chair Segal asked if the Church incident mentioned would have been caught in the proposed phase 4 inspection.

Mr. Zucca did not think so because it occurred due to a mismapping issue of the sewer lateral. The lateral that was hit was not mapped.

Chair Segal she questioned whether it would eliminate the risk of cross-bore incidents if every property had a gas pressure valve and if that would be a better place to spend the money.

Mr. Perkins noted there is currently a requirement to install an excess flow valve, which automatically activates and shuts down the majority of the gas with a pressure drop. That significantly reduces the risk of a potential reportable incident, but some of these were installed prior to that being a regulation. The groups are broken up into services that have emergency shutoff valves and those that do not. A service that does not have it is a higher risk than one that does. Installing the valve would require excavating the street, interrupting the gas service, installing a new one, and backfilling and paving for each one. He was unsure what the cost would be, but it was not currently part of the program to go back and install an emergency valve on services that did not have one installed before it was a requirement.

Mr. Zucca explained that it costs around $1400, on the high end, per inspection, and it would be far more than that to install valves. He felt that would not be the best way to mitigate risks.

Commissioner Mauter felt that it would also be helpful to understand the additional value for sewer line maintenance. This is not just risk prevention but also learns more about infrastructure, what is likely to fail, what has already failed, and what needs to be fixed urgently. She echoed Commissioner Croft's sentiment that there is a moral hazard and legal liability associated with a City-operated gas utility having made an error. She wanted to be conscious that it is not the homeowner that installed a gas line incorrectly. She also pointed out that only assessing risk without accounting for other value propositions misses part of the equation.

Mr. Zucca noted he could come back with the opportunistic savings from this work.

Commissioner Forssell was interested in what groups 1 through 6 actually mean. She questioned if an excess flow valve solves the reportable incident problem in a different way. She wanted clarification on the notations "house" and "curb" and the column "Main Crosses SS Lateral" on the chart.

Mr. Perkins explained that it referred to a meter located at the house or a meter located at the curb. A curb meter poses a reduced risk because the curb meter is typically on the City side and the sewer lateral is located at the time of installation.

Mr. Zucca stated Main Crosses SS Lateral denotes that there is a known utility crossing. The assumption is they are not in the same plane, but if it is mapped that way, there is a higher risk than something not mapped that way. Every line in the chart is a different way of characterizing risk.

Chair Segal asked the Commission if they preferred to have more data or to go forward as presented. Commissioners Croft, Commissioner Mauter, and Commissioner Metz did not need more data but respected the desire for more data in order to make a decision; Commissioners Forssell and Phillips needed more data. Chair Segal requested a motion to come back to the Commission with more data.

ACTION: Vice Chair Scharff moved Staff return to the Utilities Advisory Commission with options to complete fewer than the 966 sewer laterals over the next 2 years based on different risk criteria, including the rate of incidents, reportable incidents, and un-reportable incidents.

Commissioner Forssell seconded the motion.

The motion carried 7-0 with Chair Segal, Vice Chair Scharff, Commissioners Croft, Mauter, Metz, and Phillips, voting yes.

ITEM 4: ACTION: Recommendation to Adopt a Resolution Approving an Amendment to the City's 2009 California-Oregon Transmission Project Long-Term Layoff Agreement to Extend the City's Layoff of its Share of the California-Oregon Transmission Project (COTP) until 2034 and to Receive Annual Market Payments

Lena Perkins, PhD, Senior Resource Planner, explained that the 15-year layoff agreement, which is a temporary ownership agreement during which all rights, responsibilities, and costs are not the City's, is coming to an end in February. There is a possibility to mutually agree with the partner utilities and take this back or sell it during the duration of the layoff. The process required for an outright sale was not going to happen before the layoff expired. Not implementing the layoff would result in substantial capital costs owed by Palo Alto. There is more protection from wildfire liability during a layoff. If the layoff is approved, there will be 10 years of ramp to decide what to do with this asset. She gave further background and information on the COTP. It is maintained by Western Area Power Administration, a branch of the federal government under DOE, which owns around 40% of the transmission in the U.S. and has an excellent safety record. In 2008, the market redesign of the California ISO took away most of the value of this line to the City. Anyone joining the ISO pays a flat transmission charge based on the volumetric energy, and there is almost no benefit to owning transmission outside of that system. The decision was made in 2009 to do an at-cost layoff that extends through February 2024. Staff recommends extending the layoff for 10 more years to the same utilities as the current layoff. Ms. Perkins presented estimates of the value of bringing COTP back to the portfolio or extending the layoff.

Commissioner Croft stated there was a comment about prefunded amounts that need to be paid back and asked if those are the amounts calculated.

Dr. Perkins explained that the prior capital replacements in the previous 15 years have totaled about $1M that would have to be paid back in February 2024 if this were brought back. That was spread out over the past 15 years, and the percentage of the $1M would go down by 2034. She also noted that the City's percentage of upcoming capital expenditures 2024 and 2025 was about $4M.

Commissioner Phillips asked if he was correct in understanding that this opportunity is created because it is worth more to the other members of the TANC that did not join the California ISO.

Dr. Perkins agreed that was correct.

Commissioner Forssell questioned the reasoning of utilities not joining Cal ISO and whether utilities can switch from one balancing authority to another.

Dr. Perkins believed there had been mistrust on whether the California ISO was going to function and be reliable. The Sierra Nevada Region of the Western Area Power Authority decided not to join the California ISO given the specific constraints of hydro power and the inability to flex with the market when water had to go down, and they had sufficient transmission to go it on their own.

Commissioner Metz asked to clarify that if the layoff is done and the City needs the energy, it could not get it. He there was a comment for future potential for wind. He questioned if that implies there is not the ability to pump federal hydro through that. He asked what the other cities in Cal ISO are doing.

Dr. Perkins noted this was transmission without energy associated with it. She responded that Northwest hydro was limited and that the Pacific Northwest would mostly be on the buying side of that. CAPU has access to federal hydro without the COTP, but there is not much available for a compelling price. Every Cal ISO utility has laid off their shares in 2015, and their layoff extends until 2039.

There was some discussion about low-cost renewables value noted on the chart.

Commissioner Phillips asked why the layoff would be 10 years rather than 15 years or permanent.

Dr. Perkins responded that the longer the better for a layoff, but the counterparties were not equipped to respond to a longer deal. Ten years was a reasonable compromise and what was able to be negotiated.

Chair Segal asked if the O&M obligation of $1.4M was annual.

Dr. Perkins answered that it was annual and a lot of that was wildfire mitigation.

ACTION: Commissioner Forssell moved Staff recommendation the UAC recommend the City Council adopt a Resolution approving Amendment No. 3 to the City's 2009 California-Oregon Transmission Project Long-Term Layoff Agreement to extend the term for 10 years until 2034 and to receive annual market payments, as shown in Exhibit A to the attached Resolution.

Commissioner Phillips seconded the motion.

The motion carried 7-0 with Chair Segal, Vice Chair Scharff, Commissioners Croft, Mauter, Metz, and Phillips, voting yes.

The UAC took at break at 7:55 p.m. and returned at 8:06 p.m.

ITEM 5: ACTION: S/CAP Strategic Plan on the Reliability and Resiliency for the Electric Distribution Utility

PUBLIC COMMENT:
David Coale stated that when people are starting to electrify their homes, they have to do an electric load calculation to see if their electric panel can handle the extra loads. They can do this using a spreadsheet the City supplies based on the national electric code, which is a conservative calculation and can cause unnecessary panel upgrades. Another method is using historical data to determine if there is enough capacity. Now that the City will be getting smart meters, this data will be available, and the City can help by showing the max current use each month on the utility bill. This would greatly simplify the electrification process for the homeowner.

Jonathan Abendschein, Assistant Director Utilities Resource Management, recapped the history of this item. The proposed plan includes six strategies. Strategies 1 and 2 summarize a variety of work the utility is engaged in right now. He listed those efforts, with a major piece being the grid modernization project. Strategies 3 and 4 relate to encouraging and valuing flexible technologies, with several actions being taken to promote these technologies and strategies and quantify the cost versus benefit of the technologies. Staff also intends to identify potential programs the City could implement. There would most likely need to be additional budget or staffing resources for those programs, which would be identified as part of Strategy 5 . Any programs chosen by Council for implementation could then move forward with additional

analysis and implementation efforts as part of Strategy 6. The aim is to complete the Strategies 3 through 5 by the end of 2024 to begin discussing potential programs in 2025. He discussed some of the achievements to date and the implementation activities in progress.

Commissioner Metz asked about the scope of the planned consulting contracts for Strategies 4 and 5. He stated if those tasks pan out, they will be increasingly core areas that will require resources to build capabilities. He questioned the meaning of public-private partnerships in Strategy 5, Action 3, and asked if there is a plan for neighborhood-level microgrids noted in Strategy 5, Action 4.

Mr. Abendschein noted the consultant scope should be able to cover Strategy 4, Actions 1, 3, and 4, evaluating the value of flexible technologies for electric supply costs and resiliency. The consultant scope would also address all actions in Strategy 5. He stated the goal of the consultant with respect to Strategy 5 is to lay out different potential paths forward and the resources needed. On the topic of public-private partnerships, he gave an example of a public-private partnership with VMware to set up a small demonstration microgrid. He said there is not currently a plan for neighborhood-level microgrids. There are ideas about how to approach it but it is very complex. The most complex programs, like microgrids, may need more analysis even after Strategy 5 is completed.

Commissioner Metz applauded that the strategy explicitly addresses resilience during an emergency. He suggested coordinating with OES regarding that. Regarding flexible and efficient technologies, he felt the language needed to be stronger to actively steer people toward these technologies to the benefit of the utility and ratepayers.

Commissioner Phillips questioned what community was being referred to. Was it just residents or was it all customers? He suggested more specificity in that language moving forward.

Mr. Abendschein stated the language was intended to be broad and inclusive of both the residential and the commercial community.

Commissioner Forssell felt it was odd for Strategy 6 to implement programs “as chosen by the community.”

Mr. Abendschein suggested the wording could be changed to "as directed by Council."

Dean Batchelor, Utilities Director, explained the intent was not that community would set the policy but would have input so Council could understand what the concerns are.

Commissioner Mauter asked about the process going forward, whether approving this gives the green light to spend the money allocated under each strategy.

Mr. Abendschein explained the UAC can recommend to Council to move forward with the plan. To the extent additional resources are needed, it would be put into the annual budget requests, which could then be recommended for approval by the UAC and approved by Council. The things that require additional resources are utility projects already underway and running in parallel with this strategic plan. The studies and staff efforts noted in the plan can be absorbed within existing budgets.

Commissioner Phillips further questioned what happens next if Council approves this.

Mr. Abendschein responded that assuming it were approved by Council, Staff would come back to the UAC with regular updates and get feedback at important points during the process.

Commissioner Croft felt there were opportunities to engage the community and suggested putting out an annual mailer as a lot of people do not get physical bills with inserts. This could include things to think about when considering construction: changes in the code, electrification, appliances. It would be an opportunity to get information out.

Chair Segal wanted to include in that mailer an explanation that pulling a permit is important to help balance the electric load and not meant to be a problem for residents. She noted she would like to see two other columns in attachment B, indicating whether an item is on schedule, at risk, or behind and on, under, or over budget. She thought Strategy 3 needed more detail.

Mr. Abendschein noted there was not a lot of detail in Strategy 3 because it is still being worked out. He gave more explanation about that, and there was discussion about reframing the language.

ACTION: Commissioner Mauter moved Staff recommendation that the Utilities Advisory Commission (UAC) recommend the City Council approve the Reliability and Resiliency Strategic Plan for the Electric Distribution Utility.

Vice Chair Scharff seconded the motion.

The motion carried 7-0 with Chair Segal, Vice Chair Scharff, Commissioners Croft, Mauter, Metz, and Phillips, voting yes.

COMMISSIONER COMMENTS and REPORTS from MEETINGS/EVENTS

Commissioner Metz noted he participated in the S/CAP Ad Hoc Committee meeting on November 30. The two main topics were the heat pump water heater program, which has high customer satisfaction on installations but still has a high dropout rate and needs to improve to reach the goal of 1000 installations per year, and a presentation by Peninsula Clean Energy. Their goal is 100% renewable energy, 99% time coincident by 2027. Data suggests that 90% is probably feasible and would reduce their CO_2 footprint, but trying to achieve higher time coincidence or more reliance on the current market would lead to over-procurement and higher cost.

Commissioner Forssell had a report from an interaction with a member of the public regarding the AMI smart meters. There was a question of whether they are compatible with in-home display, and it was suggested that commission members could be guinea pigs for that technology.

Chair Segal, Commissioner Phillips, and Commissioner Croft all agreed they would like to participate.

Commissioner Mauter asked if there is a set of representative users across the City that is cultivated for providing feedback on some of these efforts. She felt it was important, in looking at these things, to have a group of broadly representative of the community.

Jonathan Abendschein, Assistant Director Utilities Resource Management, gave some examples of the types of feedback the City currently obtains, including surveys, to get feedback. He acknowledged the potential value of a representative focus group as recommended by Commissioner Mauter.

Council Member Lauing discussed that the annual survey was recently reviewed by the Council. One of the messages is that the Commission and Staff are not getting enough credit for all of their work. There were also responses that there were not the same benefits as other people are getting from places like PG&E and that rates are too high. He felt doing more marketing on the strengths and accomplishments was needed.

FUTURE TOPICS FOR UPCOMING MEETINGS:

Chair Segal noted cyber security was the only thing that had not been included already.

Commissioner Mauter looked forward to the OneWater plan discussion and asked to get that agendized. She wondered if it was possible to specifically talk about onsite reuse regulations within Palo Alto and how it factors into the OneWater plan.

Commissioner Phillips was interested in the presentation on commercial electricity strategy.

Commissioner Forssell also wanted to get more information on the topic of permitting and inspections and the ease of installing solar storage in Palo Alto.

NEXT SCHEDULED MEETING: January 3, 2024

Commissioner Mauter moved to adjourn.

Vice Chair Scharff seconded the motion.

Motion carried 7-0 with Chair Segal, Vice Chair Scharff and Commissioners Croft, Forssell, Mauter, Metz and Phillips voting yes.

Meeting adjourned at 9:05 p.m.

Respectfully Submitted
Jenelle Kamian
City of Palo Alto Utilities

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: January 3, 2024
Staff Report : 2309-2080

TITLE
Discussion and Update on the Fiscal Year 2025 Preliminary Utilities Financial Forecast and Rate Projections

RECOMMENDATIONS
This item is for discussion and no action is requested. Staff seeks input from the Utilities Advisory Commission (UAC) on its preliminary rate projections for the Electric, Gas, Water and Wastewater Collection utilities to guide and update its recommended FY 2025 Financial Plans and proposed rate changes.

The attached presentation describes staff's preliminary rate projections for the various utilities; staff will continue to update and refine these estimates in light of changing economic conditions and supply trends, in order to ensure continued cost-based rate offerings. Staff plans to return to the UAC with proposed Financial Plans, and rates in March of 2024.

ATTACHMENT
Attachment A: Presentation

AUTHOR/TITLE:
Dean Batchelor, Director of Utilities
Staff, Lisa Bilir, Senior Resource Planner
Staff, Micah Babbitt, Senior Resource Planner
Staff, Eric Wong, Associate Resource Planner

CITY OF PALO ALTO

PRELIMINARY FY 2025 RATE CHANGES

January 3, 2024

www.cityofpaloalto.org

PRELIMINARY SYSTEM AVERAGE RATE PROJECTIONS

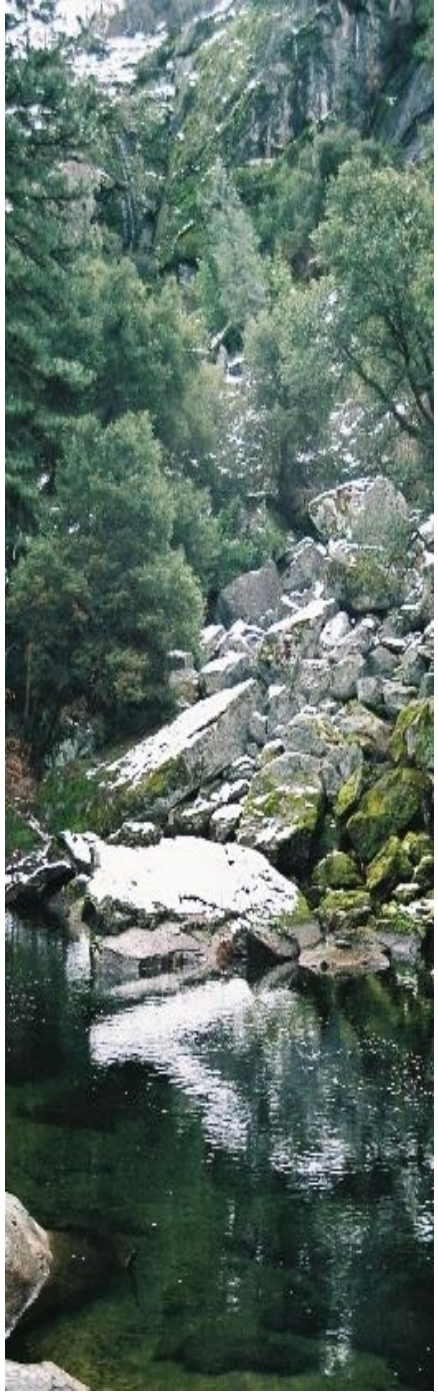
	FY 2024 (effective July 1, 2023)	FY 2025 (Projected)	FY 2026	FY 2027	FY 2028	FY 2029
Electric Utility	-$4.20 -5% (1)	$4.10 5%	$2.70 3%	$2.50 3%	$3.50 4%	$2.20 2%
Gas Utility (2)	$5.20 8%	$6.30 9%	$5.40 7%	$5.60 7%	$5.00 6%	$4.80 5%
Wastewater	$4.00 9%	$4.40 9%	$4.80 9%	$5.20 9%	$5.00 8%	$4.80 7%
Water Utility	$5.20 5%	$5.20 5%	$5.40 5%	$5.70 5%	$6.00 5%	$6.30 5%
Refuse	$0.00 0%	$0.00 0%	$1.50 3%	$1.50 3%	$1.60 3%	$1.60 3%
Storm Drain (3)	$0.80 5%	$0.50 3%	$0.50 3%	$0.50 3%	$0.50 3%	$0.50 3%
Monthly Bill Change (4)	**$11.00 3%**	**$20.50 5%**	**$20.30 5%**	**$21.00 5%**	**$21.60 5%**	**$20.20 4%**

1) *-5% change includes a 21% increase to base electric rates and removal of the hydro rate adjuster*
2) *Based on general fund transfer of 11.9% of gross revenue in FY25; gas rate changes shown with commodity rates held constant; actual gas commodity rates vary monthly*
3) *Storm Drain fees increase by CPI index annually per approved 2017 ballot measure*
4) *Based on an FY 2023 monthly residential bill of $369*

CITY OF PALO ALTO

ONGOING COST CONTAINMENT

- Consistent with the Utilities Strategic Plan, cost containment is being instituted as an ongoing priority and annual cycle
  - Winter completion of preliminary out-year rate forecasts
  - Review by all Divisions for alignment of multiyear strategies
- Ongoing management review of personnel actions
  - Review/revision of position classifications to match evolving needs
  - Addition/Deletion of positions to reflect organizational priorities
  - Review/approval to fill individual position vacancies in conjunction with ASD Budget Office and Human Resources
- Regular review of performance metrics and expenditures



RECENTLY IMPLEMENTED COST CONTAINMENT

- Agreement with Valley Water: $250K to $1M/year + up to $16 million in funding for reverse osmosis facility to improve recycled water quality
- Selling surplus Resource Adequacy and RECs ($20+ million/year)
- Negotiated improvements to Western hydroelectric contract ($2 million/year)
- Established a cross-functional field crew to install water, gas, and sewer services simultaneously at new construction sites, reducing hours spent in the field; staff time freed up to be reallocated to sewer replacements
- Implemented mobile workforce applications, reducing administrative data entry time, freeing up staff for other work
- Scheduled larger CIP projects every other year to achieve efficiencies in project management and also better bids / lower construction costs
- Expanding use of bank draft to reduce credit card fees, particularly for large accounts
- BAWSCA water bond refunding to achieve lower debt service payments for wholesale customers, including Palo Alto beginning in 2023

FUTURE POTENTIAL COST CONTAINMENT

- Switch to new customer information system with reduced support costs
- Explore prepay of renewable power purchase agreements to monetize municipal tax -exempt debt
- Negotiating layoff of transmission asset to better monetize resource
- Increased water and energy end use technical training for Customer Service Representatives, reducing transferred phone calls and staff time
- Working to cluster gas main replacements to reduce mobilization costs for construction contractors
- Evaluating in-house (rather than contractor) pipeline materials procurement to reduce construction markups

CITY OF PALO ALTO

ELECTRIC UTILITY

Electric Rate Proposal

FY 2025 proposal:

- 5% overall increase
  - Reserves recovering from 2020-2022 drawdown
    - Planned repayment to Hydroelectric Rate Stabilization and Electric Special Projects Reserves will reduce Operations Reserves below minimum levels
  - Net supply costs forecast to decline from improved hydro conditions and lower natural gas prices
    - Revenues from surplus system Resource Adequacy and Renewable Energy Certificates further reducing supply costs

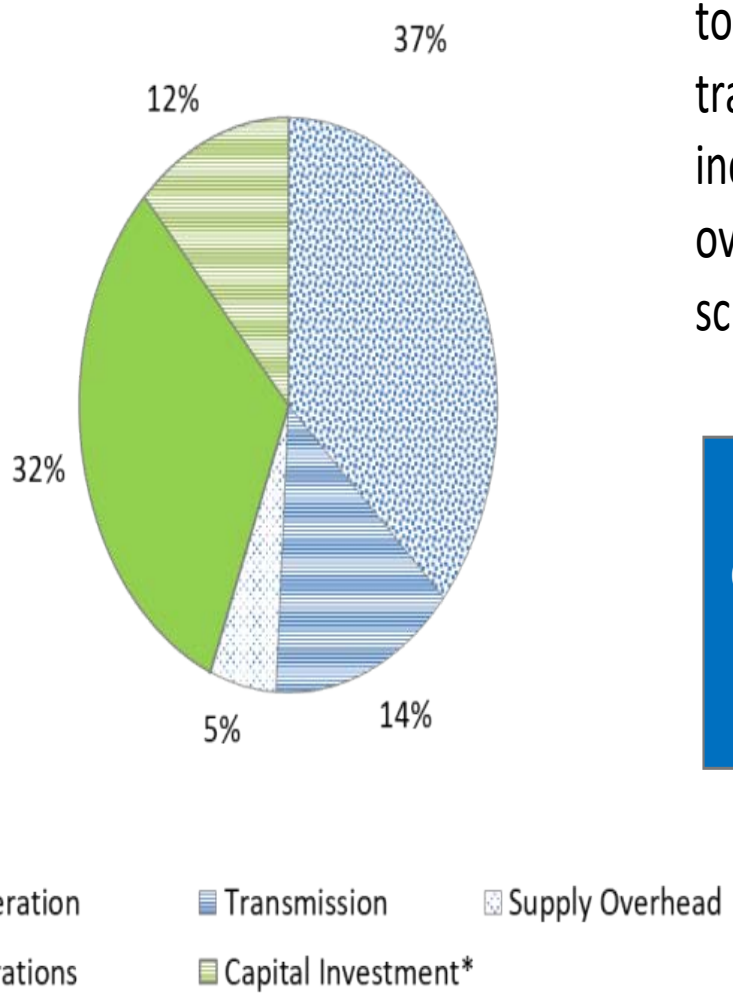
Future years:

- 2-4% rate increase in FY 2026-FY 2029
- Issue debt for Grid Modernization by end of FY24 with debt service starting in FY 2025

Electric Utility Cost Structure

Electric Distribution costs (in green): $84 million 44%

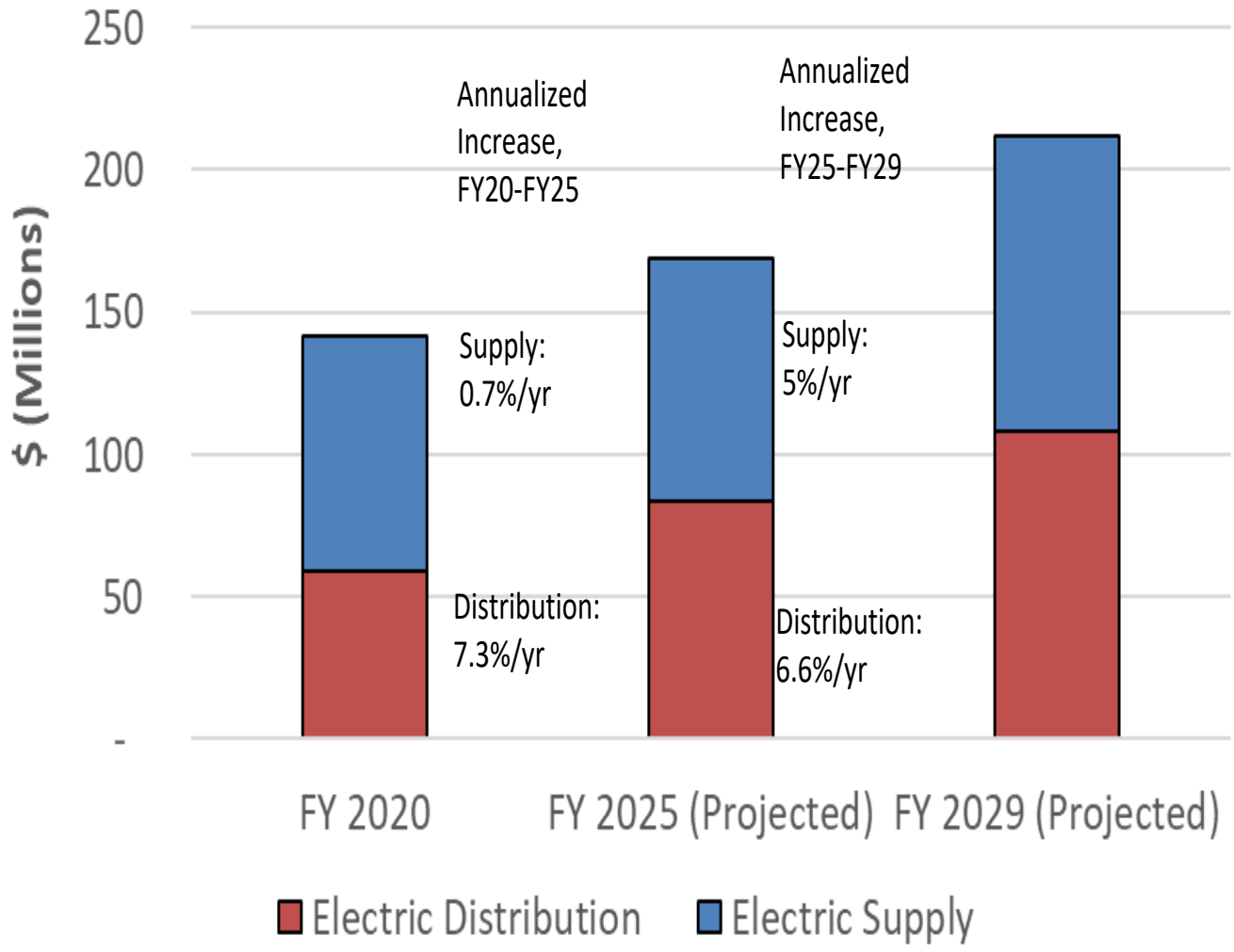
Electric Distribution: The cost to distribute electricity within Palo Alto, including: maintaining and replacing electric infrastructure, customer service, billing, administration, etc.



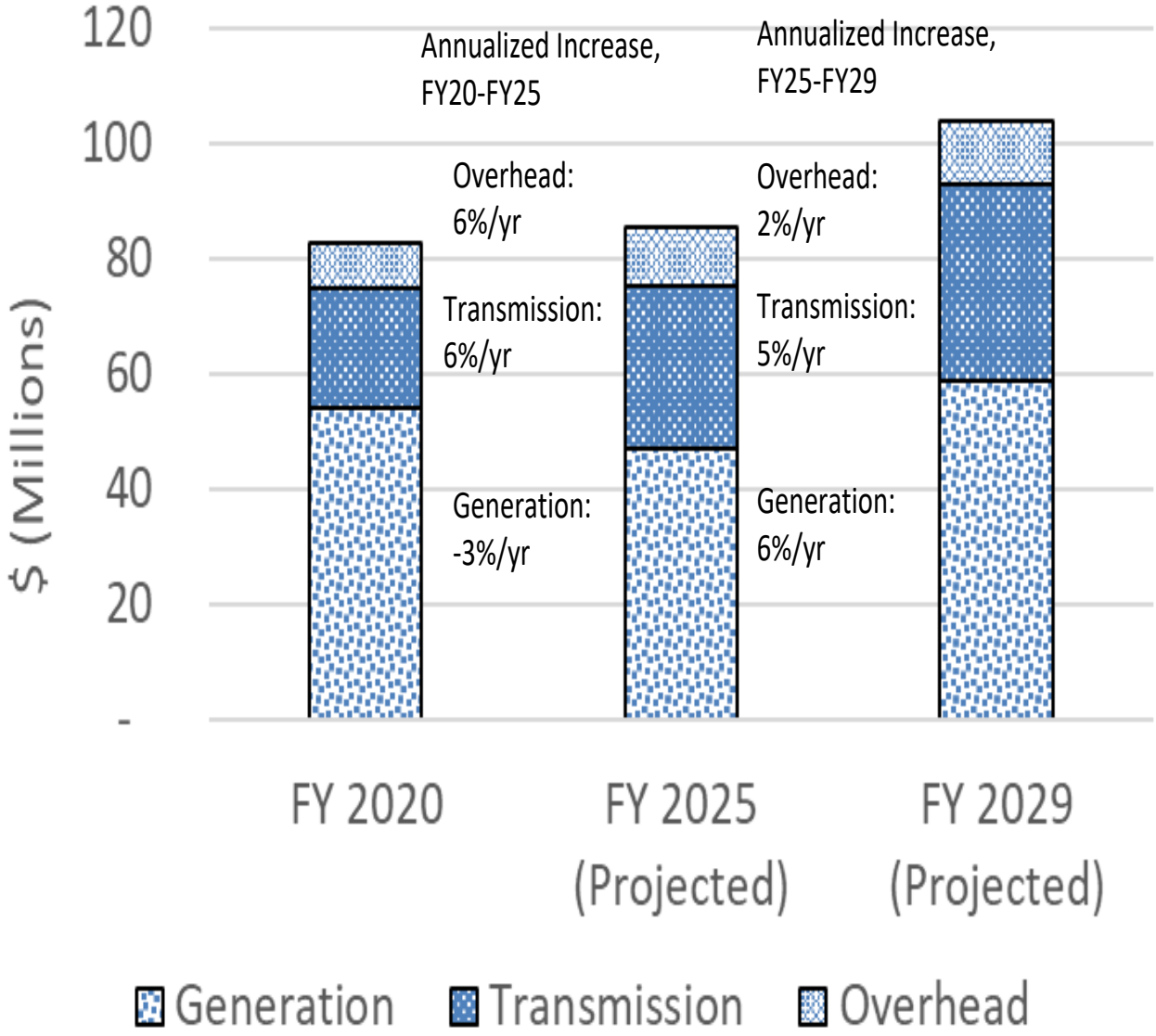
Electric Supply: The cost to buy electricity and transport it to Palo Alto, including operational overhead (e.g. energy scheduling)

Electric Supply costs (in blue): $107 million 56%

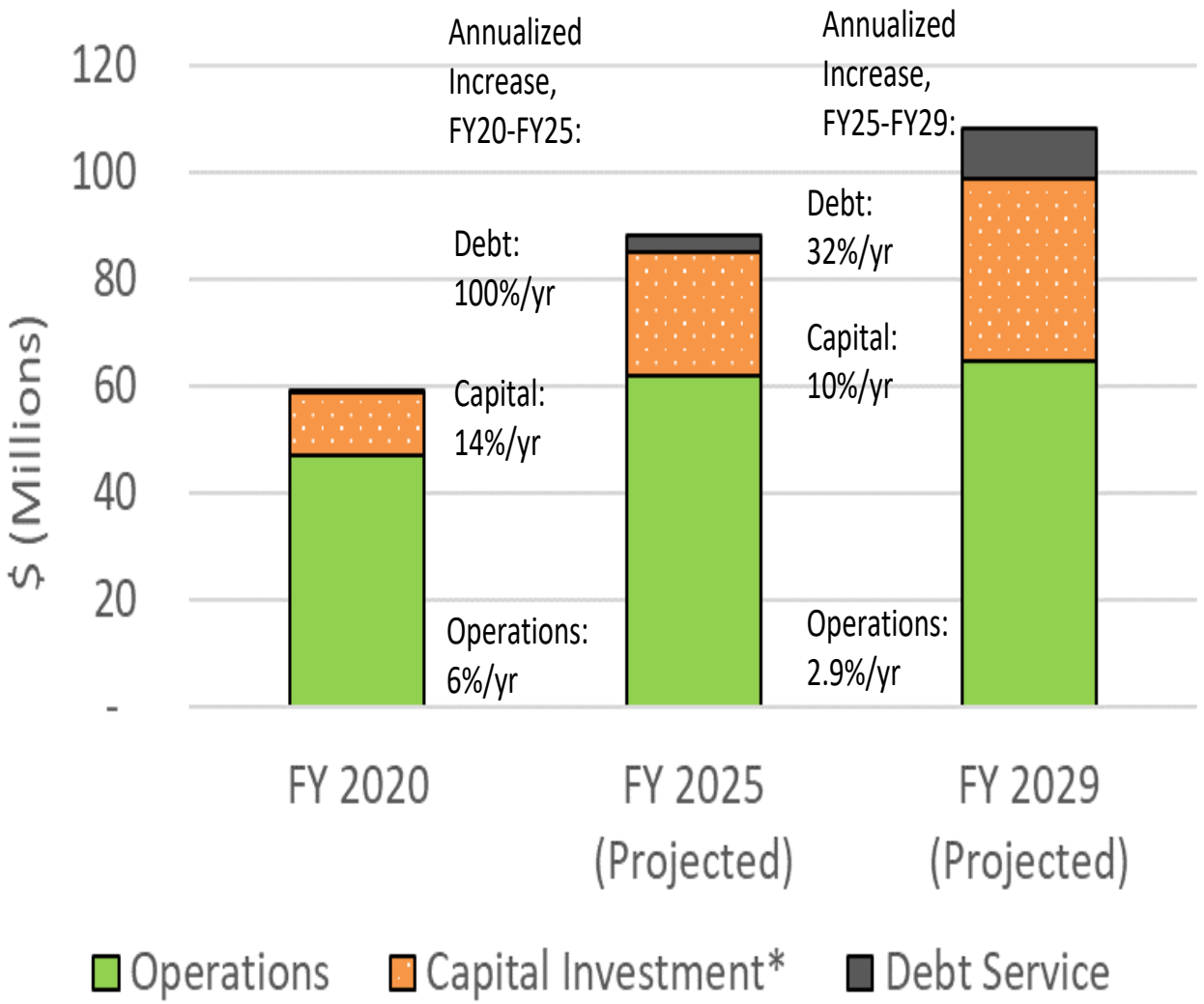
LONG TERM COST TRENDS



LONG TERM COST TRENDS: SUPPLY



LONG TERM COST TRENDS: DISTRIBUTION



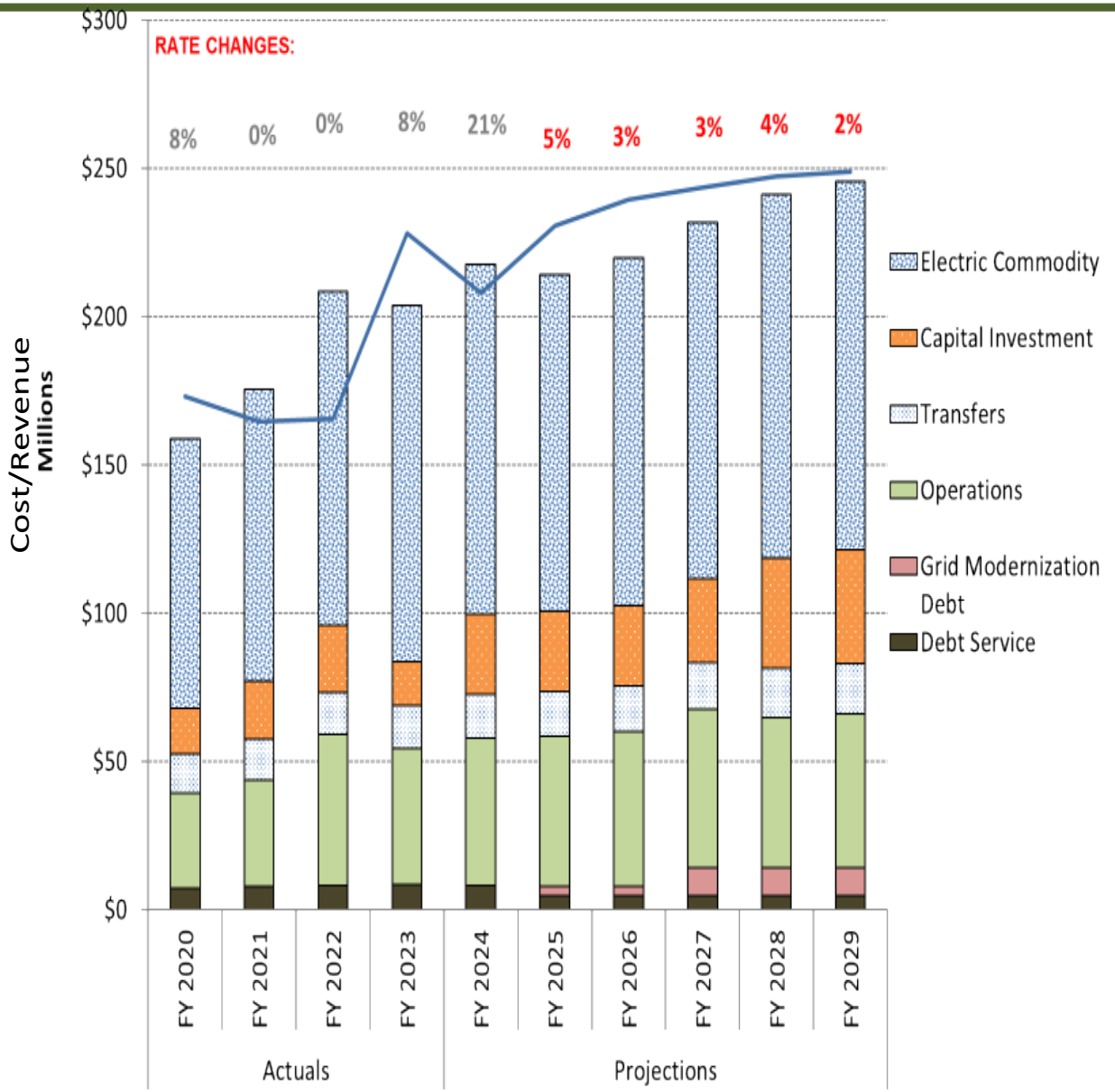
Supply Cost Drivers

- Record high load costs in FY23, double prior 4-year average
- Surplus Resource Adequacy reducing power supply costs by $14.4 million in FY25
- Surplus Renewable Energy Credits reducing power supply costs by $7.6 million in FY25
- Higher hydroelectric generation projections reduced projected supply costs by nearly $4.7 million in FY24
- Transmission costs remain high – still waiting on transmission rate case resolution, refund, and lower rates
- Geothermal Power Purchase Agreement starting 2025, Western Base Resource costs reduced slightly

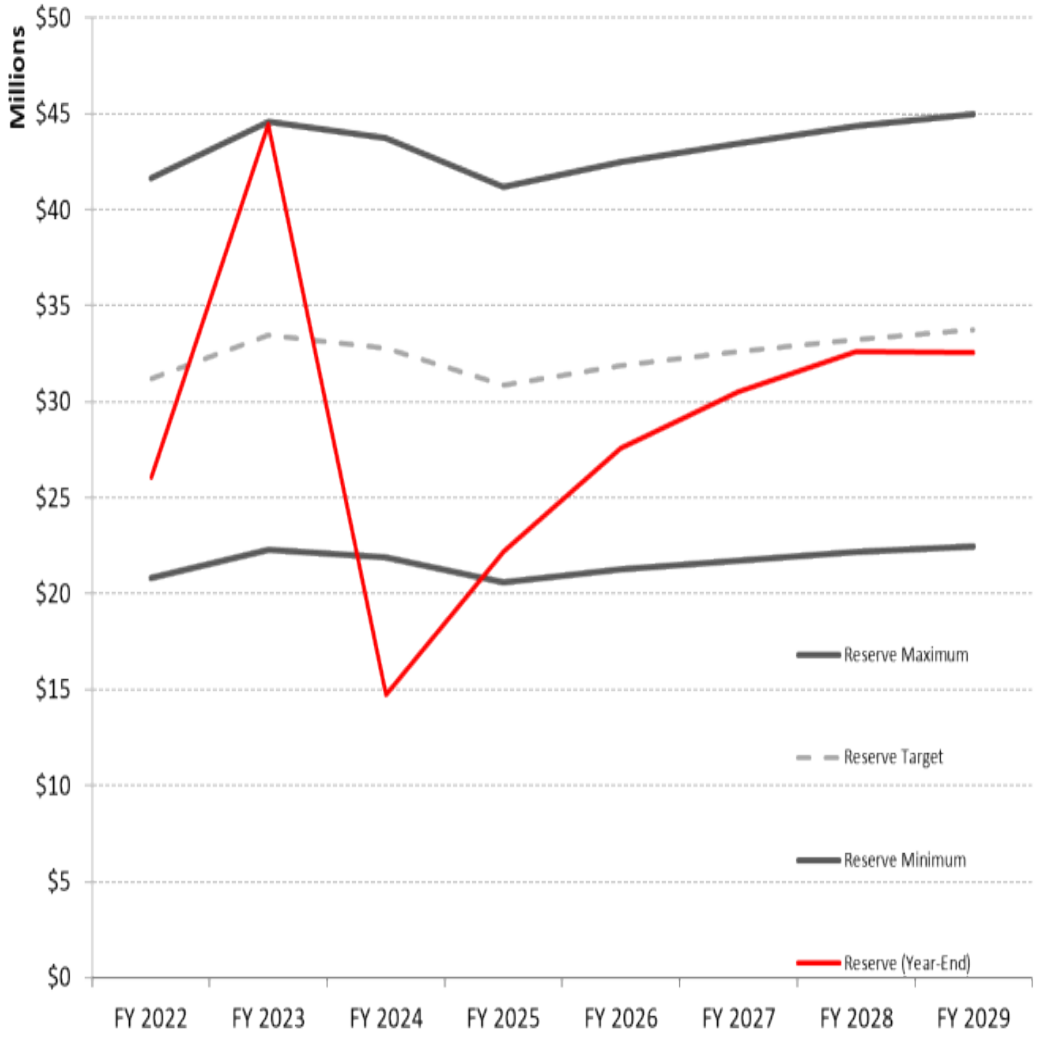
Distribution Cost Drivers

- Inflation
- Medical/retirement benefit costs and associated overhead costs continue to increase
- Increased capital investment in the electric distribution system needed due to system age
- Grid Modernization, which is currently assumed to be bond financed
- Underground construction costs have increased substantially
- Additional contract expense for line crew until internally staffed

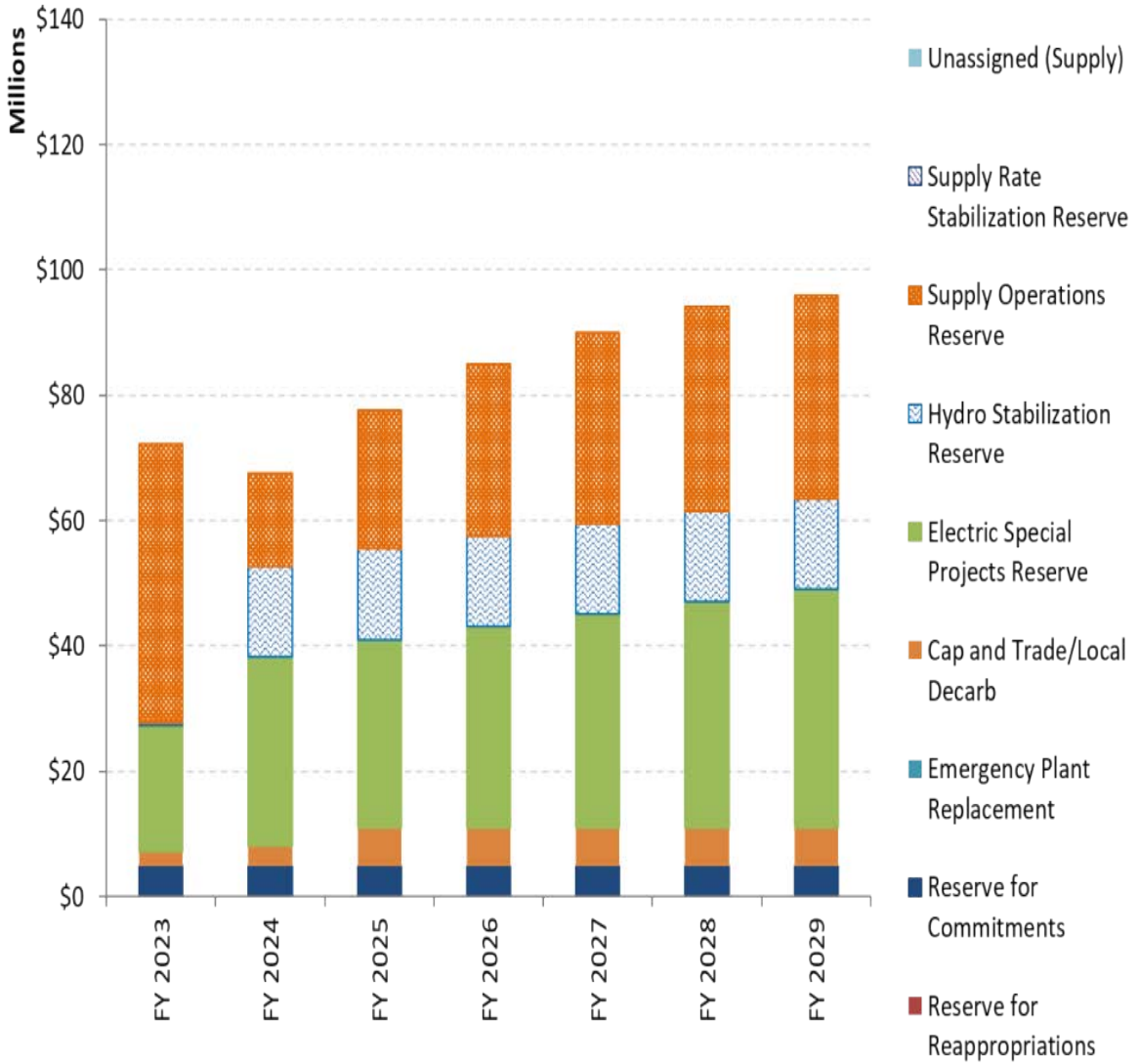
FY 2025 Preliminary: Electric Cost and Revenue Projections



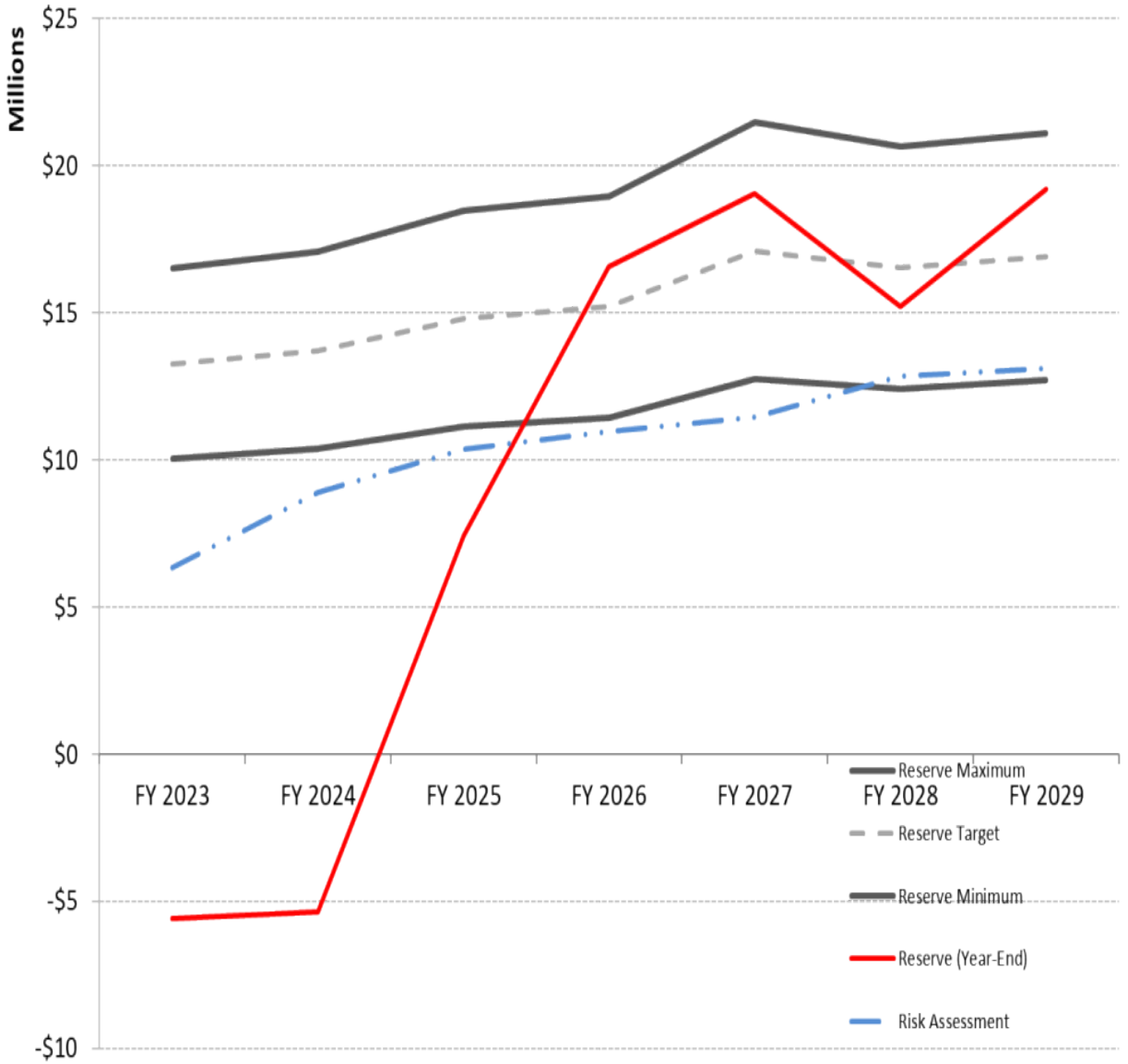
Electric Supply Operating Reserve Projections



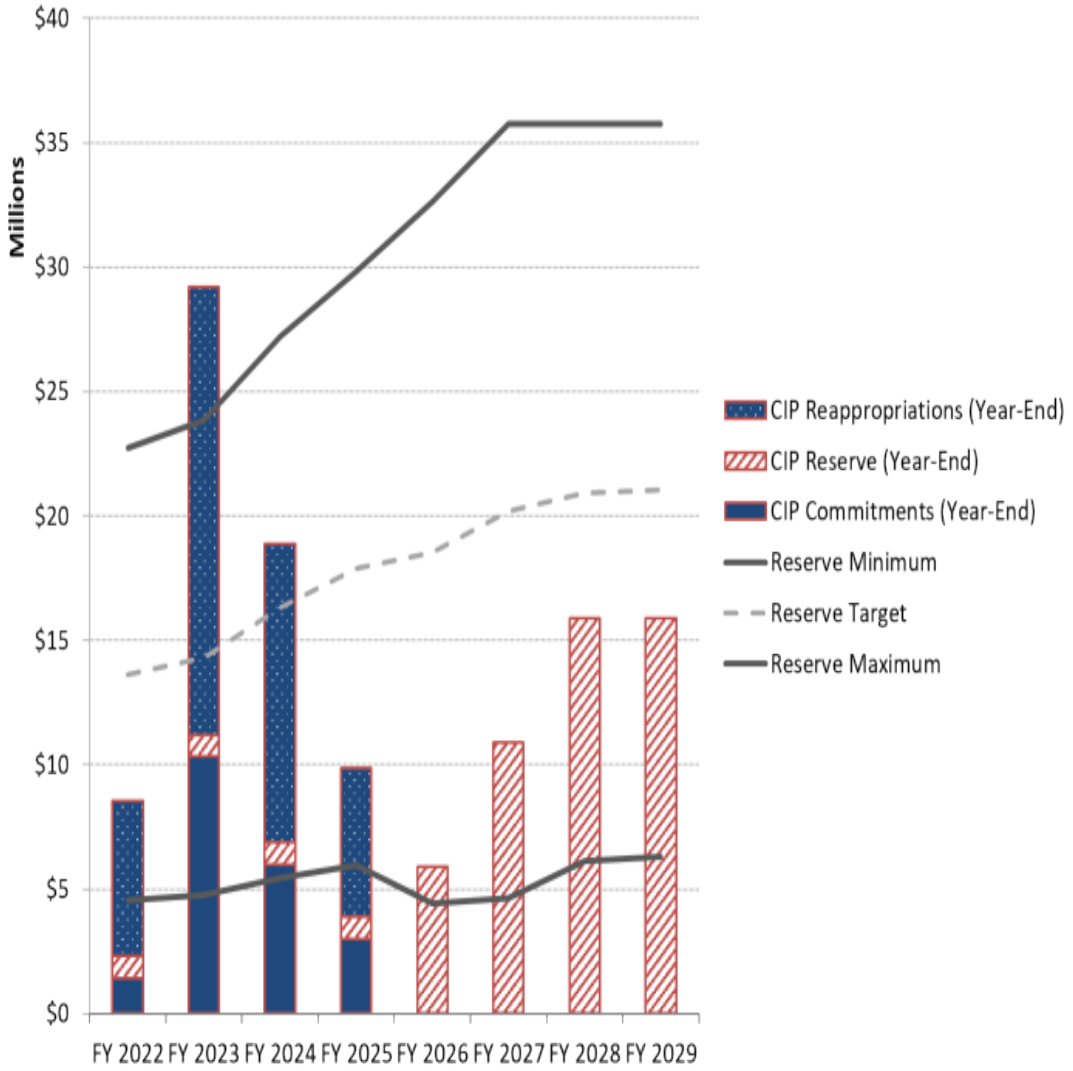
Electric Supply Operating Reserve Projections



Electric Distribution Operating Reserve Projections



Electric Distribution CIP Reserves



CITY OF PALO ALTO

GAS UTILITY

Preliminary Gas Rate Projections

FY 2025 Projection

- 9% overall rate increase to customer bills, due to 16% distribution rate increase
- 7% overall rate increase annually in FY 2026 and FY 2027, 6% in FY 2028 and 5% in FY 2029
- Feedback requested on FY 2025 Measure L transfer (PAMC 2.28.185)
- Supply costs expected to remain stable this winter

Preliminary Gas Projections

- FY 2023 Year-end Ops Reserve above minimum guideline level

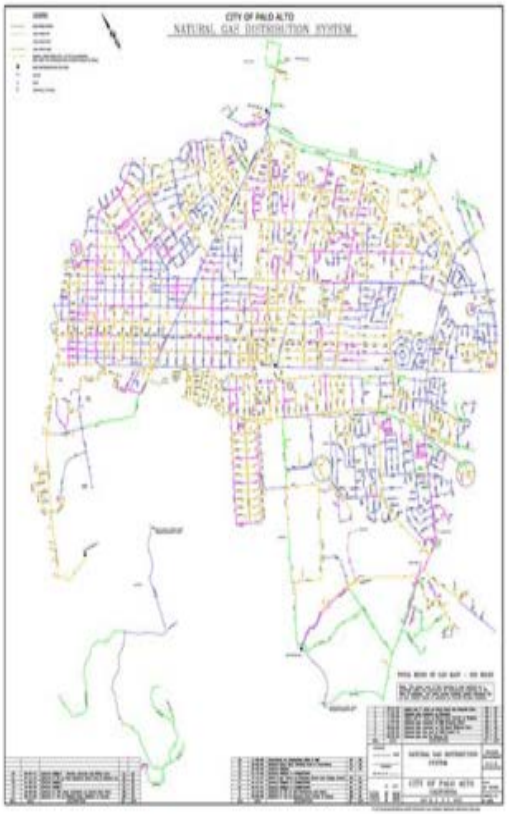
  Compared with Forecast

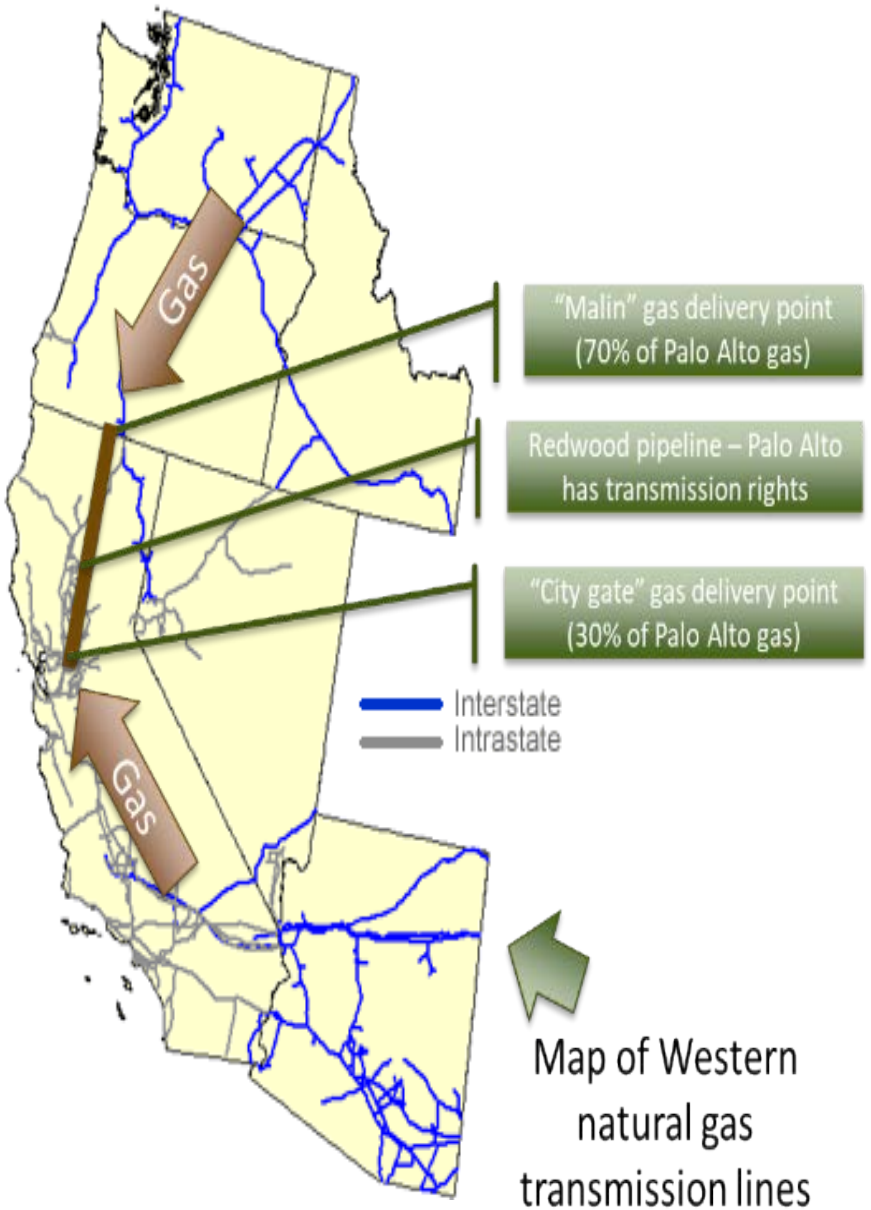
  - +$5.6M – sales higher than forecasted; high gas consumption
  - +$2.1M – purchases lower than forecasted; lower Cap-and-Trade and Carbon offset costs
- FY 2024 Year-end Ops Reserve Forecasted to be below risk assessment guideline level
  - -$2.3M – FY23 Cap-and-Trade auction sales revenue transfer to reserve deferred to FY24
  - -$2.2M – FY23 Carbon offset costs deferred to FY24
- FY 2025 Year-end Ops Reserve forecasted to be at risk assessment guideline level and expected to return near target guideline level by FY 2029

Gas Utility Basics

City of Palo Alto gas distribution system:

- 20,000 meters
- 205 miles of mains
- 18,000 service lines



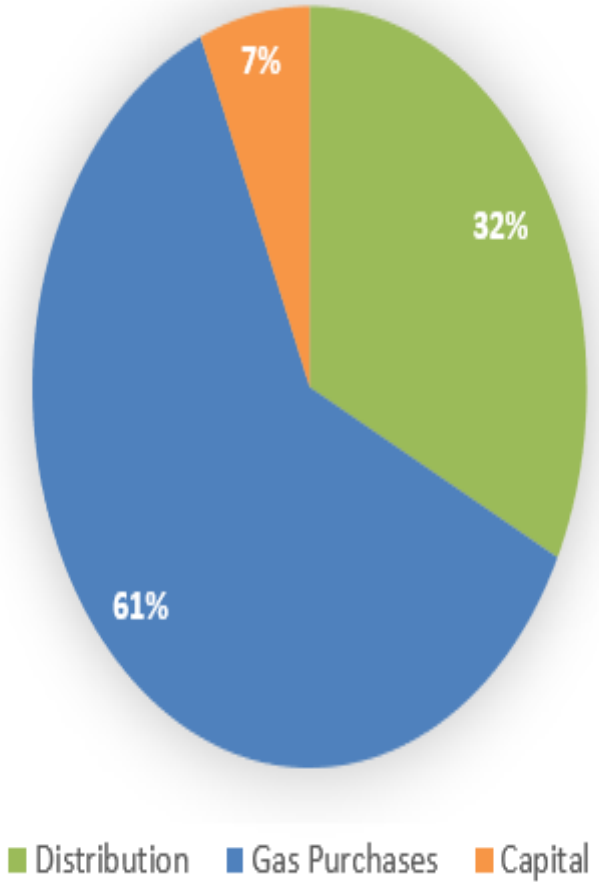


Map of Western natural gas transmission lines

Gas Rate Design

- About one-third to two-third of the rate is "supply-related:" gas supply, transmission, and environmental charges. These rates vary monthly according to market-driven costs that are passed directly to customers
- The remaining portion of the rate is set based on the City's costs for maintaining its gas distribution system (gas mains, services, related equipment). **These rates are being discussed here tonight.**

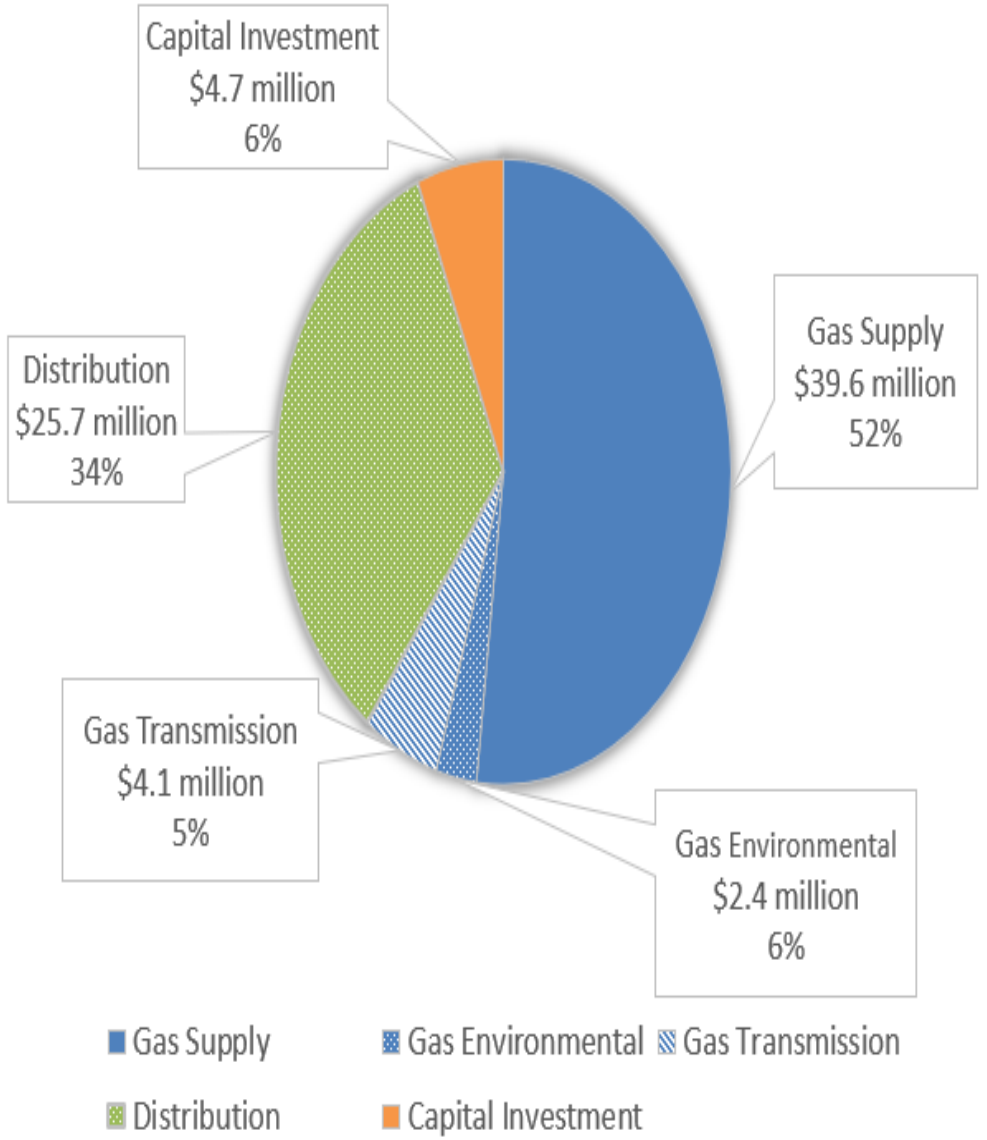
Cost Structure: Average of FY 2021-2023



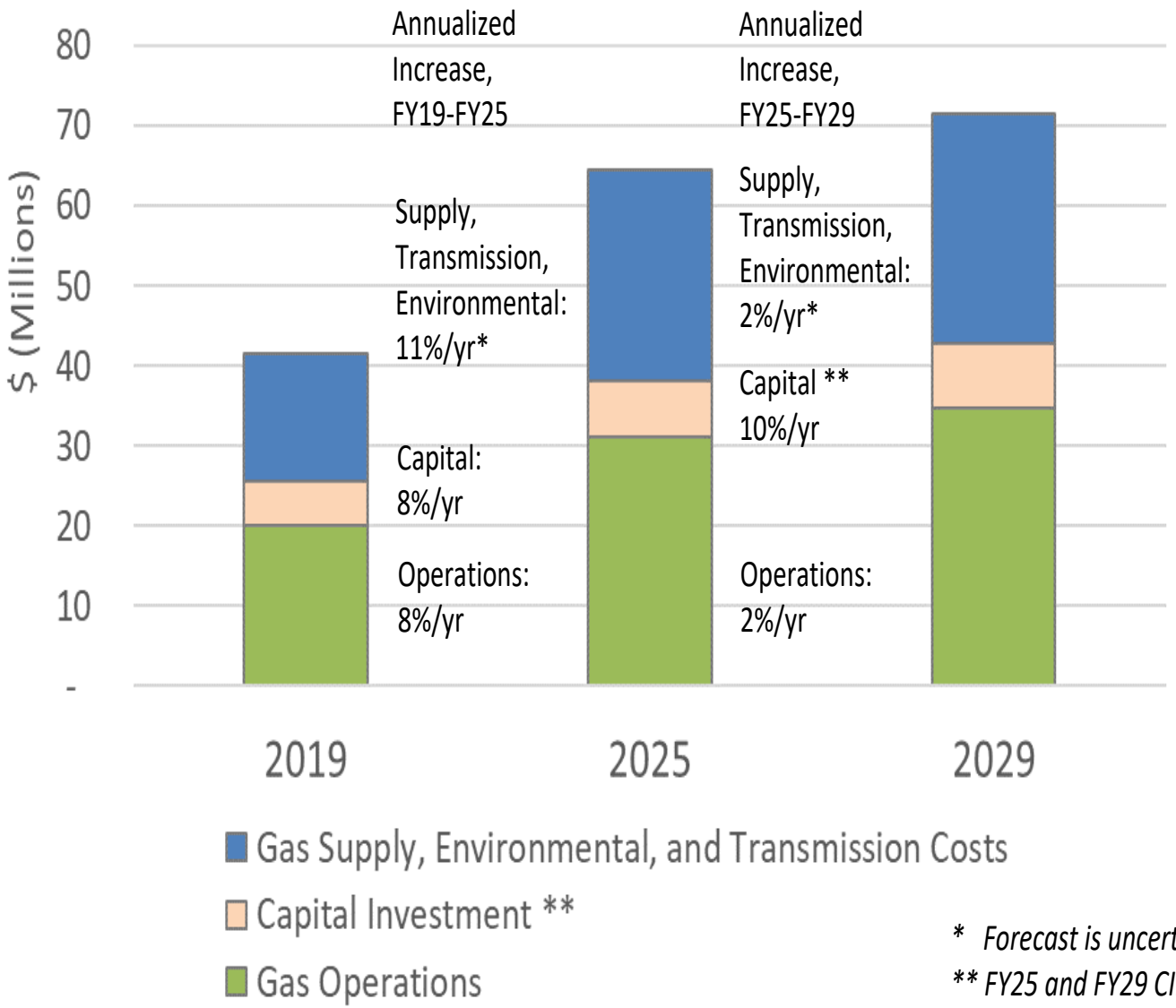
Gas Utility Cost Structure *(FY 2023)*

Gas Distribution (in Green): The cost to distribute gas within Palo Alto, including: maintaining and replacing gas infrastructure, customer service, billing, administration, etc.

Gas Supply, Transmission, and Environmental (in Blue):
All pass-through



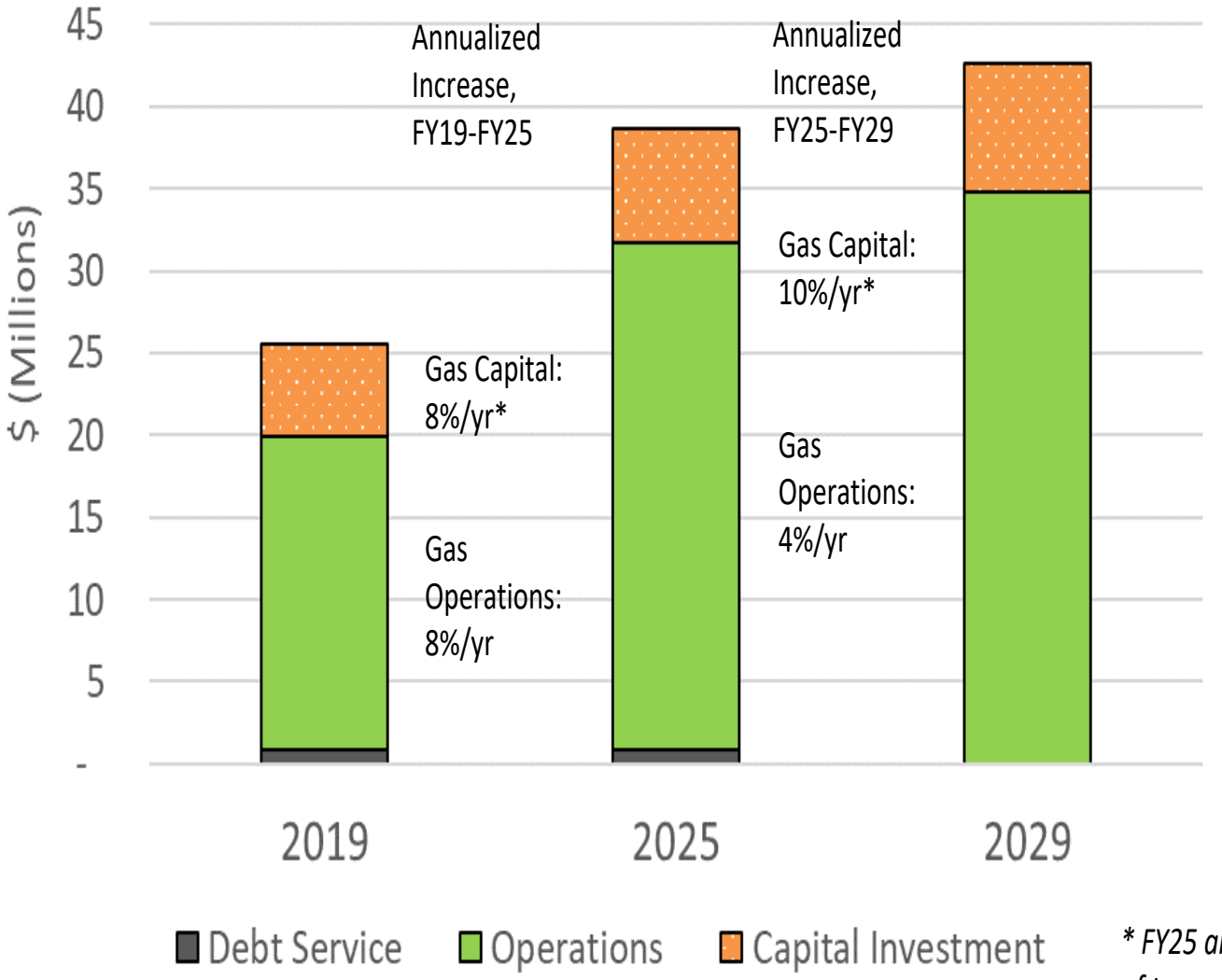
Long Term Cost Trends



* *Forecast is uncertain and will vary with market prices*

** *FY25 and FY29 CIP are an average of two years due to staggered main replacement schedule.*

Gas Distribution Cost Trends



** FY25 and FY 20 CIP is an average of two years due to staggered main replacement schedule.*

Gas Supply Cost Drivers*

- PG&E gas transmission rates continue to rise steadily to fund safety investments
- Insurance purchased in response to winter 22/23 natural gas market volatility
- Cap and Trade costs continue to rise (as intended by design)
- Carbon Neutral Gas Plan; carbon offset purchases

** All of the above costs are pass-through and not included in rate increase*

Gas Distribution Cost Drivers

- Health, retirement, and associated overhead costs continue to increase
- Underground construction costs have increased substantially as well
- Continued funding for crossbore investigations
- Increases in overhead transfers

Current Gas Bill Comparisons *($/Mo. or Yr.)*

Residential

Fiscal Year	Season	Usage (Therms)	Palo Alto	PG&E Zone X	% Difference
FY 2024	Summer	10	$ 29	$ 19	35%
		(Median) 18	$ 40	$ 35	14%
		30	$ 68	$ 62	9%
		45	$ 106	$ 96	9%
FY 2024	Winter	30	$ 67	$ 65	2%
		(Median) 54	$ 109	$ 121	(11%)
		80	$ 176	$ 188	(7%)
		150	$ 373	$ 368	1%

Palo Alto median residential bill is projected to be 1% below PG&E's median bill in FY 2024, based on current PG&E rates

Commercial

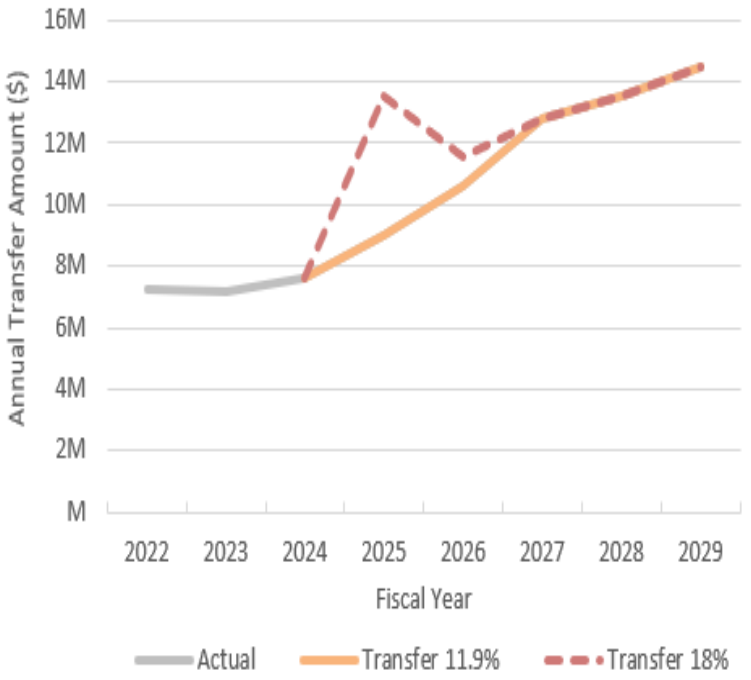
Staff is in the process of doing a more extensive review of commercial competitiveness and will provide updates in the future

Preliminary - Gas General Fund Transfer

- Measure L: 18% of gas utility gross revenues from two fiscal years prior; Council may elect to transfer less
- Council approved transferring up to 15.5% of FY 2022 gas utility gross revenues to the general fund in FY 2024
- **Seeking feedback on proposed FY 2025 General Fund transfer**
  - Transfer 11.9% (staff recommendation)
  - Transfer 18%

FY 2025 General Fund Transfer Alternatives and Preliminary Gas Rate Projections

Fiscal Year	2024	2025	2026	2027	2028	2029
Transfer 11.9%	8%	9%	7%	7%	6%	5%
Transfer 18%	8%	14%	7%	4%	4%	4%
FY 2024 Financial Plan	8%	7%	5%	5%	5%	-



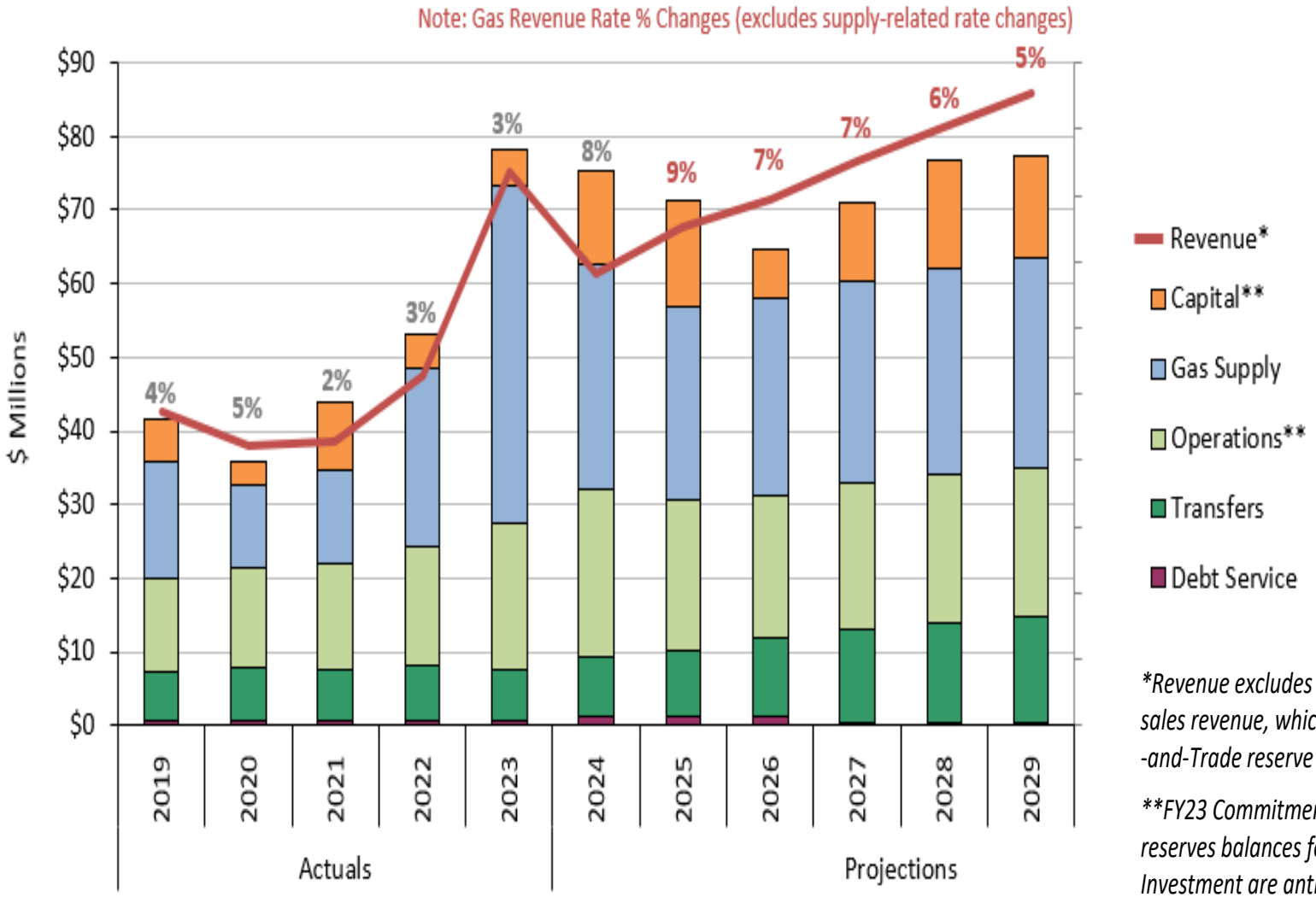
Percent of Gross Gas Utility Revenue to Transfer

Fiscal Year	2024	2025	2026	2027	2028	2029
Transfer 11.9%	15.5%	11.9%	16.5%	18.0%	18.0%	18.0%
Transfer 18%	15.5%	18.0%	18.0%	18.0%	18.0%	18.0%
FY 2024 Financial Plan	15.5%	11.1%	12.9%	13.1%	12.8%	-

Note: Revenues can fluctuate depending on gas commodity market prices

Preliminary Gas Cost and Revenue Projections

Transfer 11.9%



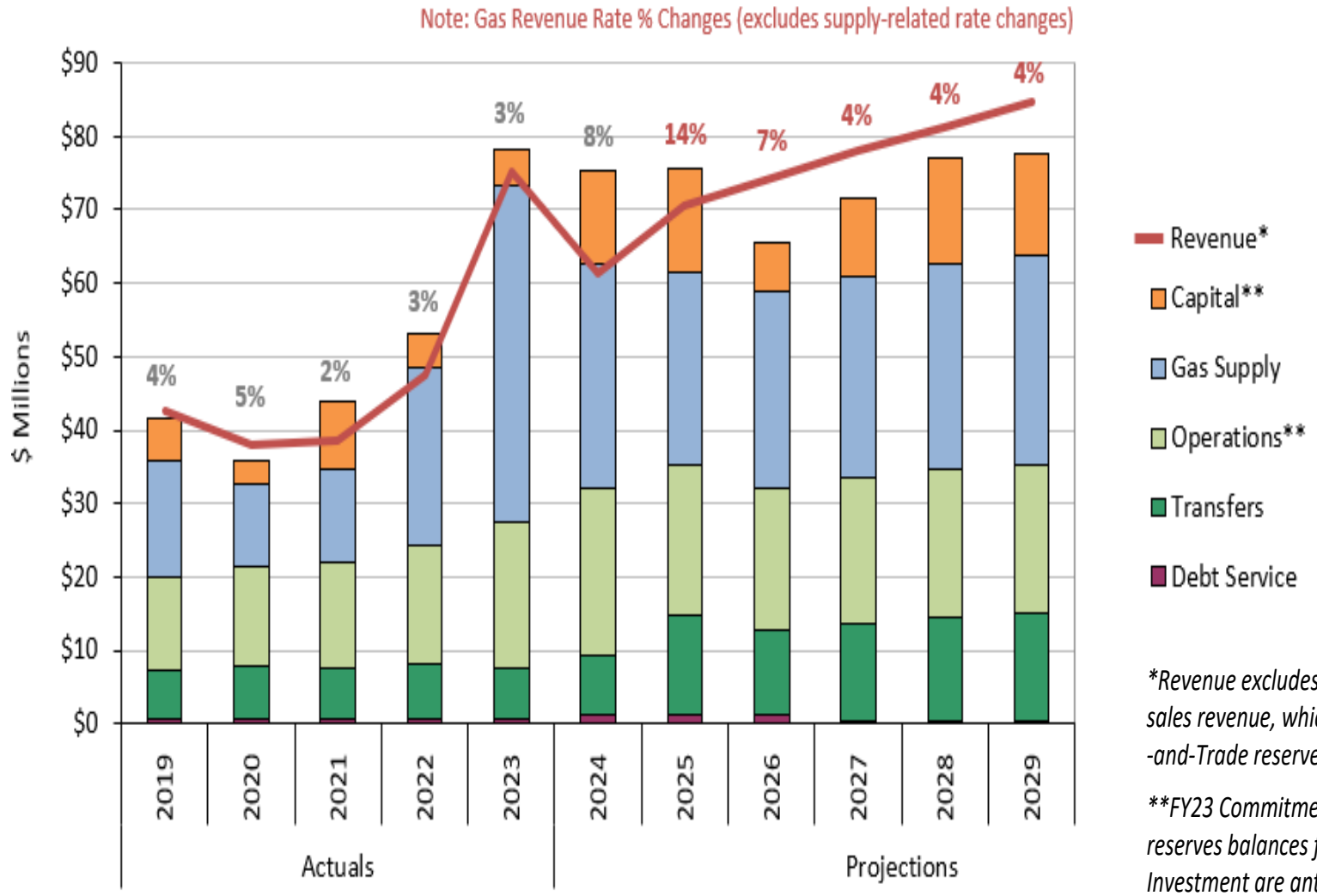
*Revenue excludes Cap-and-Trade auction sales revenue, which goes directly to the Cap -and-Trade reserve

**FY23 Commitments and Reappropriations reserves balances for Operations and Capital Investment are anticipated to be utilized in FY24 and FY25

CITY OF PALO ALTO

Preliminary Gas Cost and Revenue Projections

Transfer 18%



*Revenue excludes Cap-and-Trade auction sales revenue, which goes directly to the Cap -and-Trade reserve

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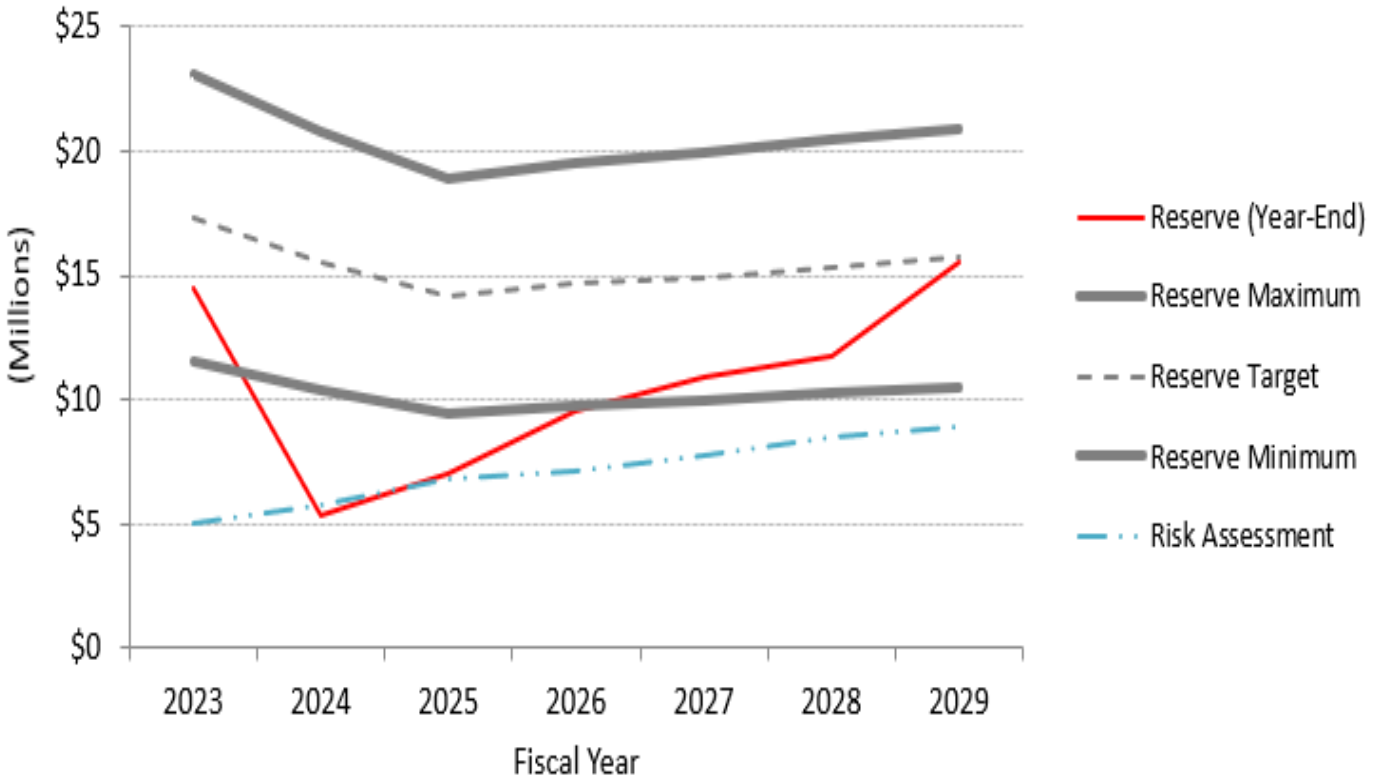
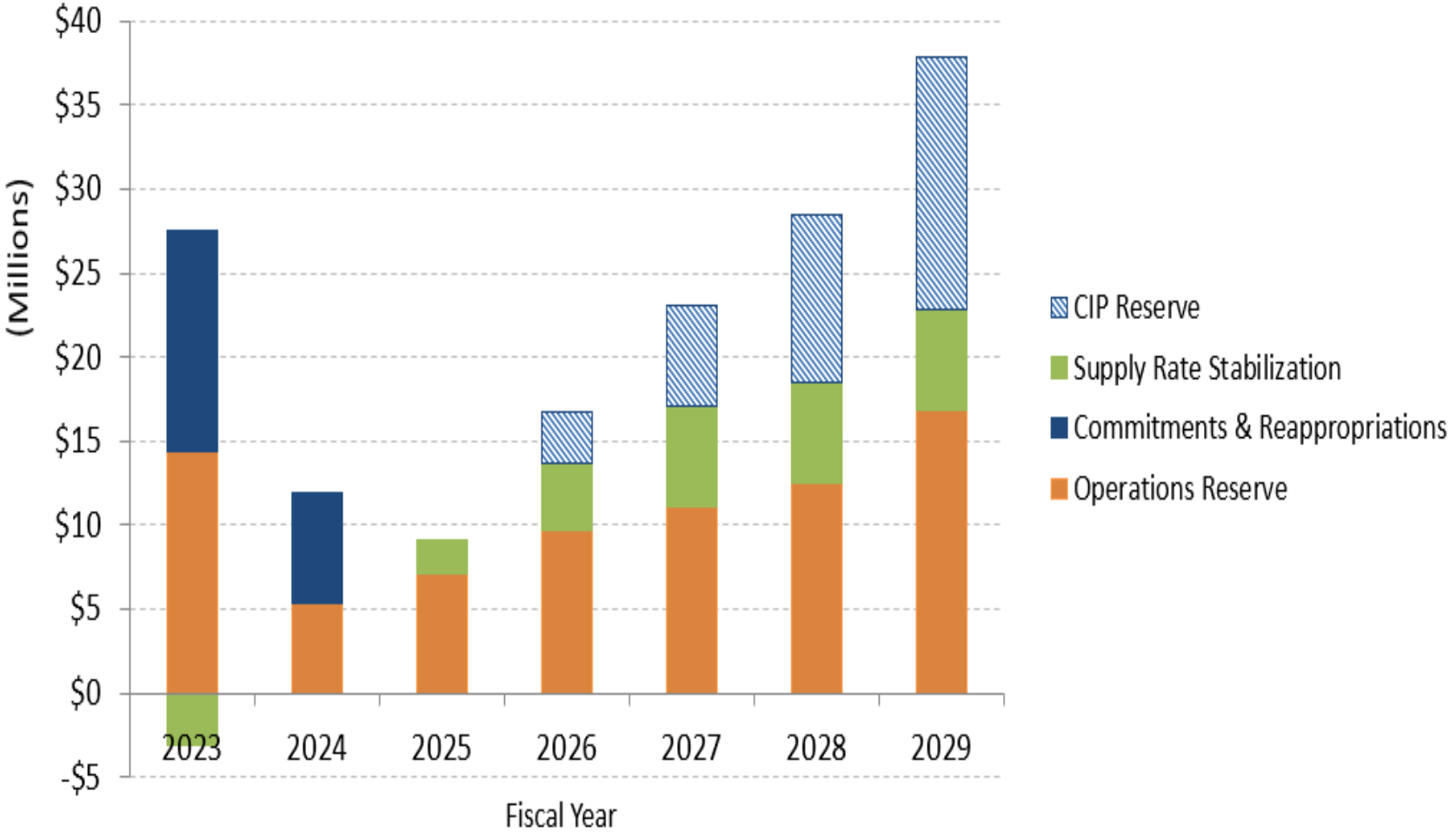
CITY OF PALO ALTO

Gas Operations Reserve Projections

Transfer 11.9%



Gas Reserve Projections



Note: Excludes Cap & Trade Reserve

CITY OF PALO ALTO

WATER UTILITY

Preliminary Water Rate Projections

- **Proposal FY 2025 - 9% Distribution Rate Increase**
  - FY 2023 year-end Operations Reserve near minimum guideline due to drought
  - Projected Water Distribution Rate Changes

Fiscal Year	2024	2025	2026	2027	2028	2029
Current Projection	2%	9%	9%	7%	5%	8%
FY 2024 Plan	2%	7%	6%	6%	6%	-

  - Projected Total Water Rate Changes

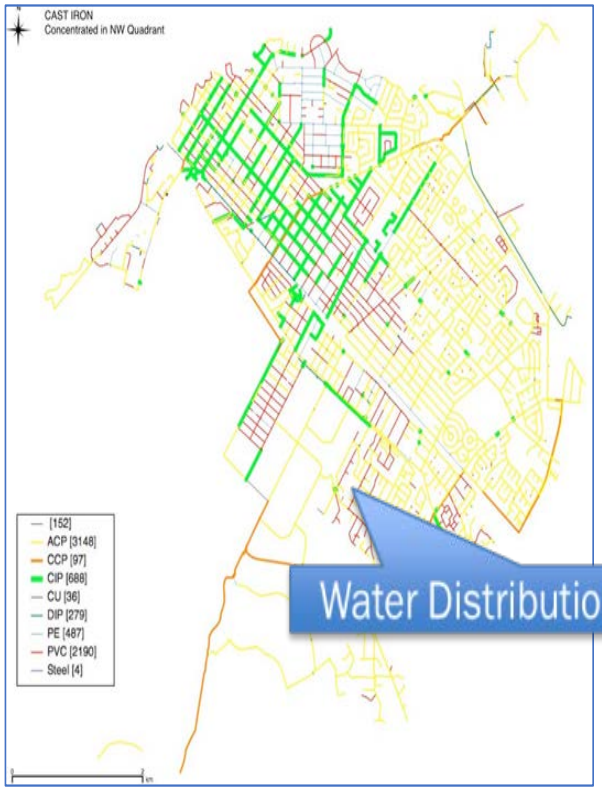
Fiscal Year	2024	2025	2026	2027	2028	2029
Current Projection	5%	5%	5%	5%	5%	5%
FY 2024 Plan	5%	4%	3%	4%	6%	-

    - Commodity rate pass-through projected to remain flat based on latest SFPUC projection (April 2023); highly uncertain and subject to change due to uncertain regional drought usage rebound and weather
    - Water main replacement acceleration not included
    - One Water supply alternatives not included

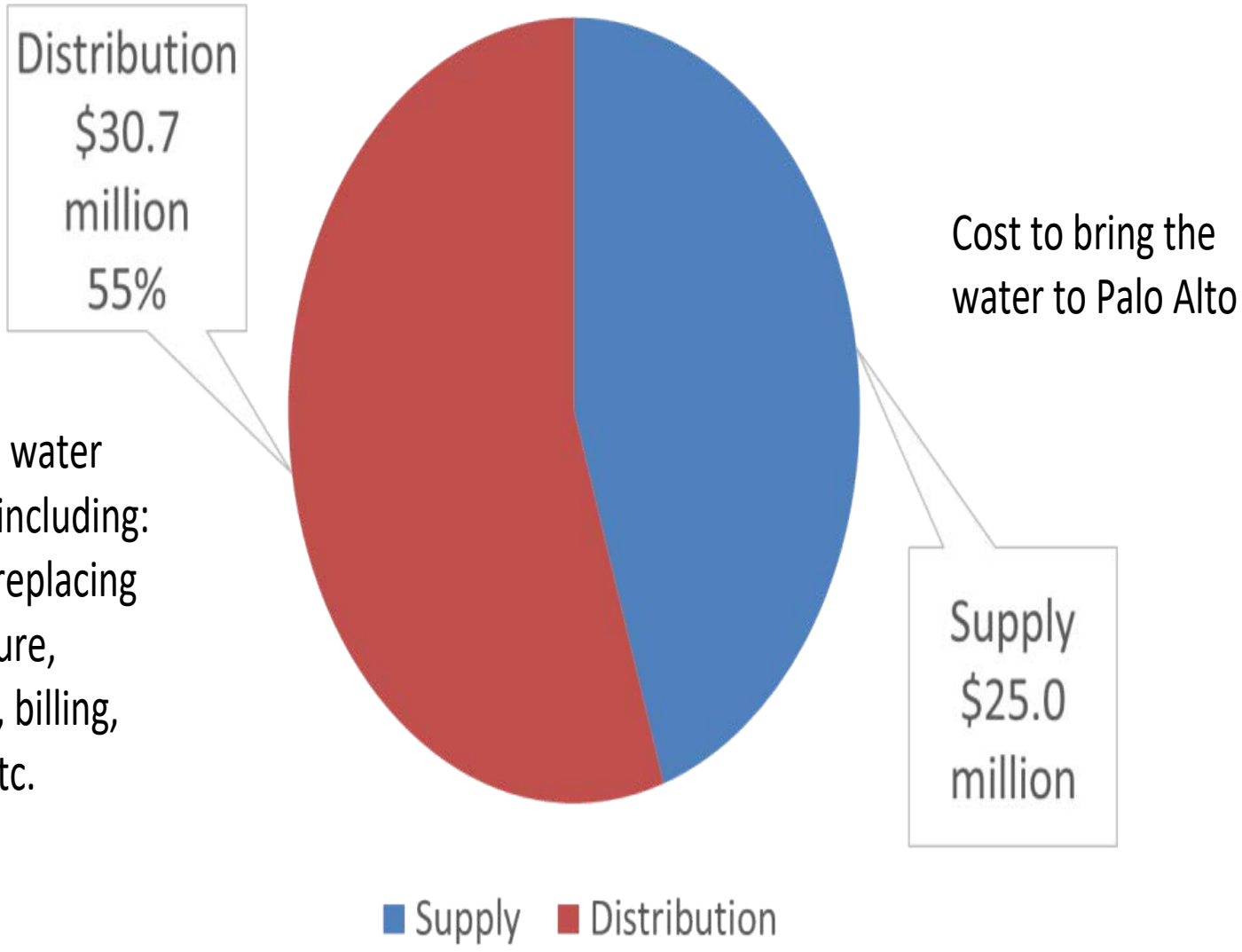
Preliminary Water Rate Projections

- FY 2023 Year End Ops Reserve below target
    - Water sales (net of supply cost savings) $2.4M lower than forecasted
    - Expenses $1.6M higher than forecasted (including transfers out, accounting adjustment to beginning balance, CIP)
- Ops Reserve projected to be close to minimum guideline range for 4 years and return to target guideline levels in FY 2029;
- Sales forecast updated to reflect drought rebound by FY 2026 and 2-5% lower water sales annually during the forecast period

WATER UTILITY BASICS



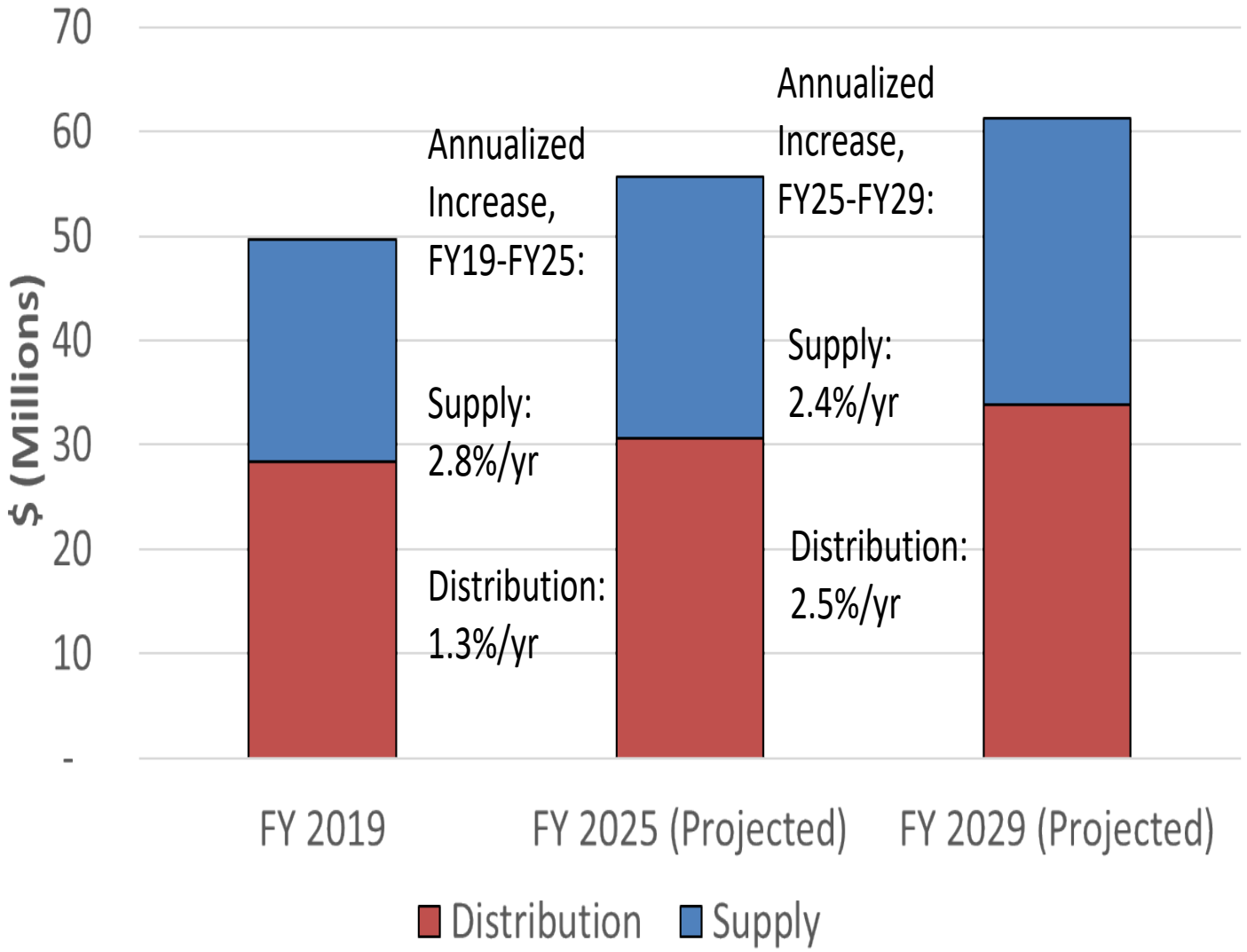
WATER UTILITY COST STRUCTURE



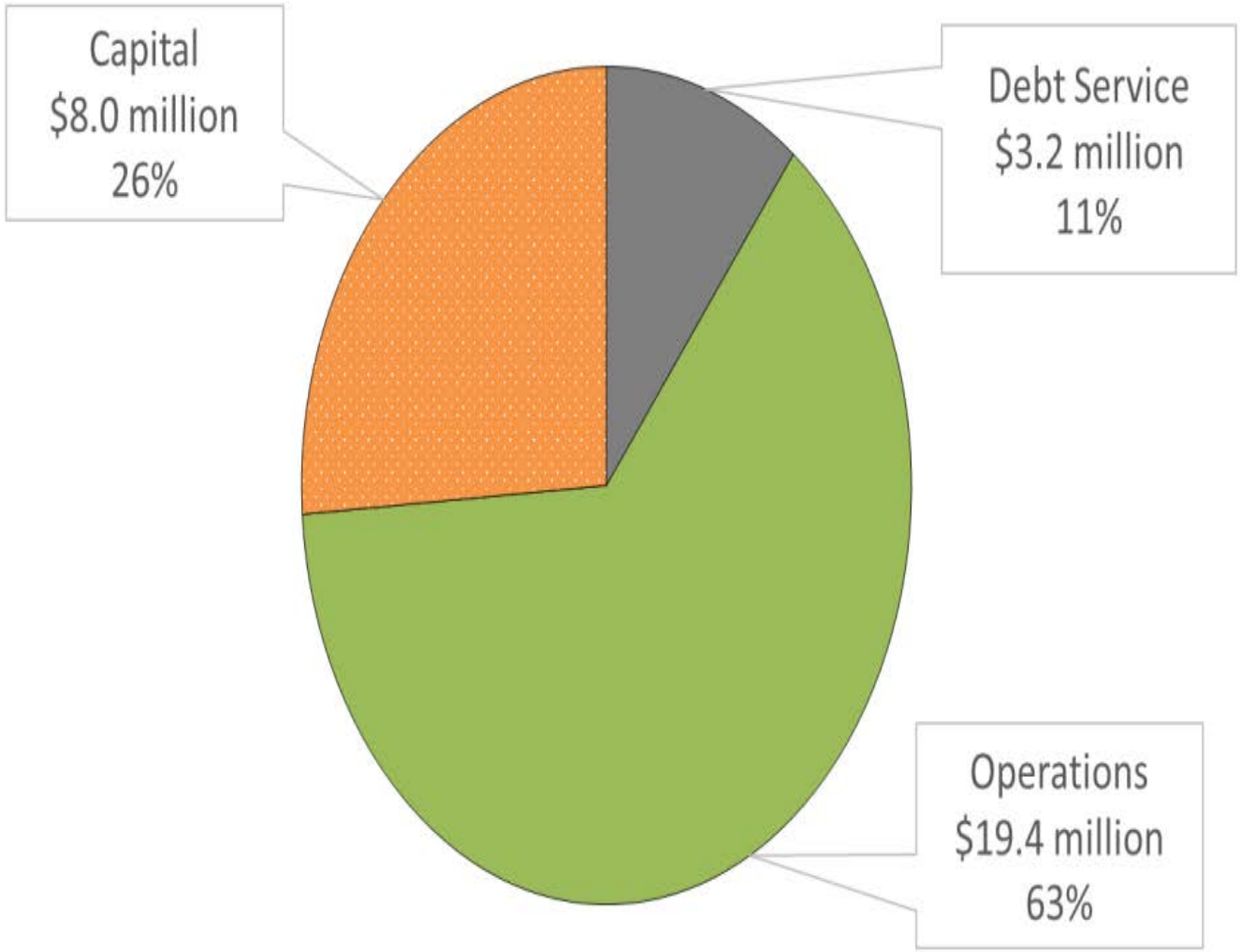
Cost to bring the water to Palo Alto

Cost to distribute water within Palo Alto, including: maintaining and replacing water infrastructure, customer service, billing, administration, etc.

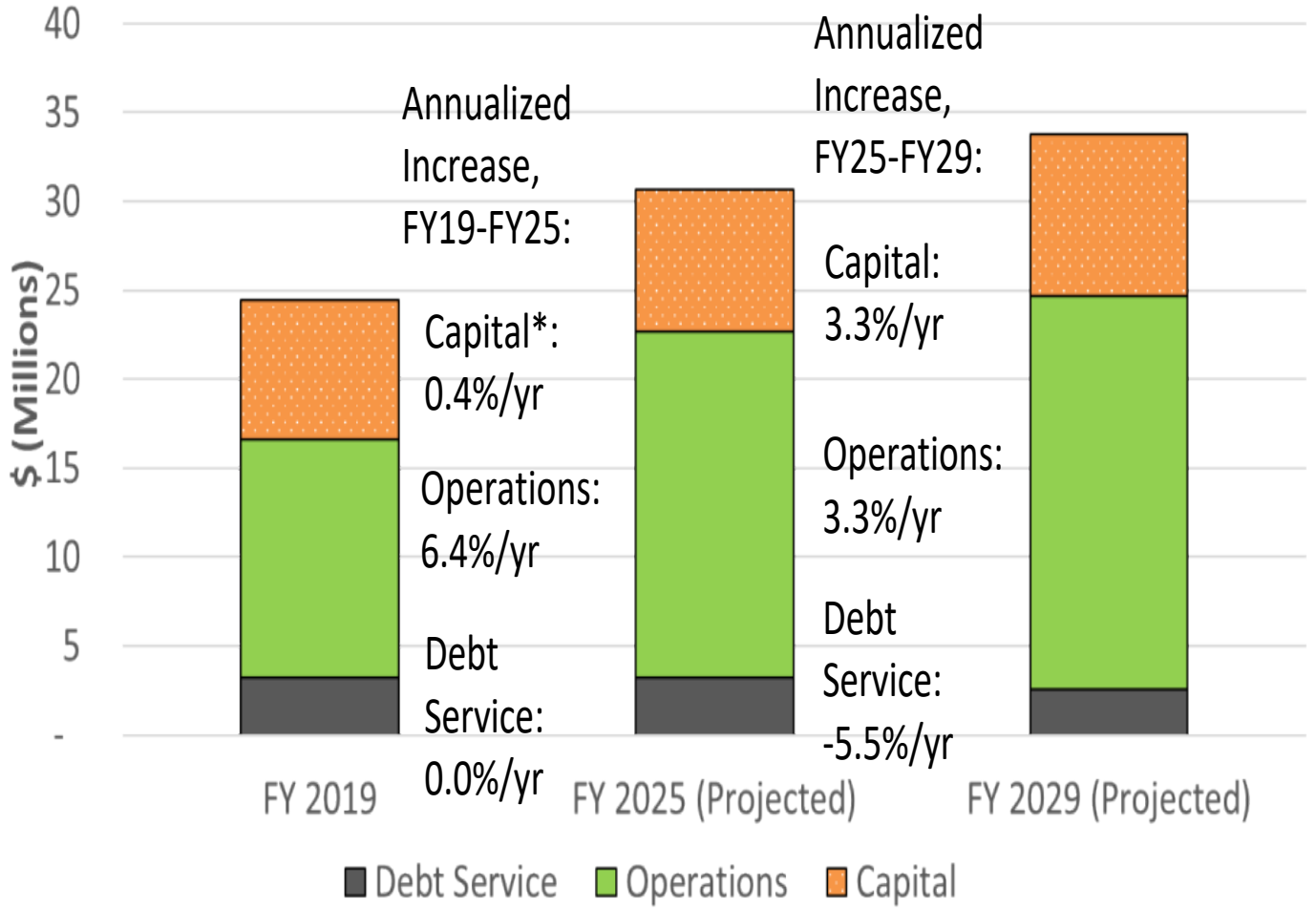
LONG TERM COST TRENDS



WATER DISTRIBUTION COSTS



WATER DISTRIBUTION COST TRENDS



- Capital in 2019 includes an average of 2019 and 2020 and includes capital contribution to the CIP Reserve in 2025 and 2029

WATER OPERATIONS & CAPITAL COST DRIVERS

Operating

- Drought-related water sales reductions
- Health, retirement, and associated overhead costs continue to increase
- Planned increase in costs for rental of generator backup at pumping stations and for emergencies

Capital

- Construction costs have not declined
- Large one-time costs for reservoir rehabilitation/replacement

WATER SUPPLY COST DRIVERS

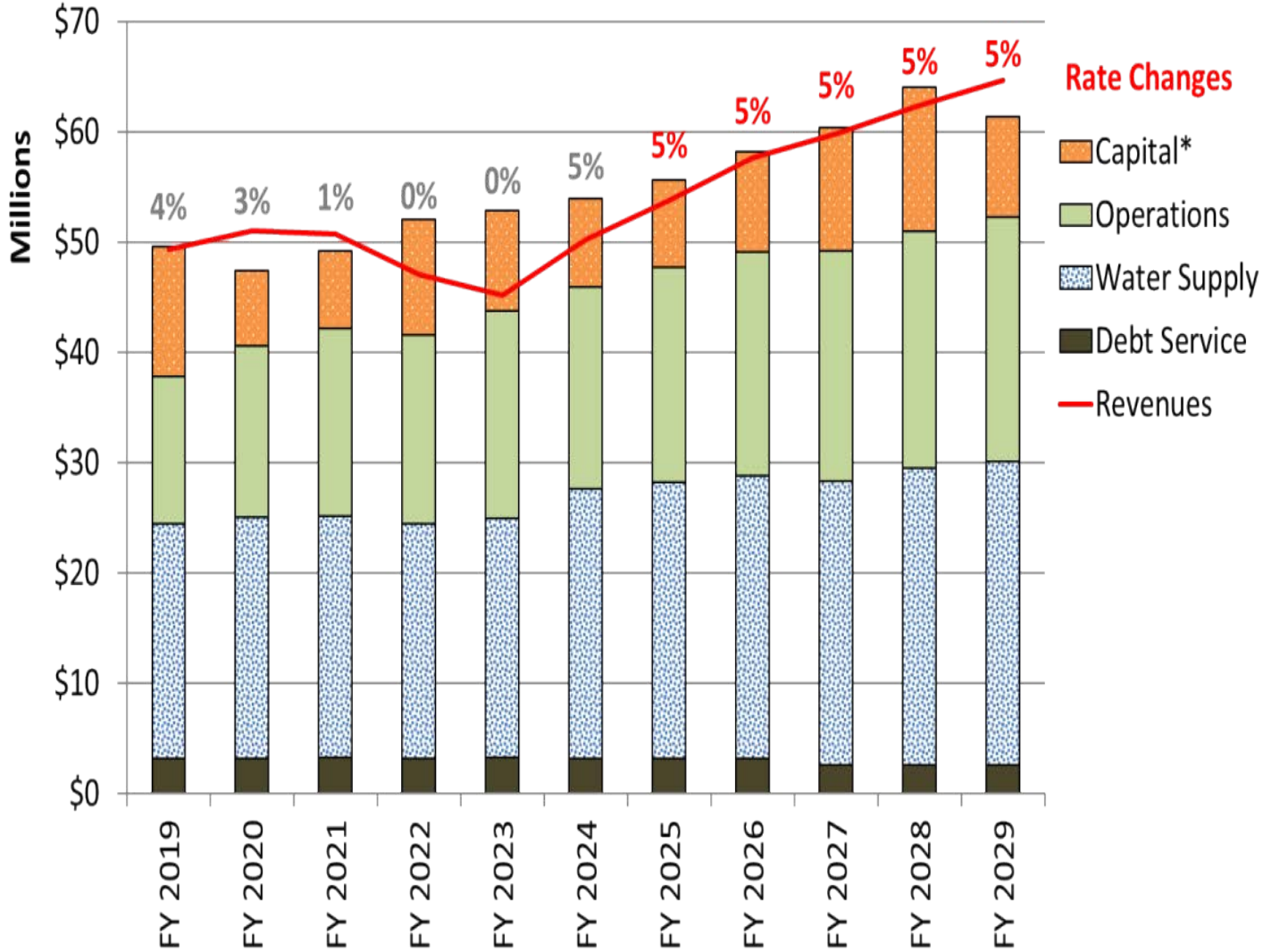
- Water System Improvement Program (WSIP)
- 2002: advocacy by wholesale customers results in AB 1823 requiring SFPUC to adopt and implement the WSIP
- In 2010 construction began - $4.8B, one of the largest water projects in the nation
- Level of service goal: return to service in 24 hours after an earthquake

WATER SUPPLY COST DRIVERS

- WSIP spending 98.9% complete as of September 2021
- "Upcountry" system in the Sierra still needs work.
- Wholesale customers (via BAWSCA) advocating for improvements in long-term capital planning
- Necessary and improves reliability, but supply costs will increase in the future as a result

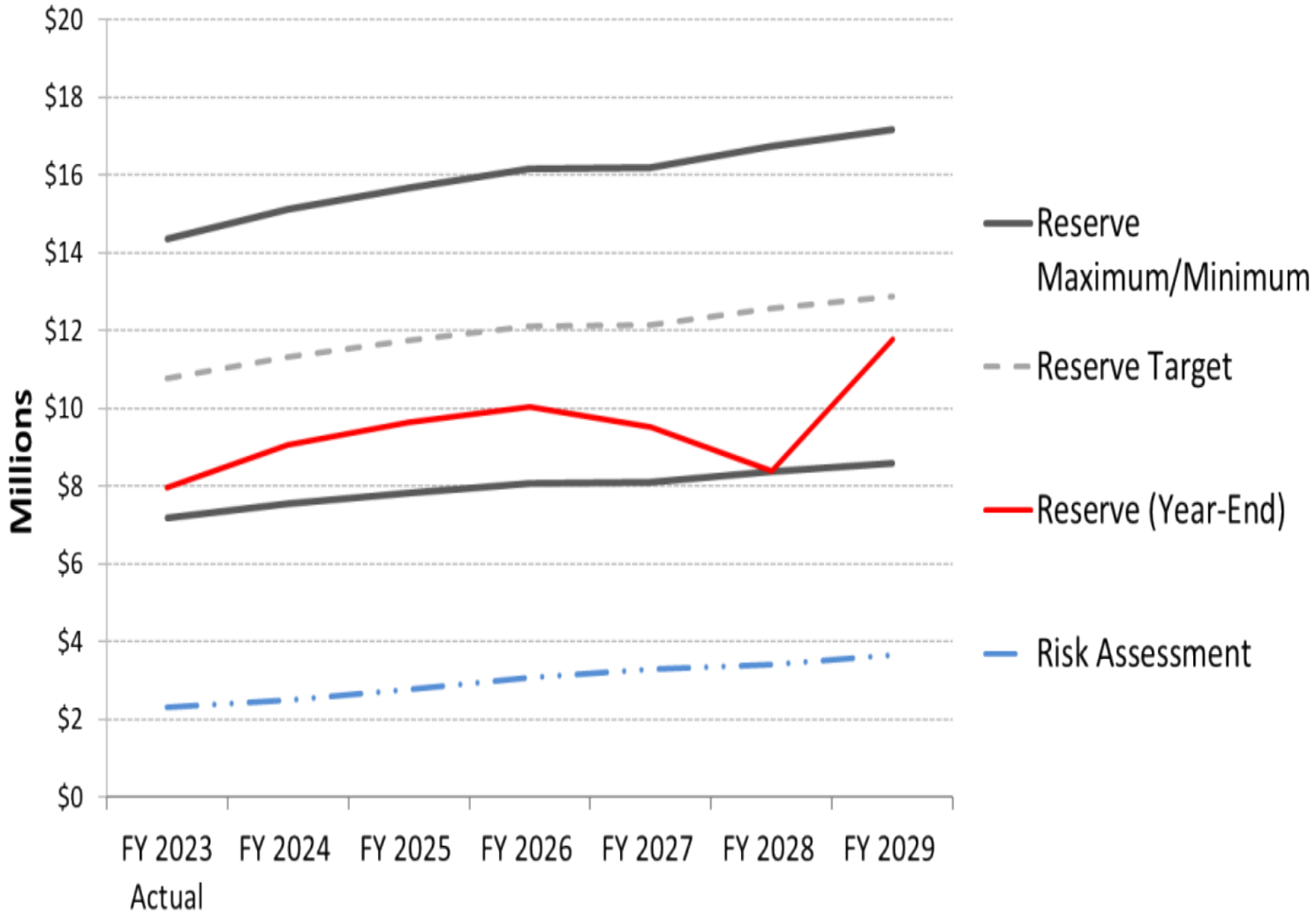
Preliminary Water Projections

Cost/Revenue



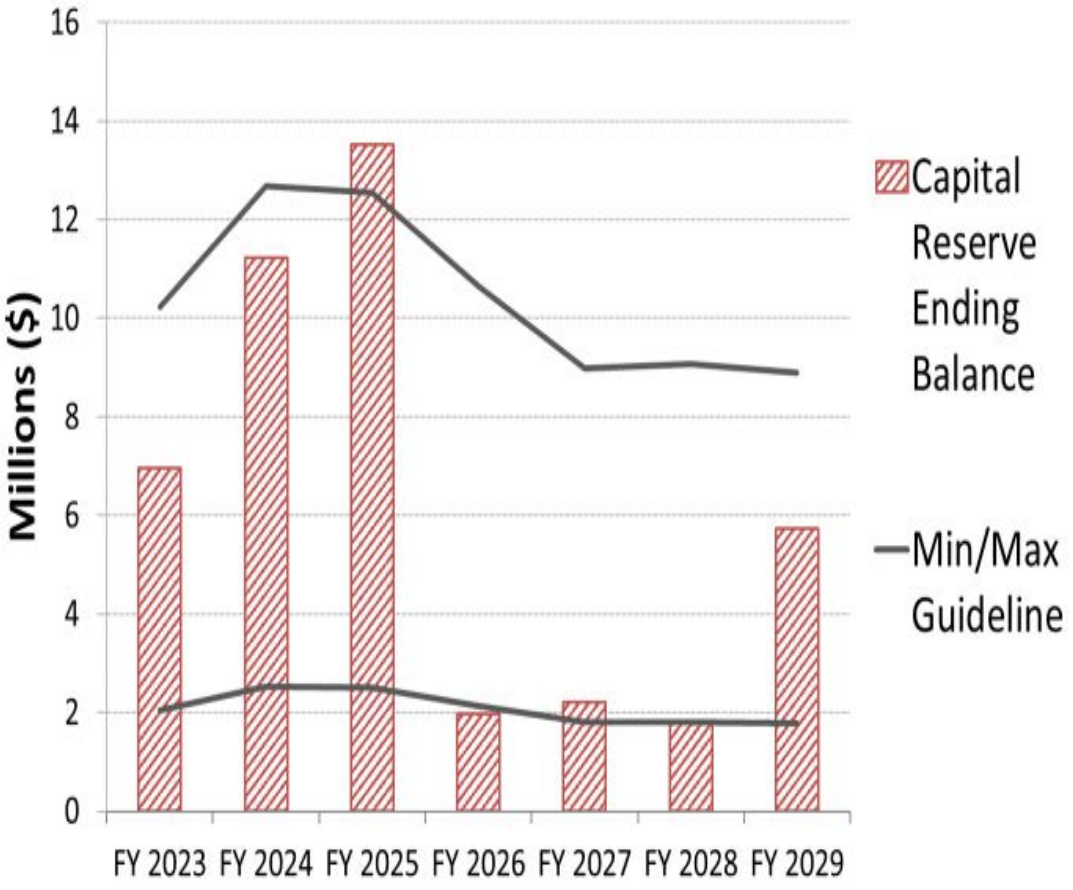
* Includes changes due to commitments/reappropriations and funds transferred to the CIP Reserve

WATER OPERATIONS RESERVE PROJECTIONS



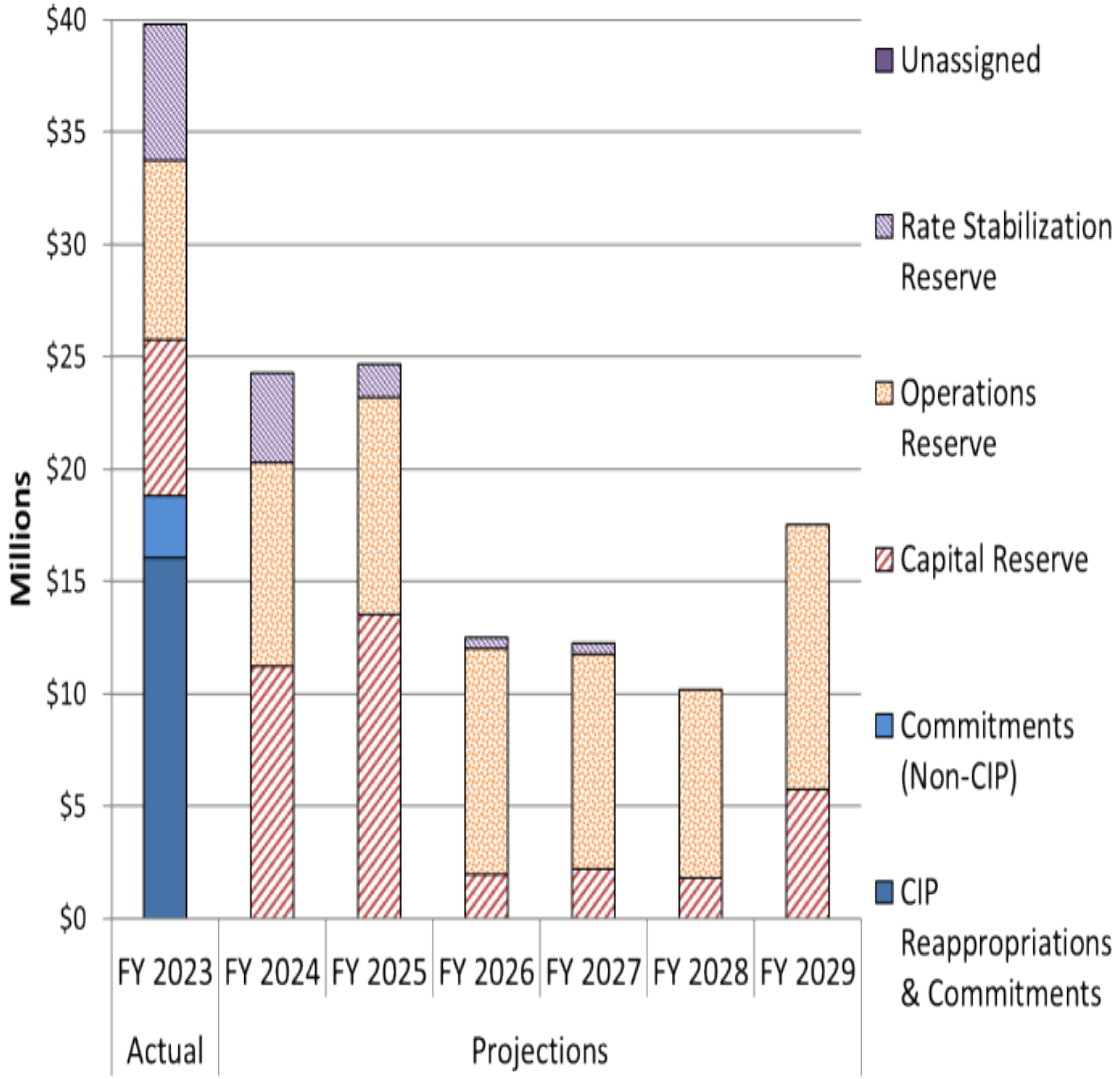
CITY OF PALO ALTO

WATER CIP RESERVE PROJECTIONS

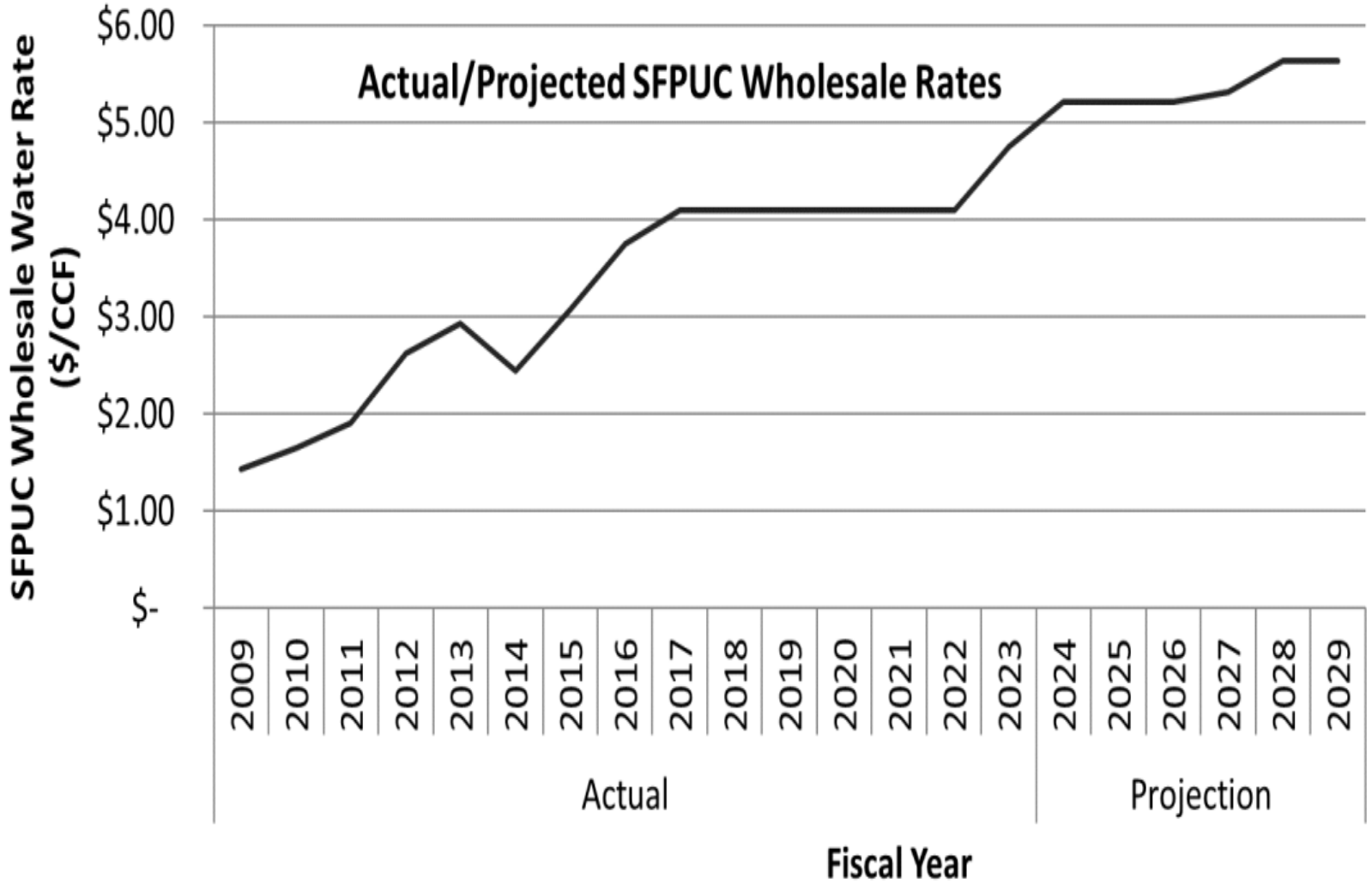


CITY OF PALO ALTO

WATER RESERVE PROJECTIONS

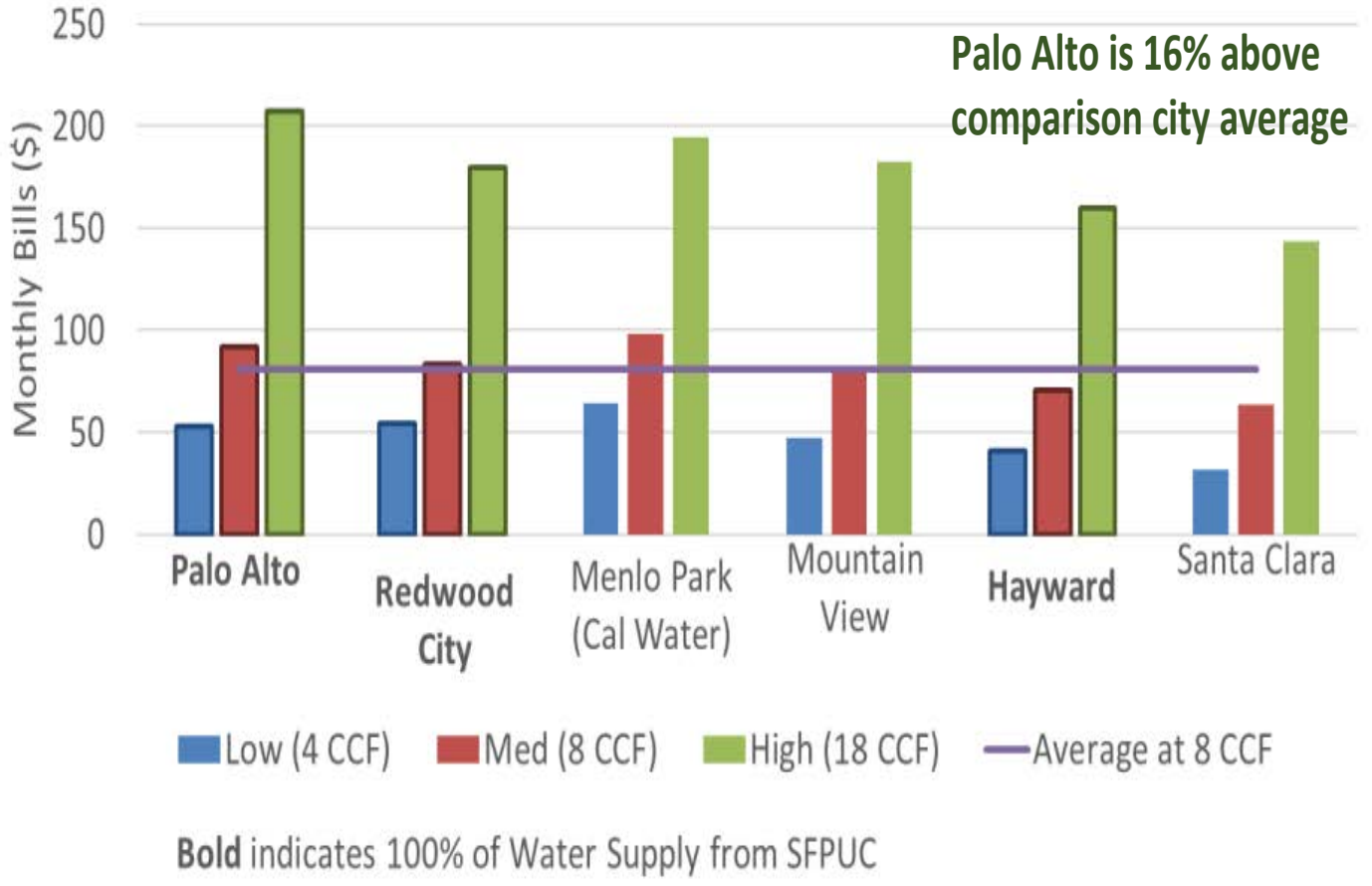


WATER SUPPLY RATES FORECAST



MONTHLY WATER BILL COMPARISON

Single-Family Residential

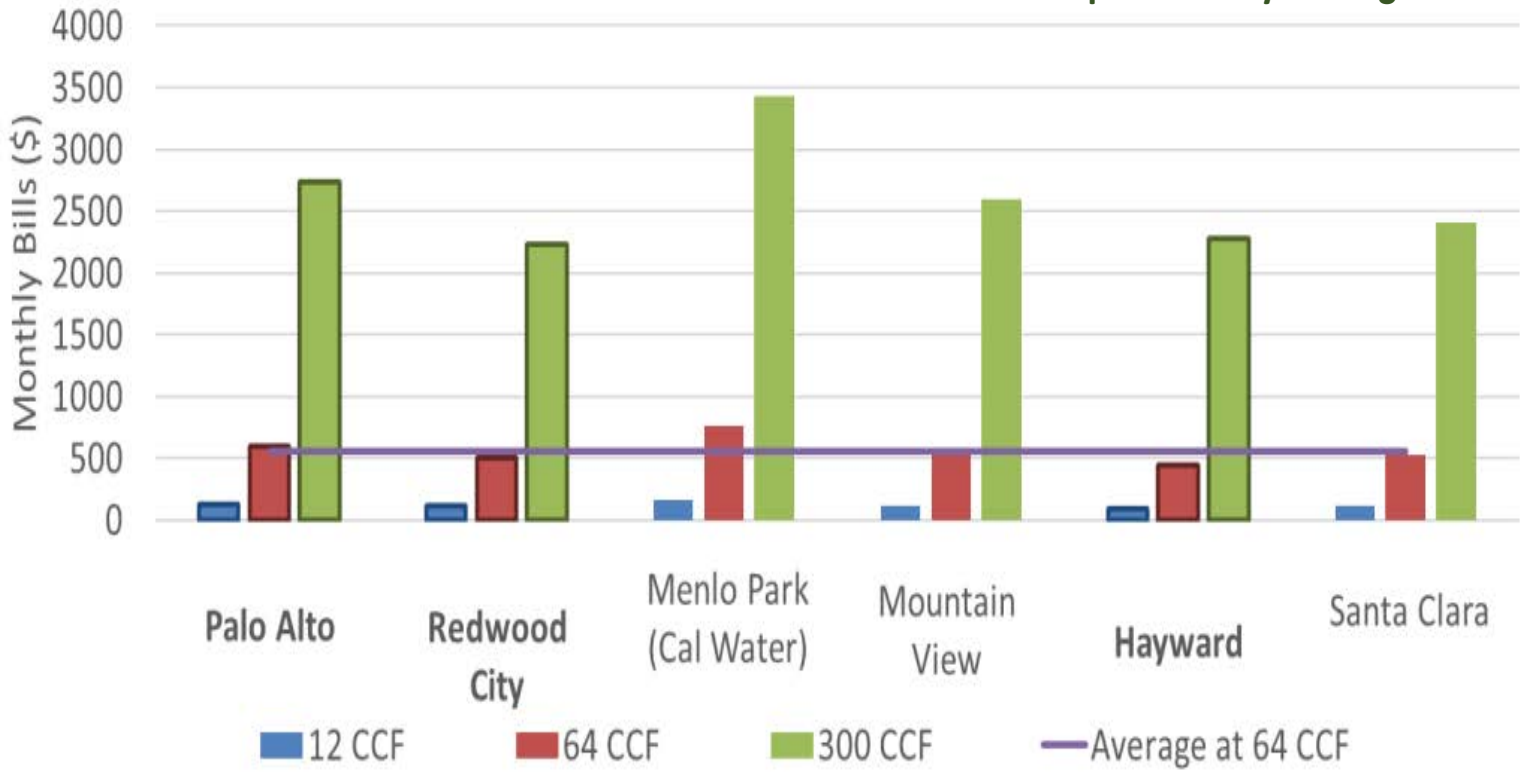


Bold indicates 100% of Water Supply from SFPUC

MONTHLY WATER BILL COMPARISON

Commercial

Palo Alto is 6% above comparison city average



Bold indicates 100% of Water Supply from SFPUC

CITY OF PALO ALTO

WASTEWATER COLLECTION

Preliminary Wastewater Rate Projections

FY 2025 Projection

- 9% rate increase

Fiscal Year	2024	2025	2026	2027	2028	2029
Current Projection	9%	9%	9%	9%	8%	7%
FY 2024 Plan	9%	9%	9%	8%	5%	5%

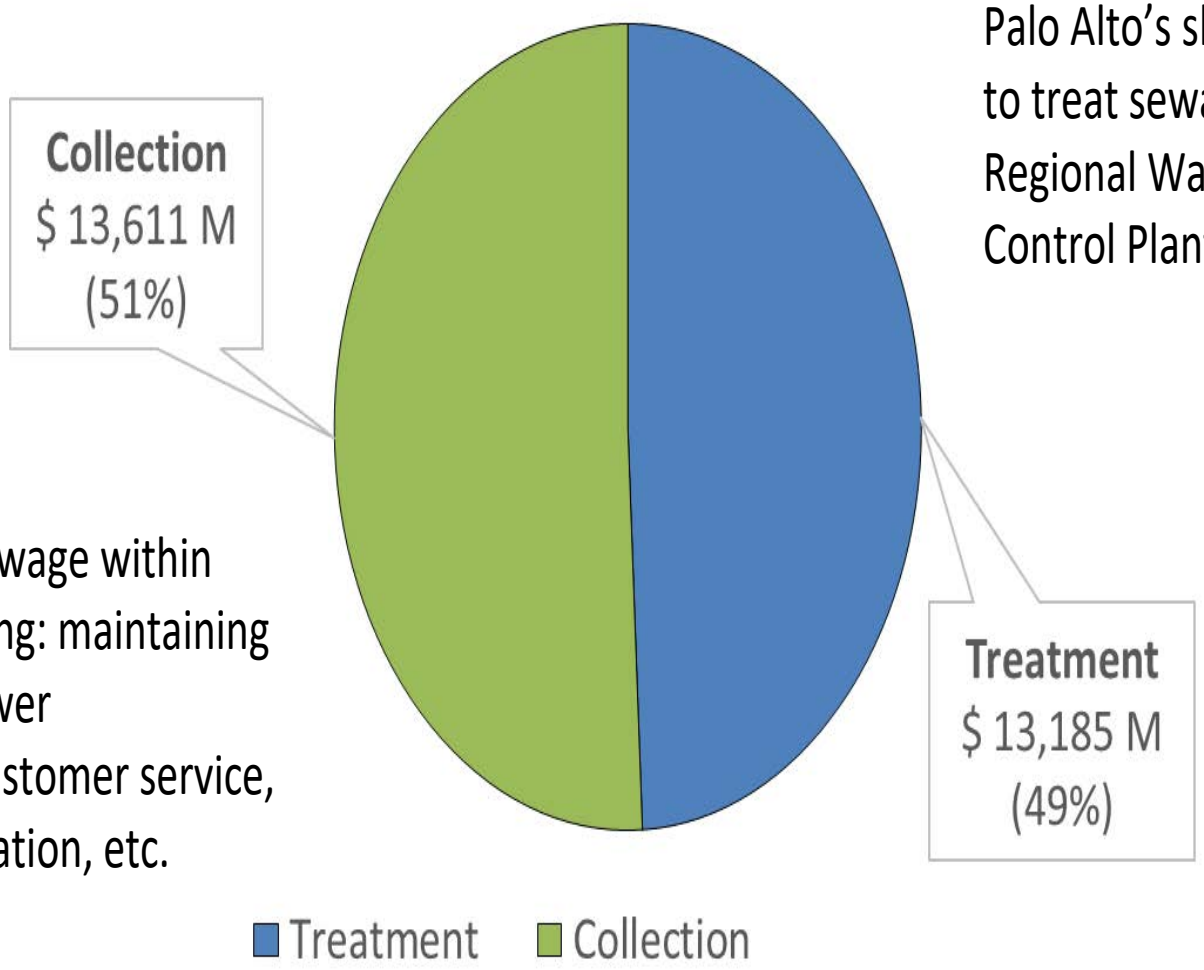
Wastewater Projections

- FY 2023 Year End Ops Reserve below minimum guideline and below zero ($0.7M) due to
  - $3M – higher CIP-related (including admin costs)
  - $0.5M – revenue lower than forecasted
  - $0.3M – higher transfers out to capital projects
- Sanitary Sewer Replacement 31 moved up a year from FY 2024 to FY 2023 due to coordination with CalTrans; $9.3M in the reappropriations reserve for this project
- Reductions are temporary as the fund increases revenues to sustainable level
- Defer construction in FY 25 and FY 26 of planned sewer replacement and pump station retrofit;

Wastewater Utility Basics

- Five partners: Stanford, East Palo Alto, Los Altos Hills, Los Altos, and Mountain View
- Wastewater drains from partner systems through the City of Palo Alto Collection System, and into the City of Palo Alto Regional Water Quality Control Plant (RWQCP) for treatment
- City of Palo Alto Utilities Department manages collection system, Public Works manages the RWQCP

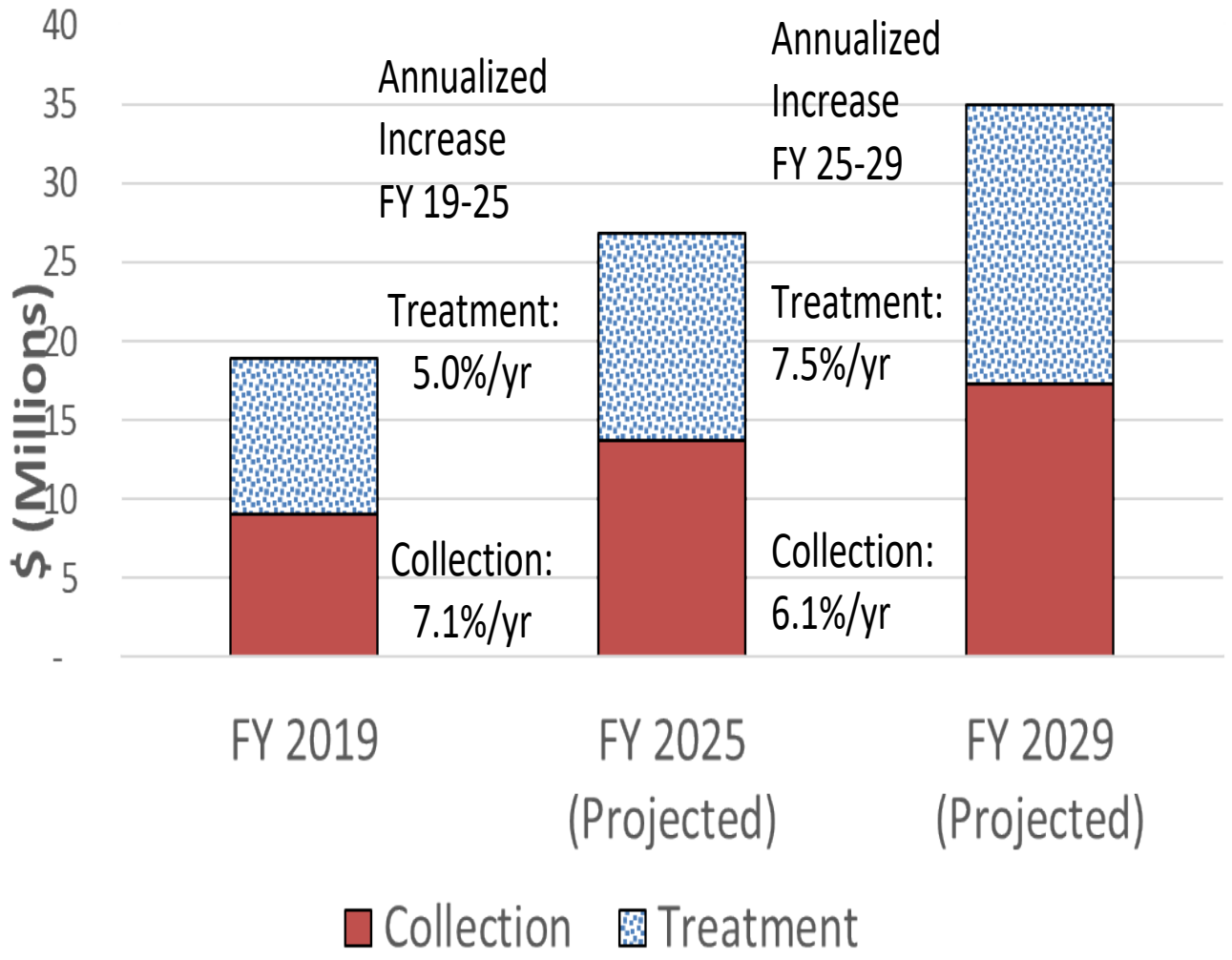
Wastewater Utility Cost Structure



Palo Alto's share of the cost to treat sewage at Palo Alto's Regional Water Quality Control Plant

Cost to collect sewage within Palo Alto, including: maintaining and replacing sewer infrastructure, customer service, billing, administration, etc.

Long Term Cost Trends

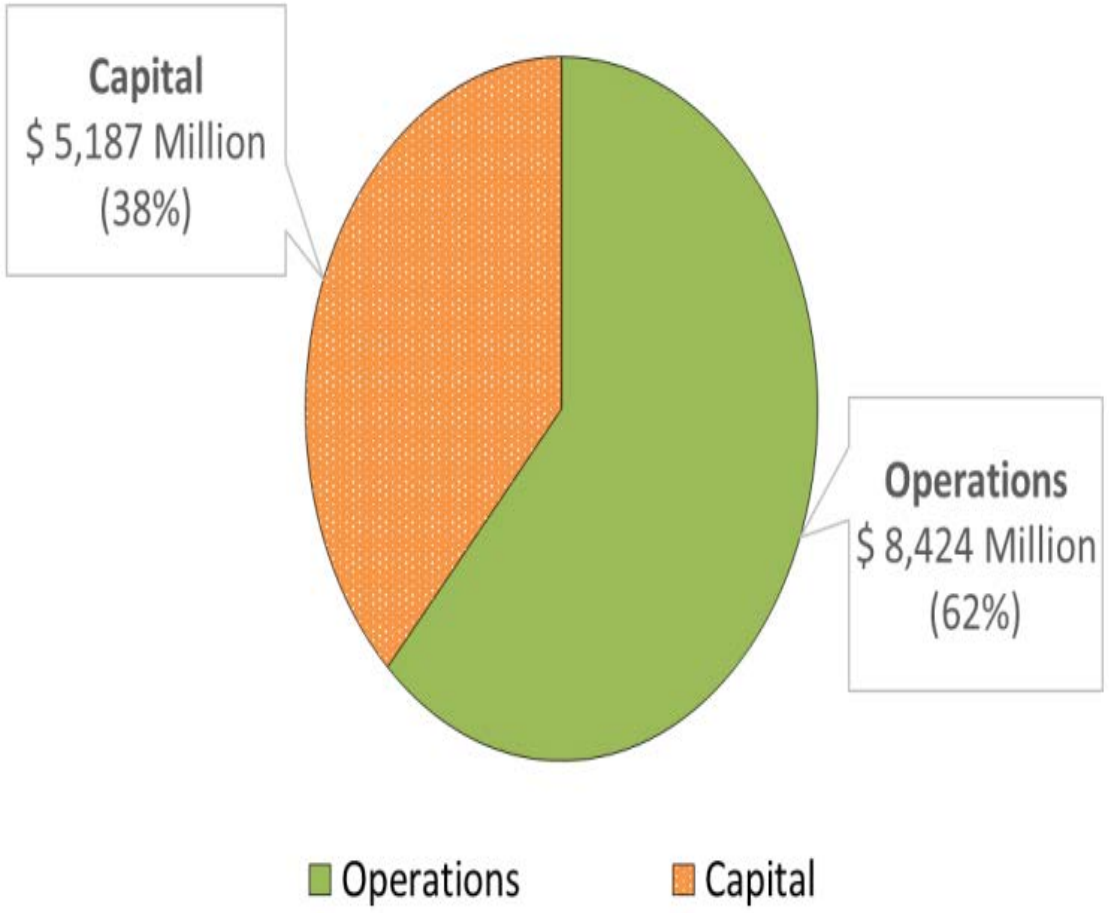


Note: Collection Capital reflects Two-Year Average

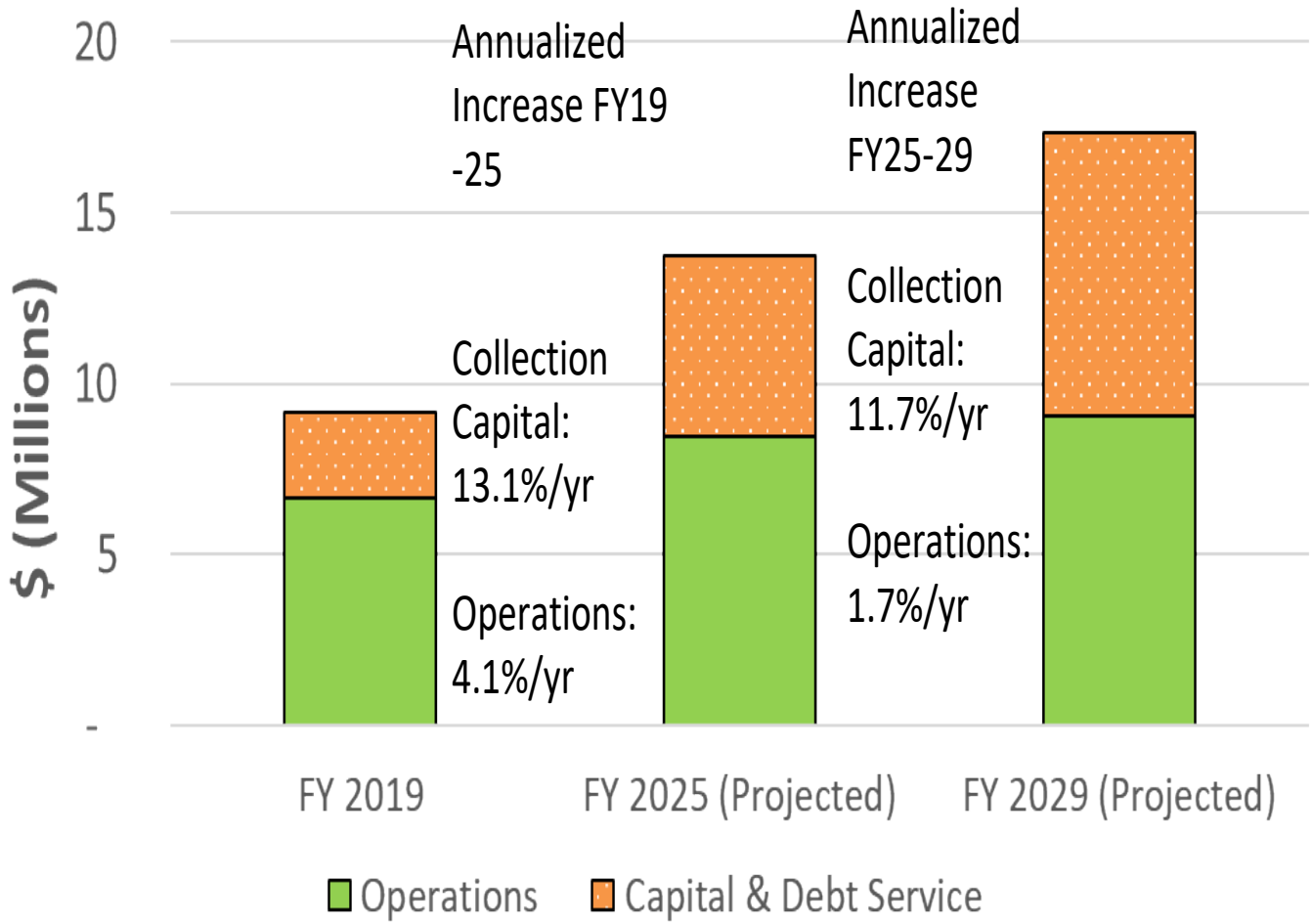
Treatment Cost Drivers

- Regional Water Quality Control Plant needs rehabilitation
- Long Range Facilities Plan completed in 2012, currently being updated including partner cost-share re-evaluation
- Near Term Major Projects:
  - Sedimentation Tank ($19.4M)
  - Outfall Pipeline ($17.8M)
  - Laboratory/Operations Center ($48.5M)
  - Secondary Treatment Upgrades ($193M)
- Applying for grant funding from Valley Water (estimated $11.2M available to Palo Alto from 2024 through 2033)

Wastewater Collection Costs



Wastewater Collection Cost Trends



Reflects Deferred Planned Sewer Replacement in FY 2025 and FY 2026

Note: Capital & Debt Service reflects two-year average

OPERATIONS/CAPITAL COST DRIVERS

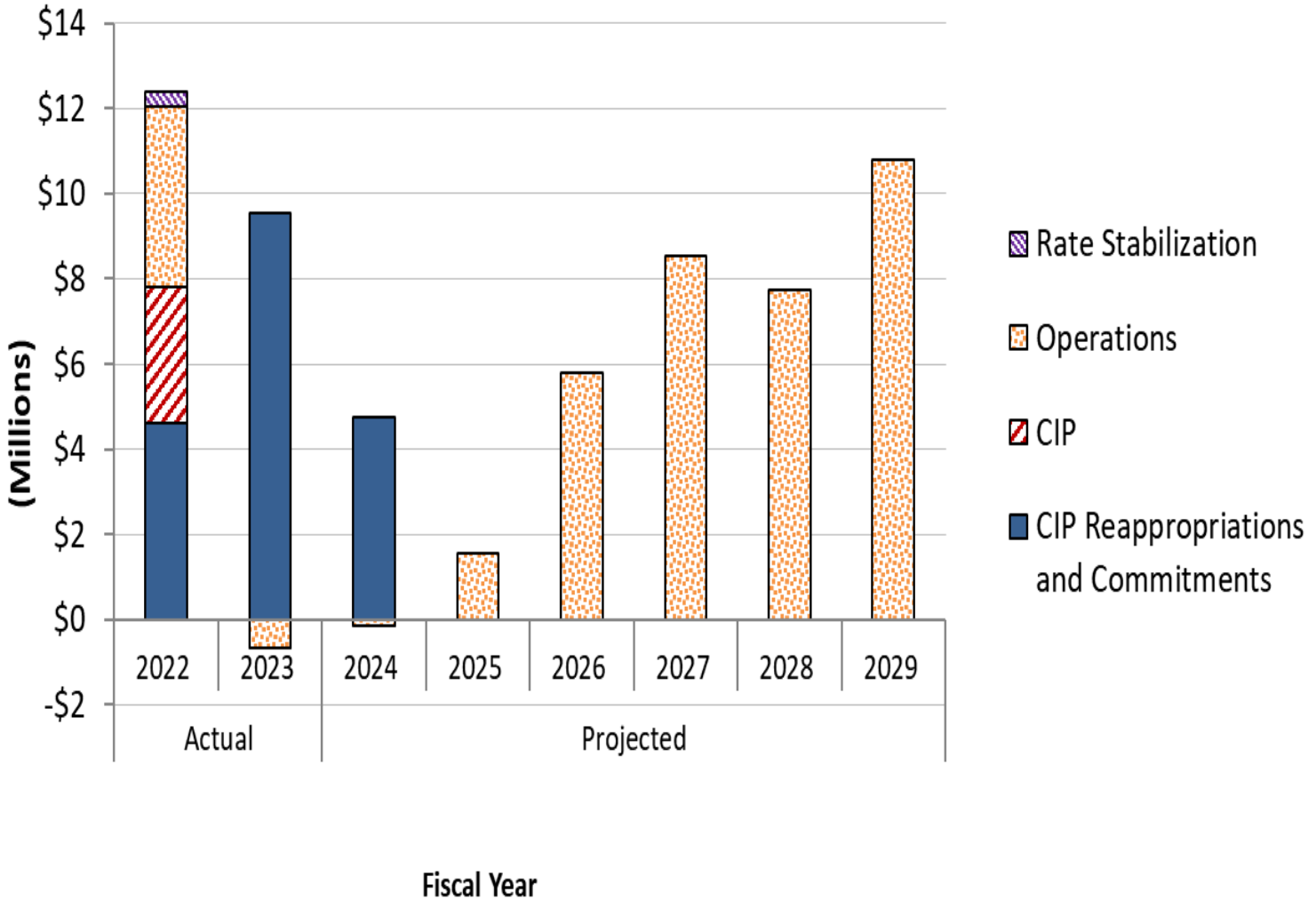
Operational Costs

- Salary and benefit costs for existing staff
- 2-3% annual inflation for other operating costs
- One-time revenue reduction due to COVID-19 $900K in FY 2022, estimated full recovery by FY 2026
- Lower connection, capacity fees and interest income

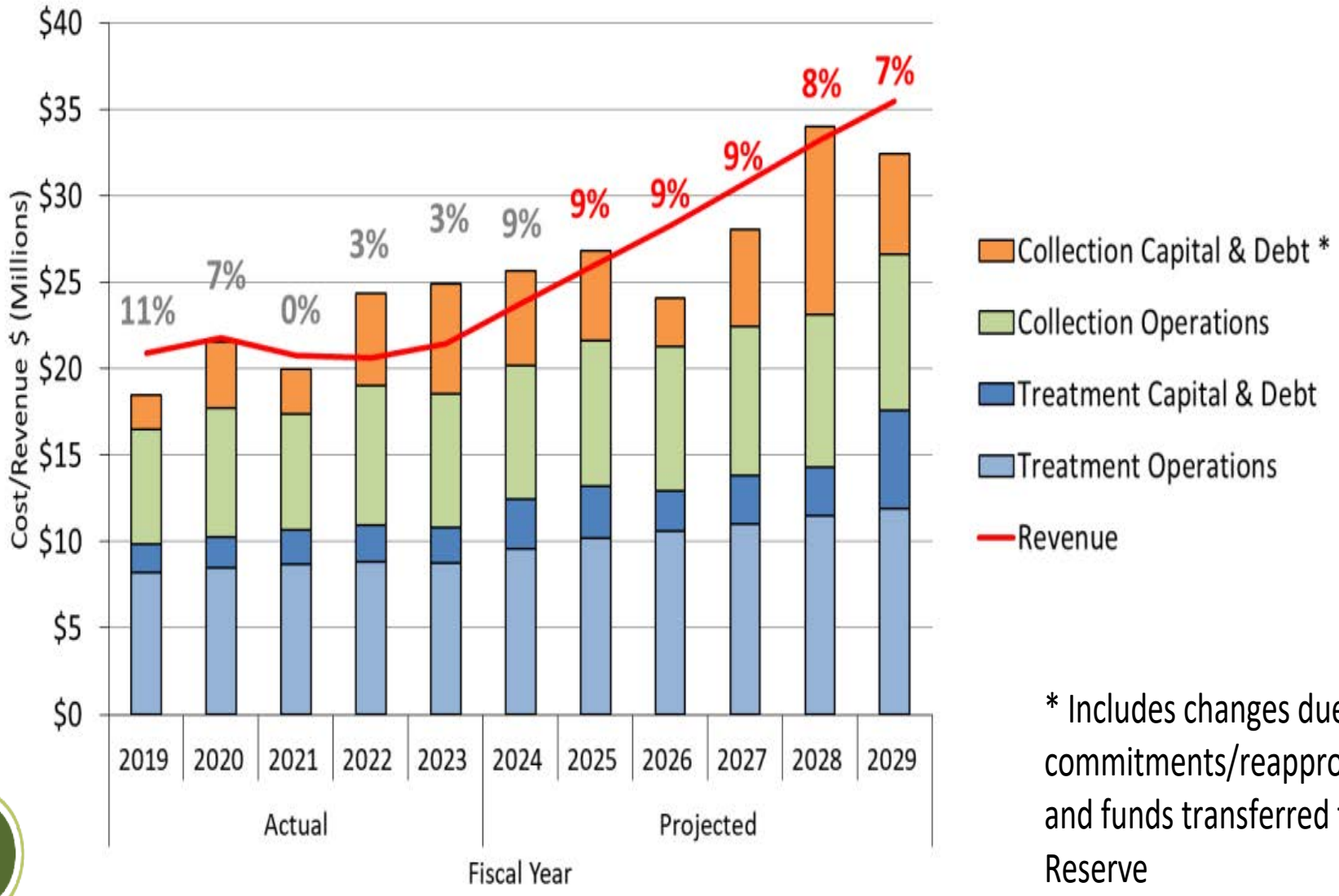
Capital Costs

- Underground construction cost increases
- Allocated cost increases
- Sanitary Sewer Replacements at the rate of 2.5 miles per year after fund recovers

Wastewater Reserve Projections

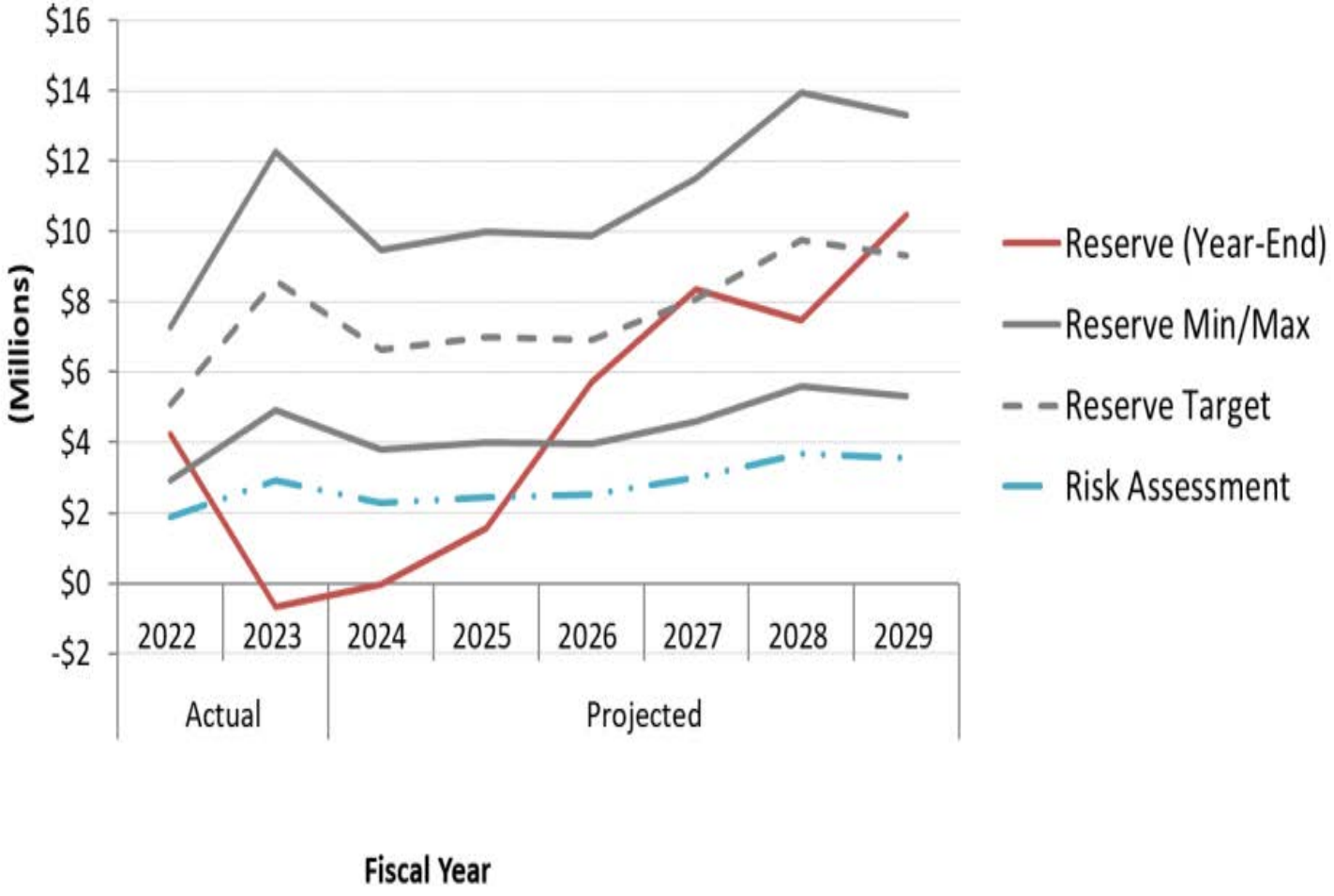


Preliminary Wastewater Cost and Revenue Projections



* Includes changes due to commitments/reappropriations and funds transferred to the CIP Reserve

Wastewater Operations Reserve Projections



Defer Planned Sewer Replacement in FY 2025 and 2026

WASTEWATER MONTHLY RESIDENTIAL BILL ($) NOVEMBER 2023

Palo Alto is 26% below comparison city average

	Neighboring Communities					
Palo Alto	Menlo Park	Redwood City	Santa Clara	Mountain View	Los Altos	Hayward
48.64	108.83	89.28	48.28	53.10	51.47	41.29

WASTEWATER MONTHLY NON-RESIDENTIAL BILL ($)
NOVEMBER 2023

Commercial: Palo Alto is 10% higher than comparison city average

Restaurant: Palo Alto is 7% below comparison city average

	Palo Alto	Neighboring Communities					
		Menlo Park	Redwood City	Santa Clara	Mountain View	Los Altos	Hayward
General Commercial	127.12	147.28	117.74	82.18	166.18	84.55	94.08
Restaurant	758.80	1,240.96	1,128.40	767.20	762.16	338.18	636.72

CITY OF PALO ALTO

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: January 3, 2024
Staff Report: 2306-1685

TITLE
Discussion and Update on Utilities Department Five-Year Capital Improvement Program Progress and Projections

RECOMMENDATION
Staff recommends the Utilities Advisory Commission receive the update on the five-year capital improvement program, shown in the attached tables.

BACKGROUND
Utilities Engineering oversees and implements the capital improvements program (CIP) for the Utilities Department. The attached tables summarize implementation of the electric, gas, water, and wastewater CIP projects over the past five years (i.e., fiscal year 2019 to present), including their originally planned construction year, actual construction year, proposed budget, and contract amount. The attached tables also show the currently planned CIPs, including fiber optic construction, for the next five years (i.e., present to fiscal year 2028).

ANALYSIS
Water-Gas-Wastewater (WGW) CIP projects have generally been implemented within the planned timeframe and allocated budget amounts. The exceptions are projects that were delayed in fiscal year 2019 due to the Upgrade Downtown (UGDT) project, which was a large, multi-departmental CIP project that included water, gas, electric, fiber, traffic signal, sidewalk curb ramps, and sidewalk widening in the downtown area.

The Electric Utility has been impacted by staff vacancies, material shortages post-COVID, an unexpected substation transformer replacement project, and a shift in priorities to supporting Grid Modernization. These factors have led to the delay of some planned work which is being incorporated into upgrades need for the Grid Modernization Project.

Staff will be available during the Utilities Advisory Commission meeting to answer any questions regarding the summary tables and the implementation and status of individual projects.

FISCAL/RESOURCE IMPACT
This is an informational report and there is no fiscal or resource impact.

STAKEHOLDER ENGAGEMENT
None

ENVIRONMENTAL REVIEW
None required.

ALTERNATIVE ACTIONS
None

ATTACHMENTS
Attachment A: WGW CIP Project Summary
Attachment B: Electric CIP Project Summary

AUTHOR/TITLE:
Dean Batchelor, Director of Utilities
Staff, Tomm Marshall, Assistant Director of Utilities Electric
Staff, Matt Zucca, Assistant Director of Utilities WGW

Table 1
Capital Improvement Program Project Status Summary for Fiscal Years 2019 to 2028 (as of November 2023)
Water, Gas, and Wastewater Engineering

FY'19

Notes: All three FY'19 CIP projects were postponed due to the Upgrade Downtown (UGDT) project. UGDT was a $16.4M, multi-departmental CIP project which included water, gas, electric, fiber, traffic signal, sidewalk curb ramps, and sidewalk widening. WGW Engineering team managed the project during the design, solicitation, and construction phases. The project received zero bids after going through a formal solicitation process, therefore extra time and efforts were spent to negotiate a contract with a contractor who had the capacity and resources to perform the work. It was also time-consuming to coordinate with various City departments and the contractor on a regular basis, provide extensive outreach to the property owners in the Downtown District and the public, manage high-volume construction related paperwork and tasks, etc. At that time, WGW Engineering was short-staffed and all available staff was reassigned to assist with this high-profile and multifaceted project. Unfortunately, the regular CIP projects were impacted. As a result, WMR 27 and GMR 23 were postponed and SSR 28 scope was reduced by about 50% (from 20,000 LF to about 9,000 LF) and construction was delayed a year.

Project	Original Const Year	Actual Const Year	Proposed Budget*	Contract Amount**	Construction Period	Status/Comments
WMR 27	FY'19					Postponed due to Upgrade Downtown Project.
GMR 23	FY'19					Postponed due to Upgrade Downtown Project.
SSR 28A	FY'19	FY'19	$250,000	$236,401	8/14/18 - 9/26/18	Sewer main replacement at Junior Museum and Zoo (JMZ) was prioritized.
SSR 28B	FY'19	FY'20	$3,965,600	$1,930,066	8/21/19 - 6/15/20	Project scope was reduced and construction was delayed due to short-staffing.

FY'20

Notes: As indicated in the FY'20 Financial Plans, UTL Engineering started implementing the every-other-year construction for large main replacement projects. This schedule is more realistic to reflect the required duration for design, solicitation practice, Staff Report/Council approval process, contract setup, and pre-construction preparation. This staggered schedule (water and wastewater constructing every even year and gas construction every odd year) also eases scheduling difficulties for inspection coverage due to shared inspection staff across water, wastewater, gas, and large development services projects. The previous impacted projects were shifted to FY'20 (WMR 27) and FY'21 (GMR 23) accordingly.

Project	Original Const Year	Actual Const Year	Proposed Budget*	Contract Amount**	Construction Period	Status/Comments
WMR 27	FY'20	FY'20	$6,500,000	$4,146,435	10/21/19 - 7/2/20	On target
SSR 29	FY'20	FY'20	$4,508,339	$2,040,841	2/3/20 - 11/6/20	On target with about 50% reduced scope.

FY'21

Project	Original Const Year	Actual Const Year	Proposed Budget*	Contract Amount**	Construction Period	Status/Comments
GMR 23	FY'21	FY'21	$7,620,000	$6,417,876	3/8/21 - 7/29/22	On target
Corte Madera Reservoir Rebuilt	FY'21	FY'21	$7,000,000	$5,545,000	2/2/21 - 4/1/22	On target

FY'22

Project	Original Const Year	Actual Const Year	Proposed Budget*	Contract Amount**	Construction Period	Status/Comments
WMR 28	FY'22	FY'22	$8,500,000	$7,819,336	4/18/22 - 6/5/23	Completed
SSR 30	FY'22	FY'22	$4,130,000	$3,444,302	3/28/22 - 2/24/23	Completed

FY'23

Project	Original Const Year	Actual Const Year	Proposed Budget*	Contract Amount**	Construction Period	Status/Comments
GMR 24A	FY'23	FY'23	$1,500,000	$1,411,059	1/1/23 - 3/31/23	On target
GMR 24B	FY'23	FY'24	$8,500,000	TBD	1/30/24 - 5/31/25	Delayed due to grant application's late response.

FY'24

Project	Original Const Year	Actual Const Year	Proposed Budget*	Contract Amount**	Construction Period	Status/Comments
WMR 29	FY'24	FY'24	$8,500,000	$6,956,400	11/27/23 - 5/6/24	On target
Park Reservoir Upgrade	FY'24	FY'25	$7,000,000	TBD	TBD	Delayed due to non-responsive proposals when seeking consultants to design the tanks.
SSR 31	FY'24	FY'24	$7,300,000	$7,707,055	7/31/23 - 5/6/24	Const cost for work on El Camino Real came in higher than estimated, used reseve $

FY'25

Project	Original Const Year	Actual Const Year	Proposed Budget*	Contract Amount**	Construction Period	Status/Comments
GMR 25	FY'25	TBD	$10,000,000	TBD	TBD	Expected to be on target

FY'26

Project	Original Const Year	Actual Const Year	Proposed Budget*	Contract Amount**	Construction Period	Status/Comments
WMR 30	FY'26	TBD	$8,500,000	TBD	TBD	Expected to be on target
Dahl Reservoir Upgrade	FY'26	TBD	$7,000,000	TBD	TBD	May be delayed since Park Reservoir Upgrade project is delayed.
SSR 32	FY'26	TBD	$11,000,000	TBD	TBD	Expected to be on target

FY'27

Project	Original Const Year	Actual Const Year	Proposed Budget*	Contract Amount**	Construction Period	Status/Comments
GMR 26	FY'27	TBD	$10,000,000	TBD	TBD	Expected to be on target

FY'28

Project	Original Const Year	Actual Const Year	Proposed Budget*	Contract Amount**	Construction Period	Status/Comments

Table 1
Capital Improvement Program Project Status Summary for Fiscal Years 2019 to 2028 (as of November 2023)
Water, Gas, and Wastewater Engineering

WMR 31	FY'28	TBD	$8,500,000	TBD	TBD	Expected to be on target
SSR 33	FY'28	TBD	$11,000,000	TBD	TBD	Expected to be on target

Legend:
WMR = Water Main Replacement
GMR = Gas Main Replacement
SSR = Sanitary Sewer Replacement

Notes:
*The proposed budget included construction contract, 10% contingency, staff time for design & construction management, street cut fee, soil compaction testing, and all other associated costs.
**The listed construction contract amount excludes 10% contingency.

Table 1
Capital Improvement Program Project Status Summary for Fiscal Years 2019 to 2028 (as of November 2023)
Electric and Fiber Optic Engineering

FY'19						
Project	**Original Const Year**	**Actual Const Year**	**Proposed Budget***	**Actual**	**Construction Period**	**Status/Comments**
Utility Control Center Upgrades	FY'18	FY'19	$522,017	$519,204	07/01/18 - 06/30/19	Project Completed
FY'20						
Project	**Original Const Year**	**Actual Const Year**	**Proposed Budget***	**Actual**	**Construction Period**	**Status/Comments**
Colorado 115/60 kV Transformer	FY'19	FY'20	$3,377,671	$2,375,018	07/01/19 - 06/30/20	Work in progress
FY'21						
Project	**Original Const Year**	**Actual Const Year**	**Proposed Budget***	**Actual**	**Construction Period**	**Status/Comments**
Caltran Modification	FY'18	FY'21	$2,471,000	$2,419,907	07/01/19 - 06/30/21	Project Completed
Colorado 115/60 kV Transformer	FY'19	FY'21	$1,016,384	$232,954	07/01/19 - 06/30/21	Project Completed
FY'23						
Project	**Original Const Year**	**Actual Const Year**	**Proposed Budget***	**Actual**	**Construction Period**	**Status/Comments**
UG46	FY'19	FY'23	$4,018,052	$3,443,285	07/01/19 - 06/30/23	Project Completed
Capacitor Bank Installation	FY'22	FY'23	$2,300,000	$2,265,166	07/01/22 - 06/30/23	Project Completed
Foothills Underground Program	FY'21	Ongoing	$12,000,000	$4,494,104	07/01/21- 06/30/26	On-going
AMI Project	FY'16	Ongoing	$11,552,898	$5,293,930	07/01/22-07/01/25	On-going
Substation Security Upgrades	FY'16	On-going	$5,000,000	$2,078,888	07/01/22-07/01/25	On-going
Substation Breaker Replacement	FY'20	Ongoing	$3,000,000	$1,138,886	07/01/20-07/01/25	On-going
FY'24						
Project	**Original Const Year**	**Actual Const Year**	**Proposed Budget***	**Contract Amount****	**Construction Period**	**Status/Comments**
GridMod	FY'24	TBD	$10,000,000	TBD	TBD	Expected to be on target
FTTP	FY'24	TBD	$10,000,000	TBD	TBD	Expected to be on target
FY'25						
Project	**Original Const Year**	**Actual Const Year**	**Proposed Budget***	**Contract Amount****	**Construction Period**	**Status/Comments**
GridMod	FY'25	TBD	$25,000,000	TBD	TBD	Expected to be on target
FTTP	FY'25	TBD	$10,000,000	TBD	TBD	Expected to be on target
FY'26						
Project	**Original Const Year**	**Actual Const Year**	**Proposed Budget***	**Contract Amount****	**Construction Period**	**Status/Comments**
GridMod	FY'26	TBD	$25,000,000	TBD	TBD	Expected to be on target
FTTP	FY'26	TBD	$10,000,000	TBD	TBD	Expected to be on target
FY'27						
Project	**Original Const Year**	**Actual Const Year**	**Proposed Budget***	**Contract Amount****	**Construction Period**	**Status/Comments**
GridMod	FY'27	TBD	$50,000,000	TBD	TBD	Expected to be on target
FTTP	FY'27	TBD	TBD	TBD	TBD	Pending Council's direction
FY'28						
Project	**Original Const Year**	**Actual Const Year**	**Proposed Budget***	**Contract Amount****	**Construction Period**	**Status/Comments**
GridMod	FY'28	TBD	$50,000,000	TBD	TBD	Expected to be on target
FTTP	FY'28	TBD	TBD	TBD	TBD	Pending Council's direction

CITY OF PALO ALTO

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: January 3, 2024
Staff Report: 2311-2209

TITLE
Informational Report: Utilities Quarterly Report for FY24-Q1

RECOMMENDATION
This is an informational report, and no action is requested.

EXECUTIVE SUMMARY

This report for the Utilities Advisory Commission is an informational update on water, gas, electric, wastewater collection and fiber utilities, efficiency programs, legislative/regulatory issues, utility-related capital improvement programs, operations, reliability impact measures and a utility financial summary. This updated report has been prepared to keep the Utilities Advisory Commission apprised of the major issues that are facing the water, gas, electric, wastewater collection and fiber utilities. A separate quarterly report on the financial position is prepared consistent with when the City closes its books.

Items of special interest in this report are summarized below:

Vacancies and Staffing – Appendix B

- The Utilities Department has 44 vacant positions out of 257 authorized positions or a 17% vacancy rate at the end of September 2023 compared to 49 vacancies in June 2023 and 58 vacancies in March 2023.
- Due to HR staffing constraints, Utilities has designated three HR liaisons from Utilities Administration to assist HR with some of the recruitments. Since then, the number of vacancies has decreased, and the recruitment timeline has shortened.
- Progress has been made in filling vacant Electric Engineering and Operations positions over the past 3 quarters.

Number of Electric Vacancies by Quarter

Division	Sep-23	Jun-23	Mar-23
Electric Operations	17	21	24
Electric Engineering	6	6	8
Total Electric	23	27	32

Electric Utility:

- Hydroelectric generation conditions have improved significantly. Total hydropower generation for FY 2023 was 378 GWh, which was 23 GWh (6%) below the long-term average. Generation this year is expected to be close to the long-term average. (Section 1.1.2)
- A number of construction projects are in progress or have been recently completed. (Section 1.2)

- A California Electric Utility Bill and Rate Comparison report shows a significant advantage for customers of publicly owned utilities (Section 1.3)
- A summary chart of quarterly electric outages is included in the report. (Section 1.4)
- Q1 FY 2024 actual electric sales were about 1% higher than forecasted, while actual sales revenues were about 2.8% higher than budgeted. The higher sales revenues were due to revenue from the Electric Hydro Rate Adjuster which was still in effect for some customers in July. (Section 1.5.1)

Gas Utility:

- Gas prices have decreased and stabilized since last winter's spike. The Council-approved purchasing strategy, whereby price insurance was purchased for a portion of expected gas needs in December, January, and February this winter was implemented. (Section 2.1)
- One gas main replacement project was completed, one is in progress, and one is in the design stage. (Section 2.2)
- Gas sales in Q1 FY 2024 was 3.4% lower than forecasted. (Section 2.5.1)

Water Utility:

- As a result of the above average precipitation in December 2022 and January 2023, storage in the San Francisco Regional Water System filled. (Section 3.1)
- Work continues on the One Water Plan with the goal of Council adoption of a supply plan that is a 20-year adaptable roadmap for implementation of water supply and conservation portfolio alternatives. Staff plans to share initial results in early 2024. (Section 3.1)
- Several capital programs are in progress. (Section 3.2)
- Water sales in Q1 were about 2.4% lower than forecasted and water sales revenues were about 5.6% lower than budgeted. Sales were lower due to the water conservation efforts made throughout the drought. (Section 3.5.1)
- At the end of FY 2023 the Water operations Reserve was close to the minimum guideline level. (Section 3.5.2)

Wastewater Utility:

- An overview of the status of the Regional Water Quality Control Plant (RWQCP) rehabilitation projects is provided, including an overview of the financing plan for the projects. The first project to begin construction will be the primary sedimentation tank rehabilitation. (Section 4.1)
- A sewer system rehabilitation replacement project (SSR 31) is underway on El Camino and Page Mill. (Section 4.2)
- Actual wastewater sales revenues have been lower than expected due to low water usage caused by the drought. (Section 4.4.1)

Fiber Utility:

- Given the hundreds of miles of overhead and underground construction activity between fiber-to-the-premises (FTTP) and electric grid modernization, staff is recommending a pilot area that enables exploration of various construction phasing options to minimize disruption, construction activity, and construction costs within neighborhoods while avoiding prolonged deployments. In addition, aligning these projects in the pilot helps alleviate construction constraints and internal resource constraints to project manage, perform engineering make ready, and inspect construction for both projects in parallel.
- CPAU has retained a CEQA consultant who is preparing an Initial Study on the environmental impacts associated with the construction and operation of the potential citywide FTTP network, will cross much of the City of Palo Alto and include some new infrastructure (i.e. fiber hut, fiber cabinets, aerial and underground cables, utility vaults). The Initial Study is estimated to be completed by Q2 2024.

Customer Programs (Section 6):

- Palo Alto customers can choose to pay for a heat pump water heater upfront or select an on-bill financing option with 0% interest rate. The City currently is on a pace to do 200-250 installations per year, about 20% of the estimated number of water heaters replaced each year. This is one of the most productive energy programs the City has run, but far more installations are needed to achieve the City's S/CAP goals. Staff is making improvements to the program processes based on feedback to-date in an effort to attract and retain more residents in the program and has kicked off a customer outreach effort to gather more feedback to support further improvements.
- The City continues to promote its multi-family and workplace EV charger programs.
- 20 large customer projects are in process with more than 2,000,000 kWh savings. The Key Account Representatives have been actively reaching out to engage customers through direct email and setting up face to face meetings.
- The City has provided 38 site assessments for small and medium business customers through the Business Energy Advisor program.
- 17% of all water customers have utilized the City's new WaterSmart online water management tool.

Communications:

- A digest of major outreach efforts is provided in Section 7, including extreme energy prices and high utilities bills, new EV chargers at Stanford Health Care, and water supply and conservation updates.

Legislative, Regulatory and Industry Activity:

- Major legislative, regulatory and Industry Activity items are summarized in Section 8.

Utilities at a Glance:

For additional context for the data included in this report, please see:

https://www.cityofpaloalto.org/Departments/Utilities/Customer-Service/Utilities-at-a-Glance

Utilities Quarterly Report
FY 2024-Q1

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1 Electric Utility

The City's electric utility serves all residential and non-residential electric demands in Palo Alto at a lower cost than PG&E in surrounding communities. Its electric supply portfolio is 100% carbon neutral. The City maintains and operates an electric distribution system and one small natural gas generator but does not operate any transmission lines or any significant generating capacity on its own. Instead, the City belongs to Northern California Power Agency (NCPA) which operates its Calaveras hydroelectric generating plant and provides power scheduling services for its other generating resources. This carbon free power is supplied through power purchase agreements with various generation operators.

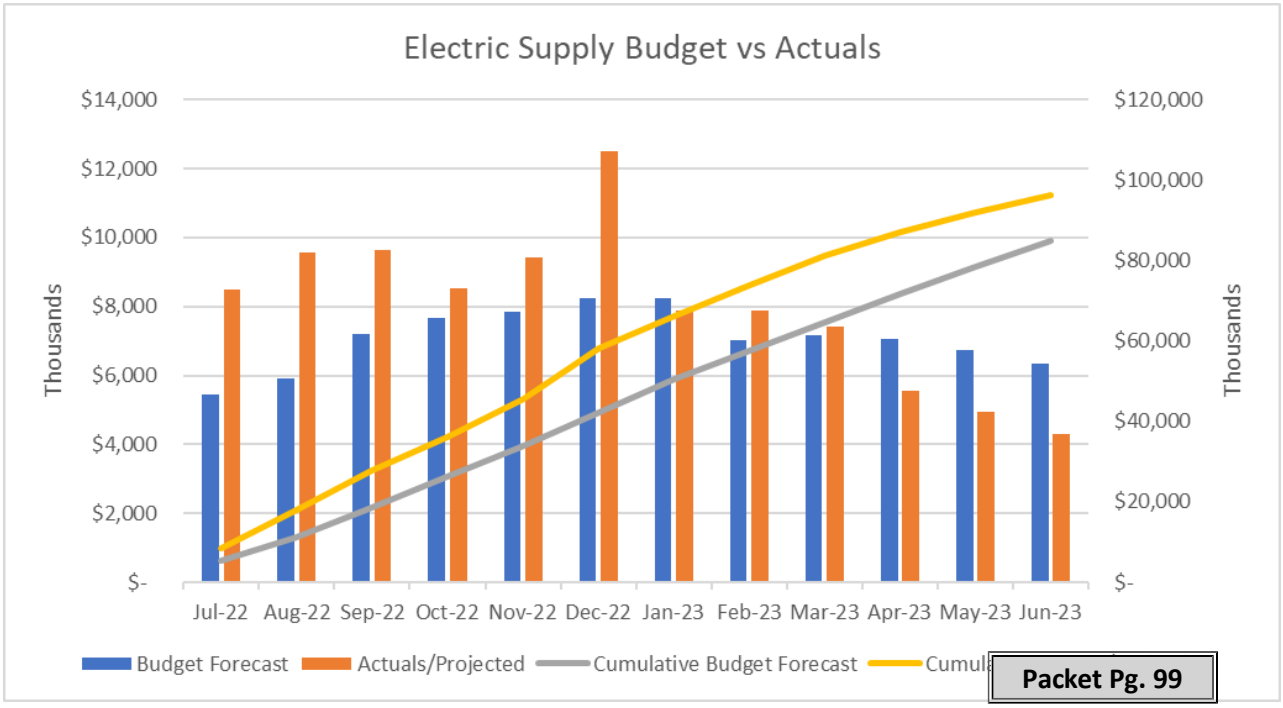
1.1 Electricity Supply and Transmission

Below is an update on electricity supply and transmission services.

1.1.1 Forecasted Supply Costs

The actual net supply cost for FY 2023 was $97.8M. This represents a $2.5M (2.7%) increase over FY 2022 actuals and $14.1M (17%) over the FY 2023 Adopted Budget, with the increase primarily driven by higher than historical energy prices, higher transmission costs, and much lower than historical average hydro generation levels (particularly in the first half of the fiscal year). The cost increase relative to budget was partially offset by greater than projected revenue from resource adequacy (RA) capacity sales. With hydroelectric generation conditions improving significantly in recent months, the electric net supply cost for FY 2024 is currently projected to be $69.5M, and for FY 2025 it is projected to be $74.0M.

Figure 1: FY 2023 Financial Plan Supply Cost Forecast vs. Actuals



1.1.2 Hydroelectric Conditions

The City receives power from two hydroelectric projects, the Calaveras project, and the Western Base Resource contract for federal hydropower from the Central Valley Project.[1] The watershed for Western hydropower is primarily in the northern end of California, while the watershed for the Calaveras project is in the Central Sierras.

After several extremely dry years, water year 2022 to 2023 (October 2022 to September 2023) was one of the best precipitation years in memory, with record storms across the state in December 2022 and early January 2023. Total precipitation was 162% of average for the Central Sierras and 125% of average for the Northern Sierras and total hydropower generation for FY 2023 was 378 GWh, which is 23 GWh (6%) below the long-term average.[2].

It is too early to tell how water year 2023 to 2024 will turn out from a precipitation perspective, but reservoir levels are currently at or above average level for this time of year as a result of the past year's storms. As a result, hydro generation levels are projected to improve this year, with total output recovering to 122% of the long-term average level for FY 2024 and 105% of the long-term average level for FY 2025.

Figure 2: Hydro Generation: FY 2023 Actuals, FY 2024 and FY 2025 Projected (GWh)

	FY 2023	FY 2024	FY 2025
Calaveras Generation (GWh)	202	151	118
Western Generation (GWh)	176	338	304
Total Hydro Generation (GWh)	378	489	422
% of Long-term Average Total	94%	122%	105%
Long-term Average Total Hydro (GWh)	401	401	401

1.1.3 REC Exchange Program

Under the REC Exchange Program, which was approved by Council in August 2020 (Staff Report #11556[3]), staff has contracted to sell 110 GWh worth of in-state renewable energy (for $7.7M) but has not purchased out-of-state renewable energy credits (RECs) thus far in FY 2024. The spread between in-state versus out-of-state REC prices have widened since the start of 2023, due to the rise in value of in-state products. Additional REC Exchange transactions are planned around Q3 of FY 2024.

1.1.4 Renewable Energy Procurement

Utilities staff has been working with staff from the Public Works Department, the City of Santa Clara, and NCPA to negotiate a new power purchase agreement (PPA) to buy a small amount of electrical output (about 3 GWh/year in total) from an anaerobic digester facility, in order to satisfy the requirements of Senate Bill (SB) 1383. Similar to the recently approved Calpine Geothermal PPA, NCPA would be the counterparty to the PPA with the anaerobic digester facility, and the Cities of Palo Alto and Santa Clara would each receive a share of the output via Third Phase Agreements with NCPA. Contract negotiations between the parties have recently concluded, and staff plans to take the Third Phase Agreement to the City Council for consideration in the coming months.

[1] The Calaveras project is a hydropower project located in Calaveras County that is maintained and operated by the Northern California Power Agency on behalf of the City and other project participants. The City is also one of several public entities with contracts with the Western Area Power Administration for "Base Resource" electricity, which is the hydroelectric power available from the federal government's Central Valley Project (operated by the Bureau of Reclamation) after accounting for power used for Central Valley Project operations and power delivered to certain "preference" customers.

[2] The long-term average forecast levels for both Western and Calaveras have been revised downward (about 10% each) in recent years to reflect the impact of climate change. These values may need to be revisited again in the coming years.

[3] Staff Report 11556 https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutesreports/reports/cmrs/year-archive/2020-2/id-11566.pdf

Utilities staff also continue to regularly review new renewable energy generation proposals that NCPA receives through its ongoing Request for Proposals (RFP) process. Staff has recently reviewed three new resource opportunities received through this process but does not recommend that the City participate in any of them. These three resources include:

- A 100 MW solar PV project located in Imperial County, priced in the low $40s per MWh, with no Resource Adequacy (RA) capacity credit
- A 50 MW share of a larger solar PV project located in Riverside County, priced in the mid $40s per MWh, with no RA capacity credit
- A repowering of a 50 MW combustion turbine located in San Joaquin County, with local RA capacity credit, which may eventually be converted to burn hydrogen instead of natural gas

Although the two solar projects appear economically attractive, staff decided not to move forward with them due to a desire to diversify the City's electric supply portfolio. And staff chose not to move forward with the repowered combustion turbine project due to its incompatibility with the City's Carbon Neutral Supply Plan.

1.2 Capital Improvement Plan Status

The following capital projects are currently in progress or have been recently completed:

EL-17001 (East Meadow Circles 4/12kV Conversion)

- This project is scheduled to be completed in several phases. Phase 1 is completed. This project is postponed due to other project priorities.

EL-11003 (Rebuild Underground 15)

- This project has been canceled.

EL-10006 (Rebuild Underground 24)

- This project is in design phase and scheduled to be completed in Dec 2024.

EL-16000 (Rebuild Underground 26)

- This engineering design for this project is currently in progress.

EL-19004 (Wood Pole Replacement)

- 12 poles have been replaced since July 2023. CPAU staff and contract consultants are continuously working on pole replacement designs for construction although the output is delayed this year because of staffing shortages.

EL-16003 (Substation Physical Security)

- This project is scheduled to be completed in several phases. Substation Security lighting contract was awarded in June 2022. The installation will be completed over a 2-year period. Construction is currently in progress. Substructure for 7 substations has been completed. The next phase is to install lighting and cameras.

EL-17002 (Substation 60kV Breaker Replacement)

- This project funds the purchase and replacement of both 60kV and 12kV substation circuit breakers that are reaching the end of their useful life expectancy. Staff is concentrating on the procurement of seven (7ea) 60kV circuit breakers and sixteen (16ea) 12kV circuit breakers during FY 2024 due to their long lead time (8-12 months) The engineering design and installation of the above breakers will occur in FY 2025.

EL-21001 (Foothills Rebuild)

- This project will rebuild the approximately 11 miles of overhead line in Foothills Park, as necessary to mitigate the possibility of wildfire due to overhead electric lines. Staff has completed 7,000 feet of substructure work and design which will eliminate the corresponding 26 poles. Substructure for Phase 1 was completed in Spring 2022 and the substructure for Phase 2 was completed in June 2023. Phase 3 substructure installation is currently in progress and Phase 4 design is in progress.

EL-02011 (Electric Utility Geographic Information System (GIS))

- The project scope includes on-going maintenance/technical support of the existing GIS system and implementation of the new GIS platform, ESRI.

EL-16002 (Capacitor Bank Installation)

- This project is completed.

1.3 Rate and Bill Comparisons

Staff is in the process of updating internal bill comparison tools to more easily and accurately generate bill comparison tables for all customer rate classes and consumption levels. In November 2023, the CPUC approved a 13% rate increase for PG&E's rates. Santa Clara is also considering a 10% rate increase in January 2024. Figure 3 shows an old residential bill comparison table that is still generally accurate, but no longer precise. Staff anticipates being able to provide updated bill comparisons for all customer classes in the FY25 Electric Financial Plan that will be presented to the UAC in March 2024.

Figure 3: Residential Monthly Electric Bill Comparison (Effective 1/1/2023, $/mo.)

Season	Usage (kwh)	Palo Alto	PG&E	Santa Clara
Winter	300	57.74	94.11	42.45
	(Median) 453	94.42	143.32	64.89
	650	143.94	221.07	93.78
	1200	282.18	438.13	174.44
Summer	300	57.74	94.11	42.45
	(Median) 365	72.31	123.41	51.98
	650	121.19	233.16	86.65
	1200	282.18	438.13	174.44

In Q1 on FY2024, staff purchased a report on California Electric Utility Bill and Rate Comparisons to understand what is occurring in the broader regional electric utility market. Below are a few charts showing how Palo Alto electric rates compare to other utilities. As shown in the figures below, Palo Alto customers pay 25-50% less for electric utility services compared to the investor owned utilities. This indicates that publicly owned utilities are well-run and have some very cost-effective resources in their portfolios. Among the POUs, Santa Clara's large industrial and database load as well as owned generation results in lowest rates for residential customers.

Figure 4: Residential Electric Rate Comparisons at 750 kWh/mo (¢/kWh)

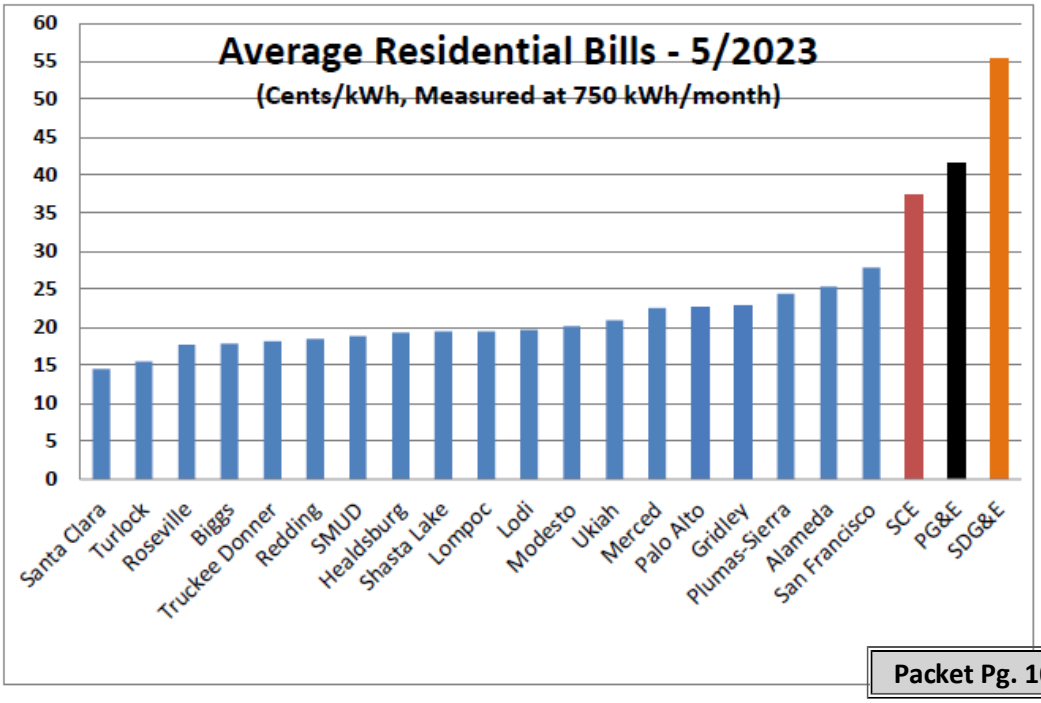


Figure 5: Residential Electric Rate Comparisons at 400 kWh/mo (¢/kWh)

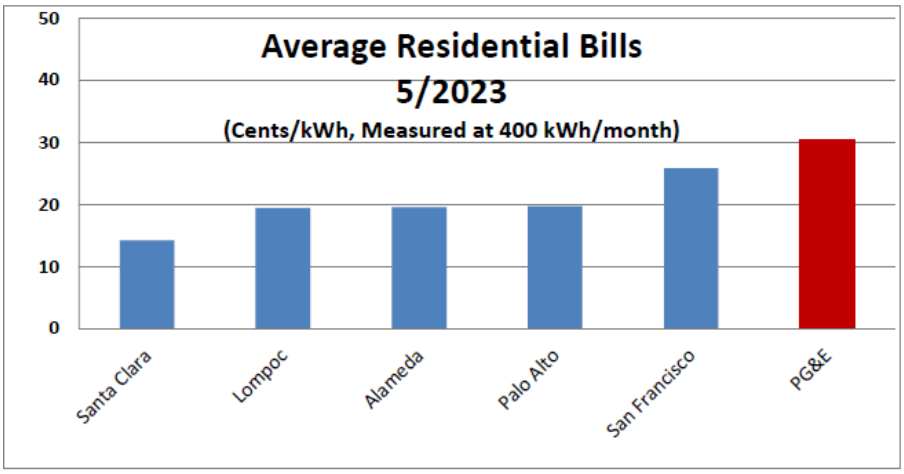


Figure 6: Commercial Electric Rate Comparisons at 3,500 kWh/mo (¢/kWh)

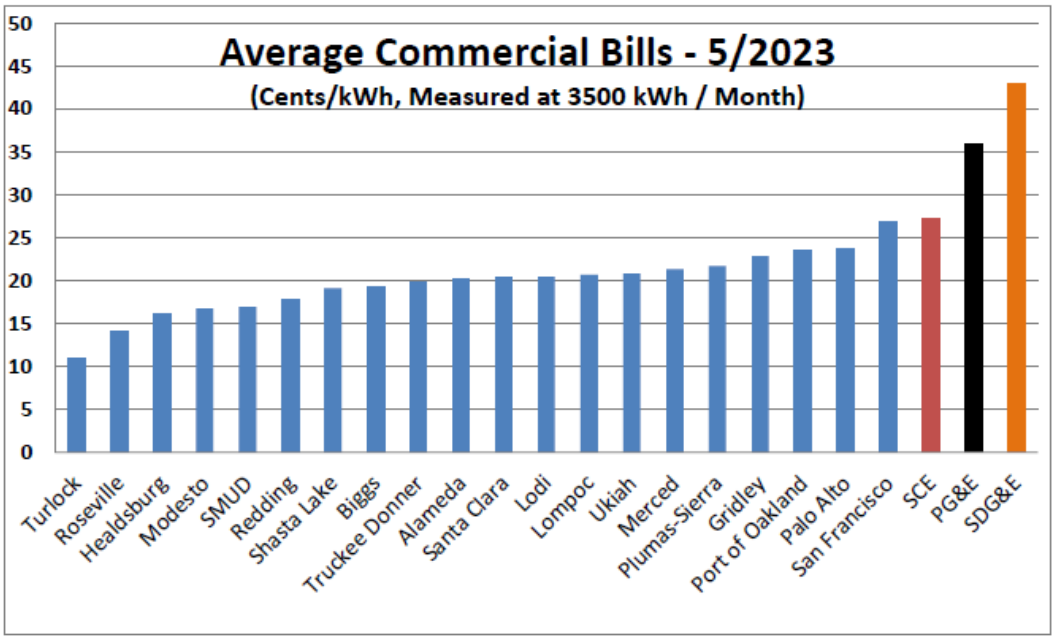
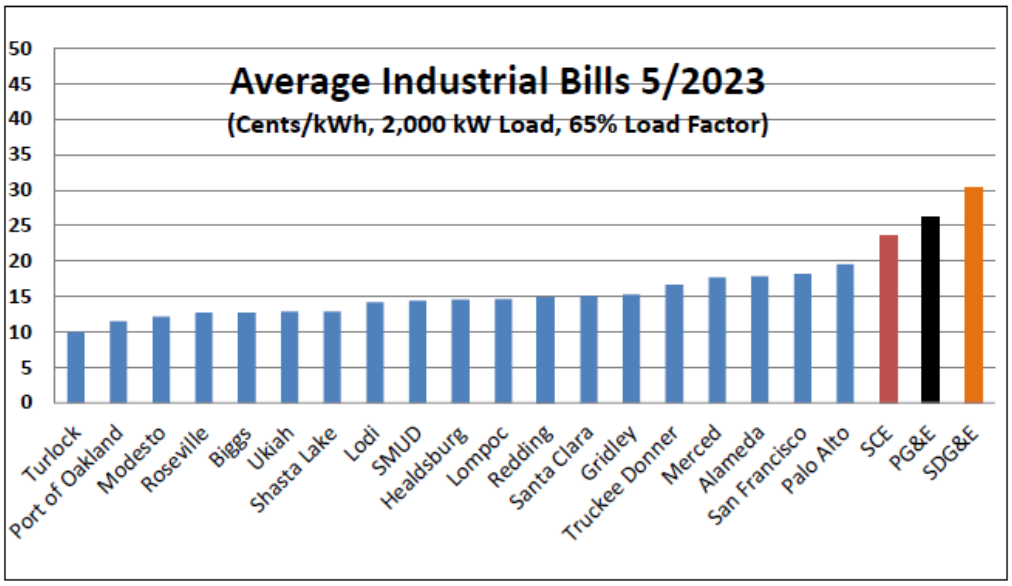


Figure 7: Industrial Electric Rate Comparisons at 2,000 kW/mo (¢/kWh)



1.4 Reliability

CPAU tracks electric outages. A summary chart of these outages can be found below.

Figure 8: Electric Outage Reliability, FY 2019 to FY 2022

Outage Reliability	FY18	FY19	FY20	FY21	FY22
System Average Interruption Duration Index (SAIDI)[4]	76.28	137.54	72.85	94.22	18.93
System Average Interruption Frequency Index (SAIFI)[5]	0.51	1.15	0.55	0.90	0.23
Customer Average Interruption Duration Index (CAIDI)[6]	150.26	119.99	131.97	104.78	81.91

Figure 9: Electric Outage Reliability, FY 2023 to FY 2024

Outage Reliability	FY 2023				
	Q1	Q2	Q3	Q4	Annual
System Average Interruption Duration Index (SAIDI)[3]	81.69	7.38	111.90	1.09	198.60
System Average Interruption Frequency Index (SAIFI)[4]	0.61	0.04	1.00	0.01	1.64
Customer Average Interruption Duration Index (CAIDI)[5]	134.77	190.12	110.80	121.48	121.15
Outage Reliability	**FY 2024**				
	Q1	Q2	Q3	Q4	Annual
System Average Interruption Duration Index (SAIDI)[3]	15.36	-	-	-	-
System Average Interruption Frequency Index (SAIFI)[4]	0.05	-	-	-	-
Customer Average Interruption Duration Index (CAIDI)[5]	336.87	-	-	-	-

[4] System Average Interruption Duration Index (SAIDI) - Measure of the total duration of an interruption for the average customer during a given time frame. SAIDI = (Sum of Customer Minutes Interrupted) / (Total Customers Served)

[5] System Average Interruption Frequency Index (SAIFI) - the average number of times a customer will experience an interruption during a given time frame. SAIFI = (Total Customers Interrupted) / (Total Customers Served)

[6] Customer Average Interruption Duration Index (CAIDI) - the average time to restore service. CAIDI = (Sum of C rupted) / (Total Customers Interrupted)

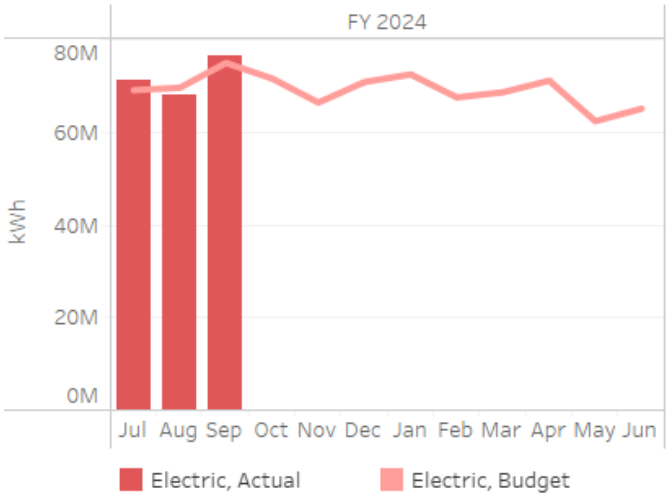
1.5 Financial Health

Below is a summary of the financial position for the electric utility.

1.5.1 Sales Forecasts vs. Actuals

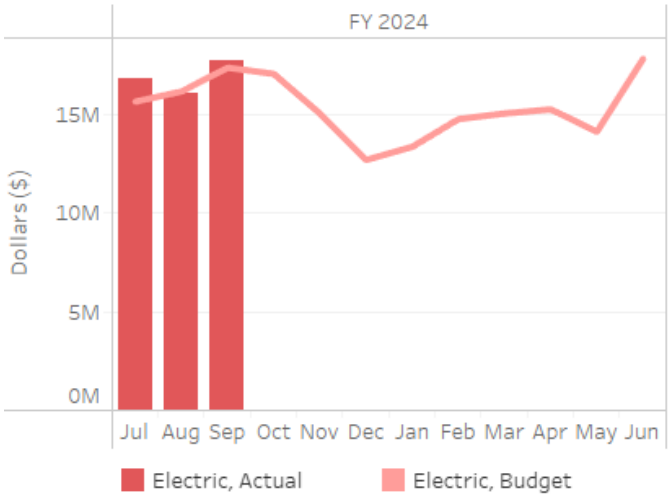
Actual electric sales volumes in Q1 of FY 2024 were about 1% higher than forecasted, while actual sales revenues were about 2.8% higher than budgeted in the FY 2024 Financial Plan. The higher sales revenue in July is attributable to the last month of collection of the Electric Hydro Rate Adjuster (E-HRA), which was $0.048/kwh and still in effect during the first month of billing in FY 2024 for some customers depending on their billing date.

Figure 10: Electric Sales Volume (kWh), FY 2024-Q1



	Budget	Actual	Variance	Variance %
Jul	69,109,149	71,050,906	1,941,757	2.8%
Aug	69,639,480	68,203,867	-1,435,613	-2.1%
Sep	74,996,300	76,542,581	1,546,281	2.1%
Oct	71,617,616			
Nov	66,425,940			
Dec	70,874,031			
Jan	72,516,748			
Feb	67,545,778			
Mar	68,654,637			
Apr	71,164,798			
May	62,396,710			
Jun	65,109,422			

Figure 11: Electric Sales Revenue ($), FY 2024-Q1



	Budget	Actual	Variance	Variance %
Jul	15,642,045	16,773,250	1,131,205	7.2%
Aug	16,155,424	16,047,101	-108,323	-0.7%
Sep	17,362,908	17,727,776	364,868	2.1%
Oct	17,046,992			
Nov	15,033,813			
Dec	12,686,045			
Jan	13,356,506			
Feb	14,758,161			
Mar	15,043,708			
Apr	15,249,525			
May	14,120,723			
Jun	17,812,120			

1.5.2 Financial Position

The Electric Operations Reserves ended FY 2023 at $38.9 million below the target of $45 million, but above the minimum guideline of $32 million. At the time of this report, accounting is still working with the City's auditor to finalize FY 2023 financials and Q1 FY 2024 financials are not yet available.

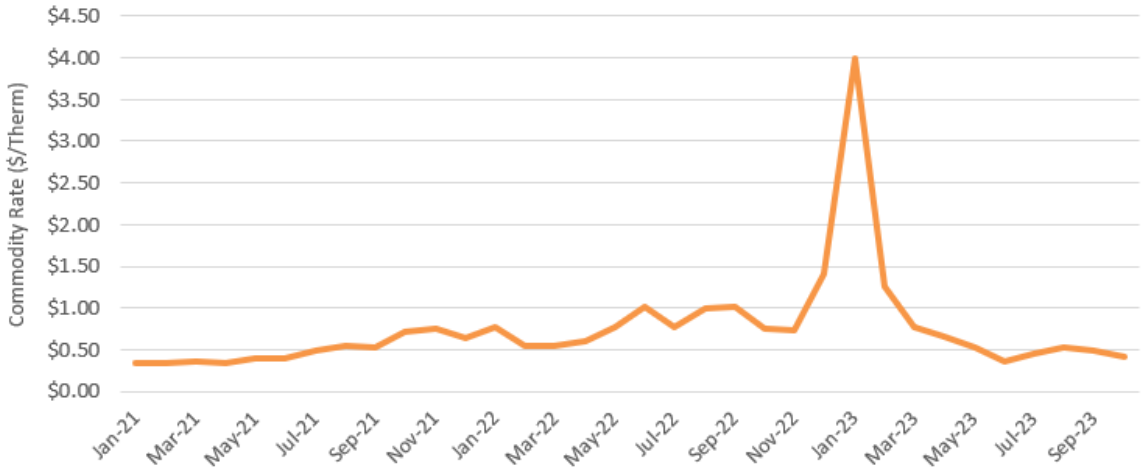
2 Gas Utility

The City's gas utility serves all residential and non-residential gas demand in Palo Alto. The City maintains and operates a system of low-pressure gas lines for delivering gas but does not operate any transmission lines. Costs for the gas utility are split approximately two thirds for the operation, maintenance, and capital improvement and one third for the cost of the gas commodity, PG&E gas transmission, compliance with the State's Cap and Trade Program and the City's Carbon Neutral Gas Program.

2.1 Gas Supply and Transmission

After experiencing a notable price spike last winter, natural gas prices have seen a significant decline, returning to more typical ranges. This shift can be attributed to several factors, including milder temperatures nationwide that diminished demand for heating and an above-average level of gas storage. The combination of these factors has put downward pressure on natural gas prices. The chart below shows Palo Alto's gas commodity rates from 2021 to present.

Figure 12: Palo Alto Gas Commodity Rates



Gas Capped-price Winter Gas Purchasing Strategy

On September 18, 2023, Palo Alto City Council adopted a resolution which modified the City's gas purchasing strategy for this upcoming winter in response to the high energy prices that occurred last winter which resulted in dramatically high bills for Palo Alto customers. This purchasing strategy is an insurance policy to mitigate the potential for a repeat of high winter gas prices to a maximum 15 cents per therm. It involves purchasing price caps, limiting the price of gas cost $2 per therm for a portion of City's anticipated gas needs.

Per Council's decision, staff implemented the capped-price winter natural gas purchasing strategy in October 2023 for the gas year November 2023-October 2024. Within the constraints set by Council, staff was able to purchase $2 per therm price caps for about half of Palo Alto's expected load for the months of December 2023, January 2024 and February 2024. The cost of the price caps was $0.275 per therm and a total cost of $1.5 million. Spread ou ar, an adder

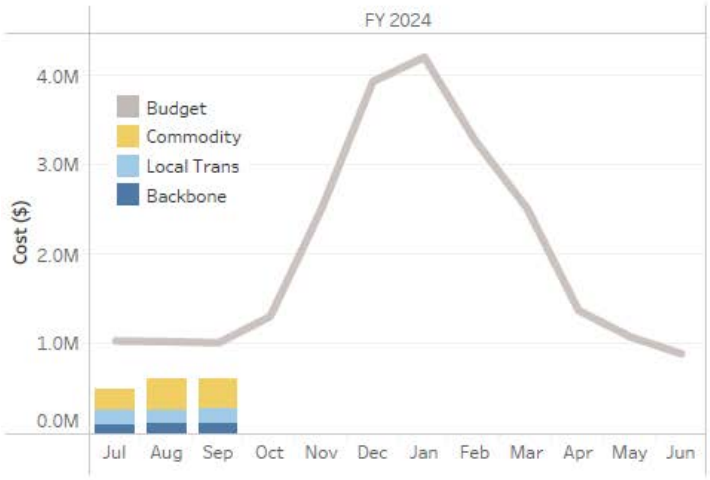
of $0.055 per therm will be applied to the gas commodity charge passed through to customers. This represents approximately $1.81 on a typical residential customer's bill or an approximate 2.8% increase, not taking into account changes in the underlying commodity price which is still based on a market index.

The amended rate schedules associated with this implementation were effective November 1, 2023. The City's website and rate schedules were updated to reflect the change in purchasing strategy. Staff is developing additional infographic to help explain the change to interested customers.

2.1.1 Actual and Forecasted Supply Costs

Actual gas demand in FY 2024 Q1 was the same forecasted, while actual supply and transportation costs were about 45% lower than budgeted in the FY 2024 Financial Plan. Gas commodity prices were substantially lower than predicted due to several factors, including milder temperatures nationwide that diminished demand for heating and an above-average level of gas storage.

Figure 13: Gas Supply Costs ($), Actual vs Budget, FY 2024-Q1



	Budget	Actual	Variance	Variance %
Jul	1,041,110	494,249	(546,861)	-53%
Aug	1,033,071	614,505	(418,567)	-41%
Sep	1,020,828	607,531	(413,296)	-40%
Oct	1,312,140			
Nov	2,513,974			
Dec	3,936,591			
Jan	4,207,273			
Feb	3,267,849			
Mar	2,519,291			
Apr	1,381,159			
May	1,088,472			
Jun	898,777			

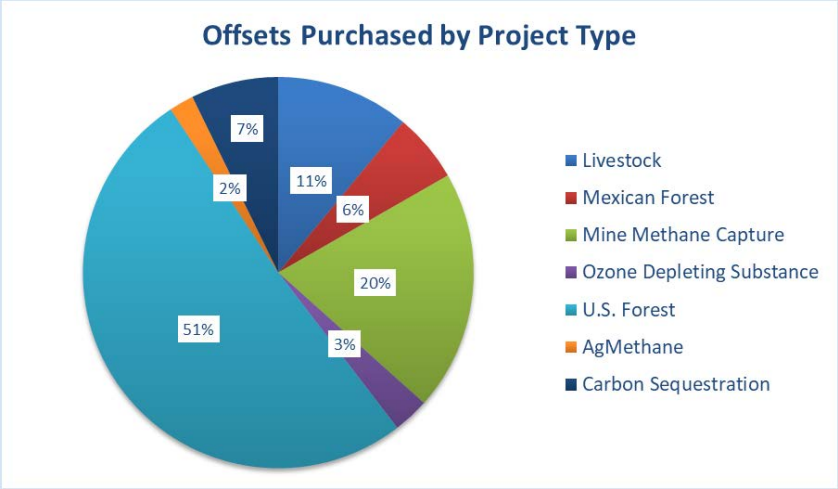
2.1.2 Carbon Neutral Gas Program

In December 2020, Council adopted Resolution #9930[7] maintaining the Carbon Neutral Natural Gas Plan to achieve carbon neutrality for the gas supply portfolio using high-quality carbon offsets with a cost cap of $19 per ton CO_2e.

Offsets are purchased to neutralize emissions equal to those caused by natural gas usage in Palo Alto. The figure below shows the composition of offset purchases. Staff delayed offsets procurement in the first half of 2023 due to shifting staffing responsibilities but intends to procure 160,000 tons of offsets in Winter 2023/24.

[7] Resolution #9930 https://www.cityofpaloalto.org/files/assets/public/v/1/city-clerk/resolutions/resolutions-1909-to-present/2020/reso-9930.pdf

Figure 14: Offset Portfolio Composition



The following table provides a description of the projects.

Figure 15: Offset Project Descriptions

Project Name	Project Type	Description
Grotegut Dairy	Livestock	Grotegut Dairy is a 3,900 milk-cow operation in Newton, Wisconsin with a methane capture system.
Green Trees	U.S. Forest	GreenTrees Advanced Carbon Restored Ecosystem is reforestation of agricultural lands into native hardwood forest in Mississippi, Louisiana, Arkansas, and Illinois
San Juan Lachao	Mexican Forest	Protection of forests located in High Biological Value Zones which contain flora and fauna listed in the Mexican Endangered Species List and the International Union for Conservation of Nature's Red List of Threatened Species. Project in San juan Lachao near Palo Alto's Sister City of Oaxaca.
Blandin Forest	U.S. Forest	Blandin Native American Hardwoods Conservation and Carbon Sequestration project in Minnesota.
Pocosin+	U.S. Forest	These projects are all forested land that will not be disturbed by human development. Without this protection, the forests would be converted to grow wheat or corn. Forest conservation plays a vital role in protecting freshwater systems like lakes. The forests around the lakes act as natural water filters and purify the water for all who use it. The projects also support healthy populations of red wolf, bald eagle, black bear, and various bird species.
Refex ODS	Ozone Depleting Substance	The RemTec facility in Bowling Green, Ohio uses an argon arc plasma destruction device to achieve 99.99 percent removal. The majority of refrigerants originated in California, and all were sourced within the United States. The RemTec facility uses an argon arc plasma destruction device to achieve the required destruction and removal efficiency of 99.99 percent. The majority of ODS refrigerants originated in California, and all were sourced within the United States.
Methane Capture	Mine Methane Capture	This project is the first of its kind. Peabody Natural Gas, LLC removed methane from the North Antelope Rochelle Coal Mine before mining. The methane was compressed and transported to a natural gas pipeline and distributed to a national gas grid for use as fuel. Before implementation of the project, all the methane was vented to the atmosphere.
Virginia Conservation Forestry Program	U.S. Forest	The Virginia Conservation Forestry Program - Clifton Farm and Rich Mountain is a 9000+ acre improved forest management project in which the timber and carbon ownership and management rights have been transferred to The Nature Conservancy's Conservation Forestry Program. The program manages for multiple goals to include: Water quality protection, habitat diversity, high value forest products, and carbon sequestration. Co-benefits: Biodiversity, Watershed Protection, Climate Resilience, and Connectivity
Riverview Farm Anaerobic Digester	Livestock	Riverview is a carbon offset project generating emission reductions thought the capture and destruction of methane at a dairy farm in Minnesota. Under the baseline, manure managed in open lagoons led to the fugitive emission of methane to the atmosphere. In the project scenario, this methane is captured by an anaerobic digester and destroyed on site in the production of electricity. Co-benefits include job creation and the improvement of local air and water quality.
Big River / Salmon Creek Forests IFM	U.S. Forest	The Big River and Salmon Creek Forests are located in Mendocino County, CA and cover 16,000 acres of redwood and Douglas-fir forest. This project is a conservation-based forest management project. Co-benefits include the creation of 140 jobs, protection of 37 miles of streams, and improved water quality for local fish and bird species.

2.1.3 Gas Transmission Line Capacity Valuation

Palo Alto contracts for capacity on the Redwood pipeline, the path from the California-Oregon border to PG&E's mid-pressure transmission system, at a cost lower than the market value. During the summer months, Palo Alto does not need all of the capacity to serve demand. The excess capacity is monetized by purchasing gas at the California-Oregon border and selling an equal amount of gas at the terminus of the pipeline. The variable cost of transporting the gas is much less than the gas price difference between the two points. The net benefit to the Gas Utility in FY 2024 Q1 was $360K, or a reduction of about 11% of the total gas commodity costs in FY 2024 Q1.

2.1.4 Gas Prepay Valuation

On September 15, 2014, Council adopted Resolution #9451[8], authorizing the City's participation in a natural gas purchase from Municipal Gas Acquisition and Supply Corporation (MuniGas) for the City's entire retail gas load for a period of at

[8] Resolution #9451 https://www.cityofpaloalto.org/files/assets/public/v/1/city-clerk/resolutions/reso-9451.p

least 10 years. The MuniGas transaction includes a mechanism for municipal utilities to utilize their tax-exempt status to achieve a discount on the market price of gas. The program reduced gas commodity costs by about $113K, or 3.4% up to Q1 in FY 2024.

2.2 Capital Improvement Plan Status

The following capital projects are currently in progress:

GS-14003 – GMR 24A (Gas Main Replacement 24A)

- The GMR 24A project is completed and 2,450 linear feet of gas main was replaced along Shopping Center Way and Orchard Lane in Stanford Shopping Center. Easement documents are being finalized and submitted to the County for recording.

GS-14003 – GMR 24B (Gas Main Replacement 24B)

- The GMR 24B project will include gas pipes on University from Webster to Hwy 101 and surrounding streets, as well as Geng Rd and Town & Country Village. The project was competitively solicitated and construction is expected to begin in February 2024. Staff received a notification from Pipeline Hazardous Materials and Safety Administration (PHMSA) on 3/31/23 that the City was not selected to receive a federal grant award, although the project was "Highly Recommended" and funding was provided to other "Highly Recommended" projects. The funding source for this project will be the remaining available budget under GS-14003. However, the City submitted another grant application as part of the subsequent round of federal grants issued by PHMSA.

GS-15000 – GMR 25 (Gas Main Replacement 25)

- The GMR 25 design drawings are being finalized and will include the replacement of pipes on Ross Road from Colorado Avenue to East Meadow Drive and surrounding streets, as well as North and Southampton Drive and surrounding streets, and Walter Hays Drive and surrounding streets. The project is expected to replace approximately 26,000 linear feet of gas mains if federal funding is approved. If federal funding is not awarded, the scope of the project will be reduced to approximately 20,000 linear feet. Staff submitted a federal grant application for the project in August 2023 and PHMSA is expected to notify applicants of awards in February 2024.

2.3 Rate and Bill Comparisons

The figure below shows the bills for residential customers in Palo Alto and PG&E, at different levels of usage and rates. The PG&E bills are based on their Climate Zone X, which includes Menlo Park, Redwood City, Mountain View, Los Altos and Santa Clara. In the summer of FY 2024 (July to October), the median residential bill in Palo Alto was about 16% higher than PG&E, while in the winter of FY 2024 (November only), the median residential bill in Palo Alto was about 7% lower than PG&E.

Figure 16: Residential Natural Gas Bill Comparison ($/month)

Period	Median Usage[9] (therms)	Palo Alto	PG&E Zone X	% Difference
FY 2024 Summer	18	40.49	34.89	16%
FY 2024 Winter	54	108.78	117.10	-7%

2.4 Reliability

The City of Palo Alto tracks all gas service interruptions. A summary chart of these interruptions can be found below. Gas service interruptions are usually due to repairs of broken or damaged gas services and mains. This kind of damage is often caused by excavation by outside parties digging in the City.

[9] Based on Palo Alto G-1 monthly median usage.

Figure 17: Gas Service Interruptions, FY 2023 to FY 2024-Q1

	FY 2023				FY 2024
Gas	Q1	Q2	Q3	Q4	Q1
Number of Breaks	9	4	3	7	5
Total Minutes	643	330	240	1560	540
Customers Affected	20	5	7	60	51

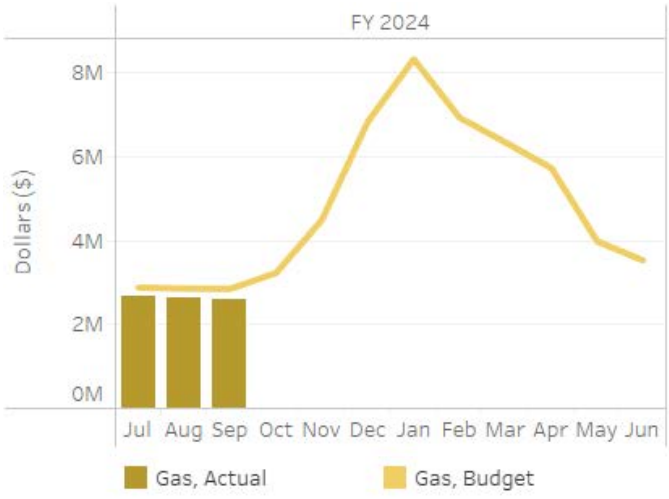
2.5 Financial Health

Below is a summary of the financial position for the gas utility.

2.5.1 Sales Forecasts vs. Actuals

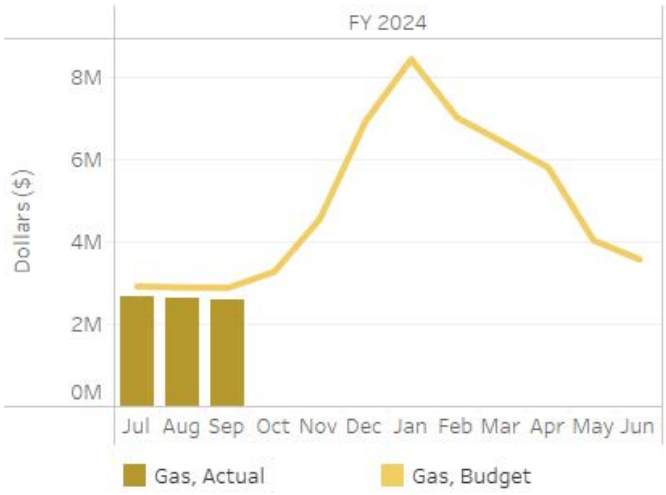
Compared to the forecasts outlined in the FY 2024 Financial Plan, actual gas sales volumes fell short by 3.4%, and actual gas sales revenues were 8.1% below the budget. The lower actual revenue was attributable to lower gas supply costs, which were caused by several factors, including milder temperatures nationwide that diminished demand for heating and an above-average level of gas storage.

Figure 18: Gas Sales Volume (Therms), FY 2024-Q1



	Budget	Actual	Variance	Variance %
Jul	2,881,038	2,681,629	-199,409	-6.9%
Aug	2,858,852	2,617,890	-240,962	-8.4%
Sep	2,851,166	2,597,773	-253,393	-8.9%
Oct	3,230,838			
Nov	4,498,969			
Dec	6,838,020			
Jan	8,329,898			
Feb	6,934,294			
Mar	6,343,367			
Apr	5,734,550			
May	3,982,814			
Jun	3,529,310			

Figure 19: Gas Sales Revenue ($), FY 2024-Q1



	Budget	Actual	Variance	Variance %
Jul	2,914,573	2,681,629	-232,944	-8.0%
Aug	2,892,129	2,617,890	-274,239	-9.5%
Sep	2,884,354	2,597,773	-286,581	-9.9%
Oct	3,268,445			
Nov	4,551,336			
Dec	6,917,614			
Jan	8,426,857			
Feb	7,015,009			
Mar	6,417,203			
Apr	5,801,299			
May	4,029,174			
Jun	3,570,391			

2.5.2 Financial Position

The FY 2023 ending Operations Reserve balance was $11.3 million. The Operations Reserve was expected to drop below the minimum guideline level in FY 2023, given higher than budgeted gas commodity prices that could not be passed through to customers, therefore $3.8 million were transferred from the CIP to the Operations Reserve to keep the reserve at a healthy level.

FY 2024-Q1 reserve balances will not be available until the winter of 2023/24, staff will report the financial results in the upcoming Financial Report.

3 Water Utility

The Water Utility serves water to virtually all Palo Alto residential and non-residential customers. All potable water in the City is from the San Francisco Public Utilities Commission (SFPUC) Hetch Hetchy Water System. This system delivers high quality water from the Sierra Nevada and uses no pumping to deliver water to the City. Palo Alto uses a small amount of recycled water for irrigation of the Municipal Golf Course and a few other sites near the Regional Water Quality Control Plant. The City also maintains a system of reservoirs and wells that enable Palo Alto to serve water during an interruption of the Hetch Hetchy system. Costs for the Water Utility are split approximately half for the operation, maintenance and periodic replacement of Palo Alto's water system and half for the costs of the water purchased.

3.1 Water Supply and Transmission

On November 10, 2022, Governor Newsom's senior Water-Policy Officials, the San Francisco Public Utilities Commission (SFPUC), and the Modesto and Turlock Irrigation Districts reached agreement on a Memorandum of Understanding for proposed Voluntary Agreements to provide greater water flows and increased habitat for the Tuolumne River. The State Board has initiated its evaluation of the proposed Tuolumne River Voluntary Agreement as an amendment to the adopted Bay Delta Plan. The State Board is completing CEQA review of the Tuolumne River Voluntary Agreement. The SWRCB's schedule indicates development of the Tuolumne Specific Scientific Basis Report Supplement by fall 2023, the staff report for Tuolumne River Voluntary Agreement by winter/spring 2024 and the State Board workshop and consideration of the Tuolumne River Voluntary Agreement in winter/spring 2024.

Concurrently, the State Board is moving forward with implementation of the Adopted Phase I Bay Delta Plan including the adoption of initial biological goals for the lower San Joaquin River flow objectives. Litigation on the Adopted Phase I Plan is ongoing and oral argument concluded in October 2023.

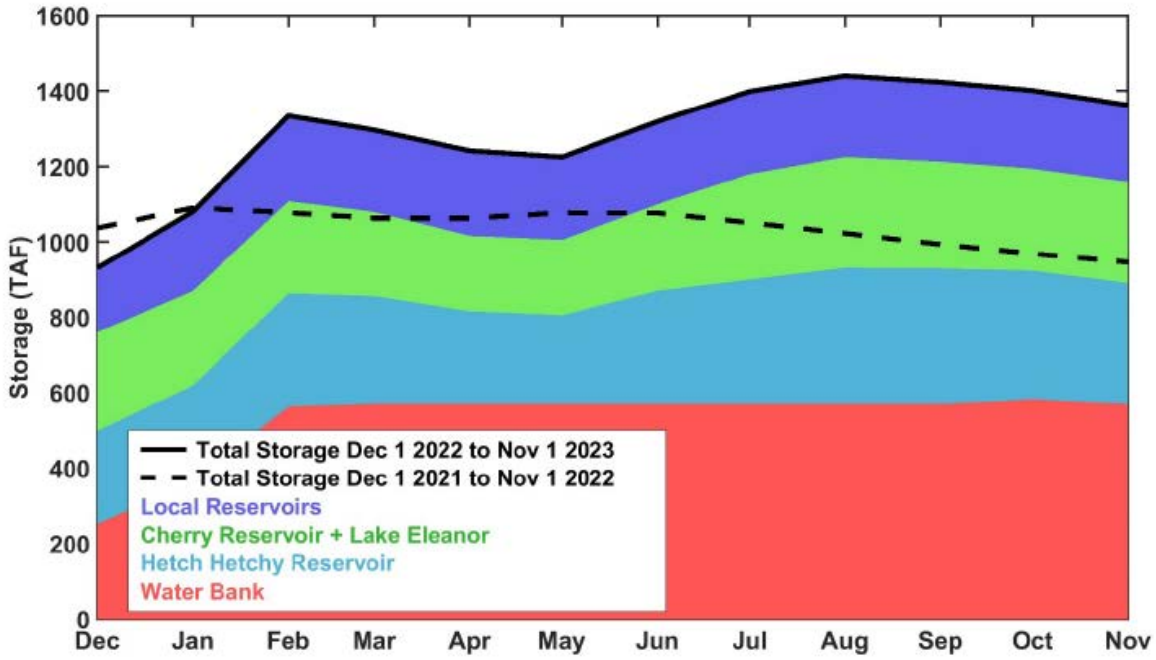
In August 2018, Palo Alto's City Council voted to support the SWRCB's Bay-Delta Plan to have 40 percent of natural water in the Central Valley to enter the Delta from February to June and associated Southern Delta salinity objectives; and send a letter expressing this policy position to the Bay Area Water Supply and Conservation Agency (BAWSCA), California State Water Resources Control Board, SFPUC, and other stakeholders.

In order to plan for future reductions to existing water supply from climate change and regulatory uncertainties, the SFPUC is undertaking the Alternative Water Supply Plan. This plan will recommend projects to develop supplemental sources to improve long-term water supply reliability. The SFPUC received comments on the draft Alternative Water Supply Plan and plans to update the SFPUC Commission in February 2024.

BAWSCA is a special district created by legislative action (AB 2058) in 2002 to protect the water supply and conservation interests of wholesale water customers, including Palo Alto. BAWSCA's goal is to ensure a reliable supply of high-quality water at a fair price. In fall 2023, BAWSCA began scoping its Long-Term Reliable Water Supply Strategy 2045. This planning document will enable BAWSCA to identify the highest priority water supply management activities to achieve its goal.

Thirty-one atmospheric rivers from mid-December 2022 to the end of March 2023 meant higher than average precipitation and snow in the Sierras. As of November 1, 2023, the Regional Water System total storage operated by the San Francisco Public Utilities Commission (SFPUC) was at 95% of maximum storage and Water Bank was full. In the figure below, the solid black line shows storage in the Regional Water System for the past 12 months (color bands show contributions to total system storage) and the dashed black line shows total system storage for the previous 12 months. Regional Water System Storage is 1,362 Thousand Acre Feet (TAF) as of November 1, 2023.

Figure 20: Regional Water System Storage

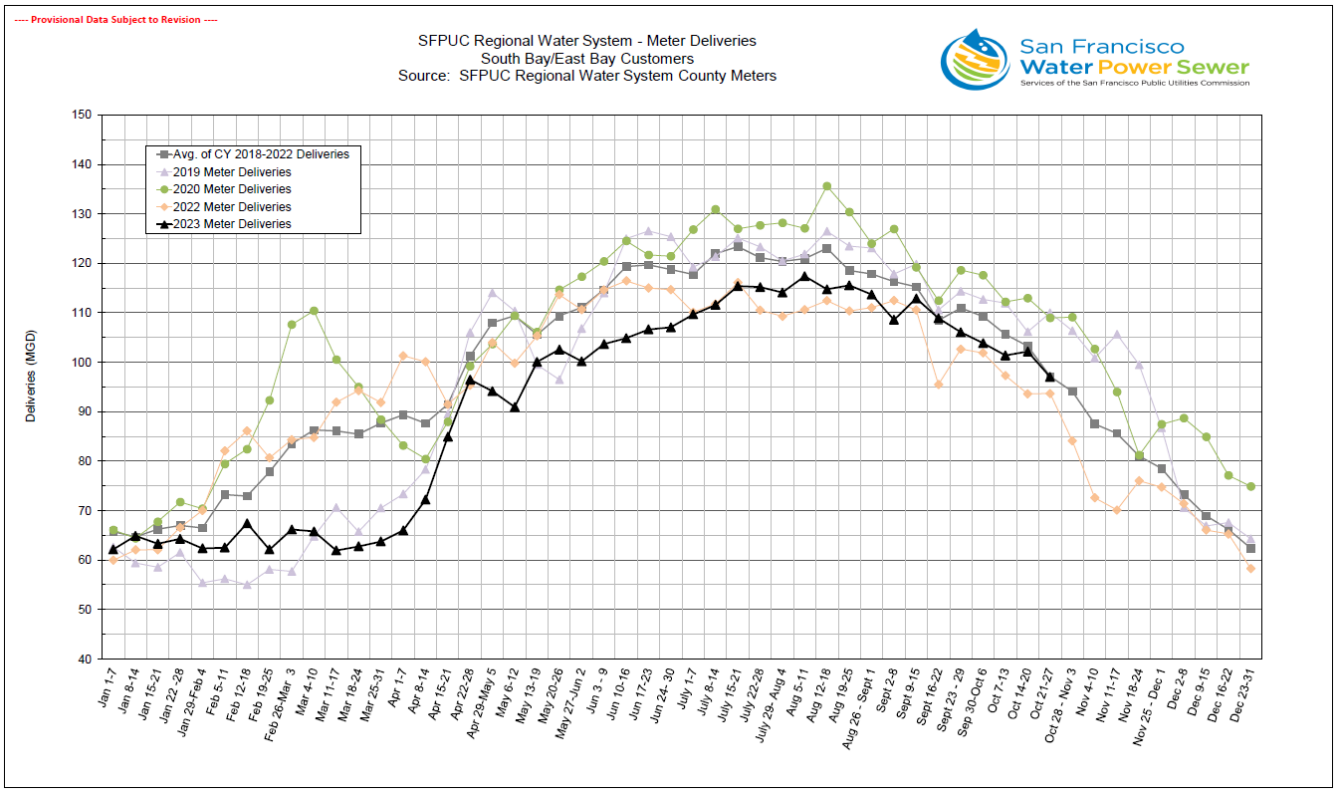


The State and SFPUC lifted drought calls in spring and summer of 2023. The State Water Resource Control Board's Emergency Regulation requiring Stage 2 Water Shortage Contingency Plan actions expired on June 10, 2023. On April 11, SFPUC rescinded the water shortage emergency declaration. The SFPUC's system-wide water use reduction of 11% expired along with the SWRCB's Emergency Regulation on June 10th. Palo Alto's water use restrictions track both the State's regulation and SFPUC's water use reduction request. Palo Alto's water use restrictions from Stage I of the Water Shortage Contingency Plan remained in effect through December 2023 (those include no irrigation within 48 hours of measurable rainfall, no application of potable water to hard surfaces, and no irrigation of ornamental turf on street medians). Palo Alto's permanent water use restrictions remain in effect (Palo Alto Municipal Code 12.32.010). Additionally, the State's emergency regulation banning the use of drinking water for watering decorative grass in commercial, industrial, and institutional areas, other than to the extent necessary to ensure the health of trees and other perennial non-turf plantings, is expected to remain in effect until June 2024.

During droughts that require up to 20% cutbacks, water is allocated between San Francisco and the Wholesale Customers collectively based upon the Water Shortage Allocation Plan (or Tier One Plan) that is outlined in Palo Alto's water supply contract with San Francisco. The collective Wholesale Customer share from the Tier One Plan is then allocated among Wholesale Customers based upon a formula in a negotiated and adopted "Tier Two Plan." Since January 2022, staff have been participating in a negotiation with the other Wholesale Customers to update the Tier Two Plan. Staff expects to finalize the updated Tier Two Plan in 2024.

The figure below shows water usage for the South Bay/East Bay (including Palo Alto) compared to several benchmarks including 2022. For the South Bay/East Bay region as well as systemwide, demand for the first ten months of 2023 has been below the average of the last five years.

Figure 21: SFPUC Water Deliveries



Valley Water, the groundwater manager in Santa Clara County adopted an ordinance calling for water conservation as a way of life on June 16. The ordinance outlines permanent water waste prohibitions. Although Palo Alto purchases all of its potable water from SFPUC, and does not purchase any water from Valley Water, Palo Alto partners with Valley Water on a wide variety of water conservation programs. Palo Alto is working with Valley Water on messaging to customers in the county to avoid confusion as much as possible. As such, the City's messaging will continue to emphasize the wise use of water. Palo Alto staff is continuing to focus on education and outreach and providing resources to eliminate water waste and achieve efficient water use. Palo Alto kicked off the WaterSmart Customer Portal and Residential Home Water Report Program and also continued to work with Waterfluence software to target water efficiency for large landscape customers. Staff continues to promote water conservation rebate programs and resources through online outreach, bill inserts, and newsletters.

Palo Alto continued its work on the One Water Plan with the goal of Council adoption of a One Water supply plan that is a 20-year adaptable roadmap for implementation of water supply and conservation portfolio alternatives. In June 2022 the City Council approved a contract for this work with Carollo Engineers, Inc. In September and December 2022, staff conducted stakeholder engagement meetings with community members and City staff focusing on One Water community needs and priorities and water supply and conservation options and draft evaluation criteria. Additional stakeholder engagement meetings will be planned with City staff, community members, and regional partners in spring 2024 to share initial results. The UAC received a status update in February 2023 (Staff Report #14974[10]) and staff plans to return to the UAC in spring 2024 to provide an update and share initial results.

3.2 Capital Improvement Plan Status

The following capital projects are currently in progress:

[10] Staff Report #14974 – https:/www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutesreports/repo eports/2023-informational-reports/02-01-2023-id-14974.pdf

WS-07000 – California Avenue and Page Mill Road Turnouts

- The California Avenue and Page Mill Turnouts project upgrades the California Avenue Turnout and adds seismic restraints to the pressure reducing valve at Page Mill Road Turnout. The construction is delayed due to supply chain issues on the valves. Construction is anticipated to start in March 2024 after all material is delivered. The project duration is about 3 months.

WS-15002 – WMR 29 (Water Main Replacement 29)

- The WMR 29 project will replace approximately 8,000 linear feet of water main on Park Boulevard from Mariposa Avenue to Lambert Avenue, on College Avenue from Park Boulevard to El Camino Real, and on Birch Street from College Avenue to Sherman Avenue. The project is anticipated to start in November 2023 and complete in April 2024.

3.3 Rate and Bill Comparisons

The figure below shows the water bills for single-family residential customers compared to what they would be under surrounding communities' rate schedules as of November 2023. CPAU is among the highest monthly bills of the group. Palo Alto's water bills at 9 CCF per month are 16% higher than the comparison group average.

Figure 22: Residential Water Bill Comparison ($/month)

As of November 2023						
Usage CCF/month	Palo Alto	Menlo Park	Redwood City	Mountain View	Santa Clara	Hayward
4	$53.20	$64.31	$54.04	$46.95	$31.88	$45.17
(Winter median) 7	$80.60	$89.79	$76.09	$72.69	$55.79	$69.59
(Annual median) 9	$103.68	$106.78	$90.79	$89.85	$71.73	$85.87
(Summer median) 14	$161.38	$153.13	$138.94	$132.75	$111.58	$135.87
25	$288.32	$267.84	$267.39	$278.63	$199.25	$245.87

3.4 Reliability

The City of Palo Alto tracks all water service interruptions. A summary chart of these interruptions can be found below. Water service interruptions are usually due to repairs of broken or damaged water services and mains.

Figure 23: Water Service Interruptions, FY 2023 to FY 2024-Q1

Water	FY 2023				FY 2024
	Q1	Q2	Q3	Q4	Q1
Number of Breaks	10	12	6	2	8
Combined Minutes	1007	1050	690	100	1086
Customers Affected	46	249	63	19	147

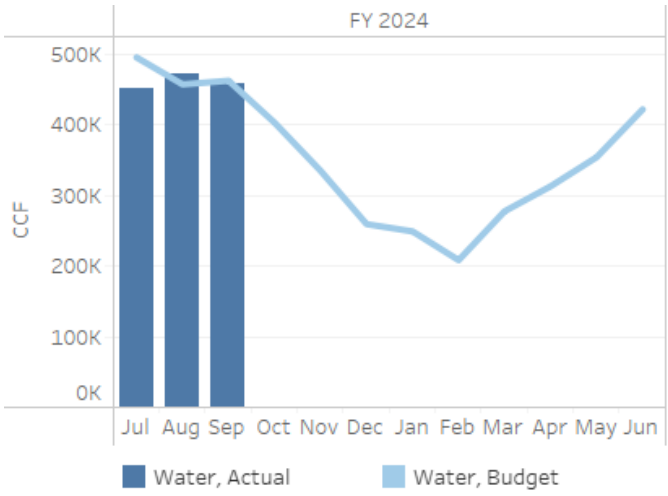
3.5 Financial Health

Below is a summary of the financial position for the water utility.

3.5.1 Sales Forecasts vs. Actuals

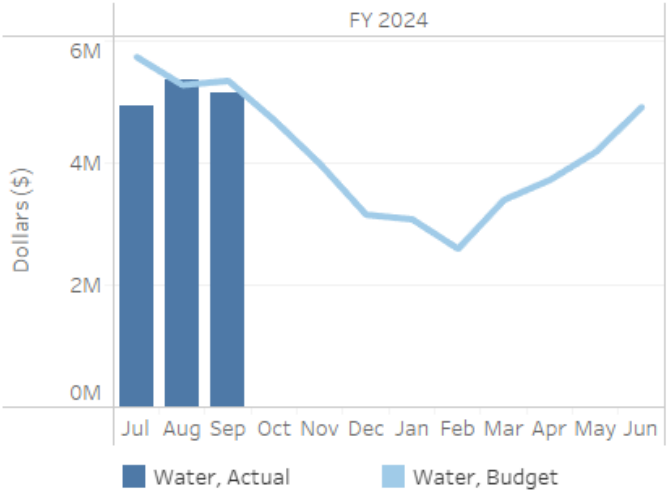
Actual water sales volumes in FY 2024 Q1 were about 2.4% lower than forecasted, and actual water sales revenues were about 5.6% lower than budgeted in the FY 2024 financial plan. Sales were lower due to a slower than projected recovery in water usage following periods of drought.

Figure 24: Water Sales Volume (CCF), FY 2024-Q1



	Budget	Actual	Variance	Variance %
Jul	495,002	450,953	-44,049	-8.9%
Aug	456,809	470,970	14,161	3.1%
Sep	462,050	457,824	-4,226	-0.9%
Oct	402,638			
Nov	334,604			
Dec	259,166			
Jan	248,878			
Feb	208,224			
Mar	277,406			
Apr	312,708			
May	353,888			
Jun	421,436			

Figure 25: Water Sales Revenue ($), FY 2024-Q1



	Budget	Actual	Variance	Variance %
Jul	5,747,300	4,950,793	-796,507	-13.9%
Aug	5,286,321	5,375,050	88,729	1.7%
Sep	5,353,828	5,151,424	-202,404	-3.8%
Oct	4,707,103			
Nov	3,985,964			
Dec	3,156,836			
Jan	3,083,159			
Feb	2,598,166			
Mar	3,402,499			
Apr	3,728,212			
May	4,190,885			
Jun	4,924,465			

3.5.2 Financial Position

At the end of FY 2023, the Water Operations Reserve was within the guideline range, but below target and close to the minimum. During FY 2023 water usage declined due to drought water use reductions and cooler and wetter weather in 2023. Water utility sales revenue (net of supply cost savings) was $2.4 million lower than forecasted while expenses were $1.6 million higher than forecasted in last year's Financial Plan. The FY 2024 Water Utility CIP includes a main replacement (WMR 29) as well as one-time seismic reservoir upgrades (one upgrade is complete and a second and third are planned in FY 2024 and FY 2026). At the end of FY 2023, staff completed the transfers approved by the Council in June 2023 (FY 2024 Water Financial Plan[11]); those included a transfer of $3.746 million from the CIP Reserve to the Operations Reserve and

[11] FY 2024 Water Financial Plan https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/06-19-2023-id-2302-0939-wate[illegible]4-cc.pdf

$3 million from the Rate Stabilization Reserve to the Operations Reserve to address reduced sales revenue and capital needs of the water utility in FY 2023. Staff estimates that with expected expenses and the use of funds from the Rate Stabilization Reserve and CIP Reserve, water rate increases will be needed to maintain the Operations Reserve within the guideline range during each of the subsequent 5 years.

4 Wastewater Utility

The Wastewater Utility includes the system of sewer pipes that collect and transport wastewater to the Regional Water Quality Control Plant (RWQCP) operated by the City of Palo Alto under a partnership agreement with several surrounding communities, as well as Palo Alto's share of the cost of operating the RWQCP. The RWQCP provides treatment and disposal of wastewater for Palo Alto. Costs for the Wastewater Utility are split approximately half for the operation, maintenance and periodic replacement of Palo Alto's sewer collection system and half for the costs of wastewater treatment at the RWQCP.

4.1 Wastewater Treatment Updates and Capital Planning Status

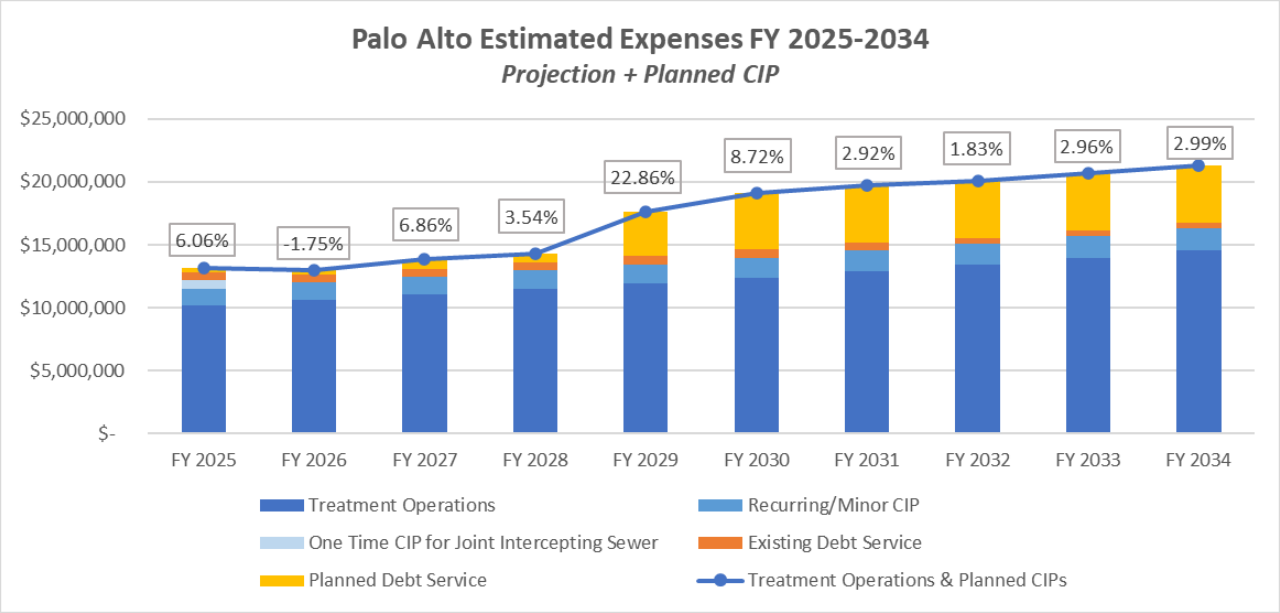
The RWQCP is operated by Palo Alto's Public Works Department and provides wastewater treatment to Palo Alto, Mountain View, Stanford, Los Altos, East Palo Alto and Los Altos Hills. The Palo Alto Wastewater Collection Utility pays its share (approximately 35% projected in FY 2025) of the costs for wastewater treatment and disposal. Capital costs for wastewater treatment are a major driver for cost increases for the Wastewater Treatment Utility and by extension for the Wastewater Collection Utility. The RWQCP is facing the need for major upgrades in coming years, due to aging equipment and changing environmental regulations. Rehabilitation and replacement of plant equipment that has been in use for over 40 years is necessary to ensure the City can continue to conduct wastewater treatment operations safely and in compliance with regulatory requirements for the discharge of treated wastewater 24 hours a day.

4.1.1 Treatment Cost Trends

RWQCP staff project treatment costs paid for by Palo Alto's Wastewater utility to increase by approximately 5.5% annually on average from FY 2025 through FY 2034. A key driver of the increases are capital projects, parts, materials and debt. The treatment capital expenses, including debt service costs, are increasing at an average of about 19.8% per year from FY 2025 through FY 2034 to keep up with ongoing replacement of aging equipment and complete major upgrades. Larger increases to capital expenses are expected to begin in FY 2029 in the form of new debt service for major projects to implement the Plant's capital program. The figure below shows Palo Alto's share of each component of estimated treatment costs. Major upcoming capital projects and estimated years for debt service to begin are reflected in the "Planned Debt Service" bar in the figure below and include:

- Joint Interceptor Sewer Rehabilitation (FY 2025)
- 1900 Embarcadero Road Purchase (FY 2024)
- Primary Sedimentation Tank Rehabilitation and Equipment Room Electrical Upgrade (FY 2025)
- Outfall Line Construction (FY 2027)
- Operations Building Remodel (FY 2028)
- Secondary Treatment Upgrades, Headworks Facility (FY 2029)

Figure 26: Palo Alto's Share of Estimated Wastewater Treatment Expenses (Projection and Planned CIP)



The figure above shows the ongoing annual CIP reinvestment ("Recurring/Minor CIP" and "Existing Debt Service"), one pay-as-you-go project, the Joint Intercepting Sewer in FY 2025, as well as treatment operations costs, which make up the majority of the treatment costs but are not growing as quickly as the planned debt service. Additional factors not yet included in the budget estimate could increase costs further such as debt expense for cash flow issues associated with slow State Revolving Fund loan reimbursement, and property expenses for an acquired property. Factors that are contributing to cost increases for treatment operations are rising salary and benefits costs, sludge hauling services unit price increases, commodity increases to operate the facility, and Palo Alto's flow share increased in FY 23 from 32% to 35% based on updated flow data; this increases Palo Alto's cost share.

4.1.2 Regional Water Quality Control Plant Capital Planning Status

The Long-Range Facilities Plan, completed in 2012, guides the capital plans for the RWQCP. The RWQCP is currently soliciting consultant proposals to begin an update to the Long-Range Facilities Plan in 2024. The findings from the Long-Range Facilities Plan update will direct additional/future CIP. The RWQCP's current capital work in-progress includes an estimated $354 million in projects. The following table summarizes these ongoing projects and provides their status and costs.

Figure 27: Current RWQCP Capital Work In-Progress (based on November 2023 Partners Meeting)

Project	Status	Expense (million $)
Primary Sedimentation Tanks Rehabilitation and Equipment Room Electrical Upgrade	Construction	$19.4
12kV Electrical Loop Upgrades (Phase 1)	Construction	$7.3
New Outfall Pipeline	90% Design	$17.8
Secondary Treatment Upgrades	Construction	$193
Advanced Water Purification System	Architectural Review Board Approval	$55.9
Headworks Facility Replacement	Engineering Contract Negotiations	$51.7
Joint Interceptor Sewer Rehabilitation (Phase 1)	Award Bid	$8.9
	Subtotal	$354

One of the largest projects listed above is the Headworks Facility Replacement, which involves replacement or rehabilitation of the parts of the facility that pump raw sewage to the main treatment works (the headworks), and rehabilitation of primary sedimentation tanks that separate out primary sludge. Additi[illegible] anticipates

regulations to limit nutrient discharges (on total nitrogen) into the San Francisco Bay. The current secondary treatment design cannot remove nitrogen and the largest project listed above, the Secondary Treatment Upgrades, will address this regulatory change as well as address aging mechanical and electrical equipment that must be replaced.

In addition, the RWQCP is evaluating the purchase of neighboring properties in order to build an environmental services and lab building and a closed session will be held with Palo Alto Council to discuss this topic.

The RWQCP plans to fund these capital projects through a combination of mechanisms including State Revolving Fund loans, and revenue bonds. Several sources of funding will be used for the Advanced Water Purification System: Valley Water will provide $16 million, Palo Alto was awarded a $12.9 million grant from the United States Bureau of Reclamation's WaterSMART program, which allocates Title XVI Program funding under the Water Infrastructure Improvements for the Nation (WIIN) Act, and the City of Mountain View will pay for the remainder of the capital cost.

4.2 Collection System Capital Improvement Plan Status

The following capital project is currently in progress:

WC-19001 - SSR 31 (Sanitary Sewer Replacement 31)

- The SSR 31 project replaces approximately 11,000 linear feet of wastewater main, sewer laterals, and manholes on El Camino Real and Page Mill Road. Construction of this project started on 7/31/23 and the anticipated completion is in May 2024. A small portion of the project was completed during nighttime due to Caltrans' restriction of closing two traffic lanes during daytime. Night work and traffic impacts have generated some public complaints and staff has been working with the contractor to mitigate the impacts. Staff continues to coordinate the schedule with Caltrans and County of Santa Clara to stay ahead of their street improvement/paving projects to avoid digging into Caltrans or County's newly paved streets.

4.3 Rate and Bill Comparisons

The figure below shows the wastewater monthly bill for residential customers in Palo Alto compared to what they would be under surrounding communities' rate schedules as of November 2023. Palo Alto's monthly sewer bill is lower than four of the six neighboring communities. Menlo Park in this table refers to the West Bay Sanitary District. Staff will report on future rate increases once they are adopted by the wastewater utilities.

Figure 28: Residential Wastewater Bill Comparison ($/month)

As of November 2023						
Palo Alto	Menlo Park	Redwood City	Mountain View	Los Altos	Santa Clara	Hayward
$48.64	$108.83	$89.28	$53.10	$51.47	$48.28	$41.29

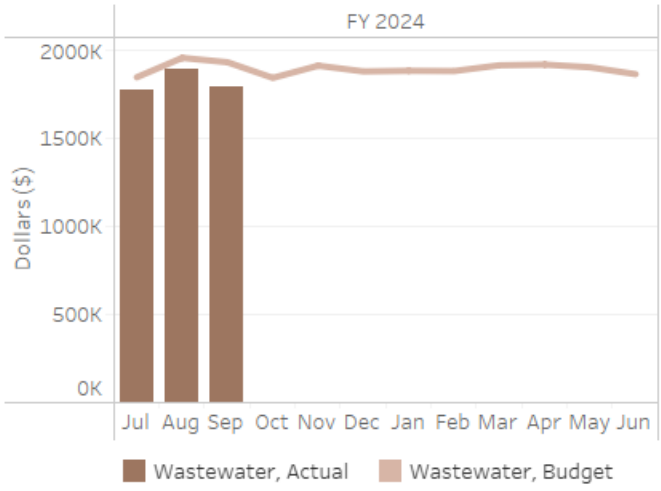
4.4 Financial Health

Below is a summary of the financial position for the wastewater utility.

4.4.1 Sales Forecasts vs. Actuals

Wastewater sales revenues in FY 2024-Q1 were 4.8% lower than forecasted in the FY 2024 Financial Plan. Lower sales were due to low water usage from the drought, as the average winter water usages are used for wastewater calculations in the commercial sectors.

Figure 29: Wastewater Sales Revenue ($), FY 2024-Q1



	Budget	Actual	Variance	Variance %
Jul	1,847,724	1,777,773	-69,951	-3.8%
Aug	1,957,683	1,892,143	-65,540	-3.3%
Sep	1,932,809	1,791,665	-141,144	-7.3%
Oct	1,843,945			
Nov	1,913,185			
Dec	1,880,776			
Jan	1,884,264			
Feb	1,882,870			
Mar	1,915,564			
Apr	1,919,483			
May	1,904,248			
Jun	1,865,138			

4.4.2 Financial Position

The Wastewater Collection Operations Reserve was within the guideline range at the end of FY 2022 and dropped below guideline range and below zero at the end of FY 2023. Palo Alto began Sanitary Sewer Replacement project 31 with an increased budget and start date in FY 2023 instead of FY 2024 because of coordination with Caltrans to limit or avoid digging into newly-paved street on El Camino Real. At the end of FY 2023 staff completed the transfers that were approved by the Council in the FY 2024 Wastewater Collection Financial Plan[12]. These included transferring $3.2 million from the CIP Reserve to the Operations Reserve and $0.34 million from the Rate Stabilization Reserve to the Operations Reserve bringing both the CIP Reserve and the Rate Stabilization Reserves to zero. However, during FY 2023, CIP-related costs were approximately $3 million higher than forecasted, transfers out to capital projects were $0.3 million higher than forecasted, and revenue was $0.5 million lower than forecasted. In July 2023, wastewater rates increased by 9%, however in the first quarter of FY 2024, wastewater sewer service revenue increased by only 6% compared to the same months in FY 2023; water use reductions during the winter of 2023 contributed to lower commercial revenues. Given the low reserve levels, and lower than expected revenue, staff are considering options to bring to Council to allow revenues to increase to a sustainable level and to meet the needs to accelerate main replacement to prudently manage the City's infrastructure together with rising wastewater collection and treatment costs.

[12] FY 2024 Wastewater Collection Financial Plan https://www.cityofpaloalto.org/files/assets/public/v/3/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/03-07-2023-id-2302-09[illegible]an-lisa.pdf

5 Fiber Utility

The City offers a "Dark" fiber service providing a fiber connection from Palo Alto businesses to the downtown Internet Exchange. At the exchange, businesses select an internet service provider (ISP) for bandwidth and connection speed.

5.1 Fiber Utility Strategic Planning

On December 19, 2022, City Council directed staff to proceed with the Fiber Expansion Plan to implement the Fiber Rebuild project and Phase 1 of the Fiber-to-the-Premises (FTTP) project. In Phase 1, FTTP would be built out in selected areas of the city, and expanded gradually (Staff Report ID 14800)[13]. To execute on the Council direction, staff is working on the following activities seeking to control project costs, minimize construction impacts to the community, and prevent major delays:

- ✓ Pilot to evaluate alignment of fiber and grid modernization projects - Engineering make-ready work and construction for the grid modernization project will overlap with projects in the Fiber Expansion Plan. As reviewed with the Finance Committee and Utilities Advisory Commission, a pilot area has been identified to help inform on how alignment efforts impact costs, reductions to community disruptions, and project timelines.
- ✓ California Environmental Quality Act (CEQA) - The City must analyze and evaluate the potential impacts of the project on various environmental factors and identify whether those impacts can be mitigated.
- ✓ Joint Poles - The existing joint pole agreement with AT&T requires coordination between the City and AT&T to relocate 3rd party telecom equipment on utility poles and provide space for new fiber attachments, while remaining in compliance with California Public Utilities Commission General Order 95 (GO 95) requirements for overhead electric line construction to insure electric utility service and secure personnel safety.
- ✓ Contract amendments – Evaluation of the use of existing construction and engineering design contracts to expedite these for both FTTP and grid modernization for the pilot. Existing contractors have the technical expertise and familiarity with the City's construction standards, so construction may begin as soon as the power engineering design is complete.

5.2 Capital Improvement Plan Status

On June 19, 2023, the City Council approved the FY 2024 CIP Budget with the new FTTP project, and Grid Modernization for Electrification Project. The approval of the electrification project accelerated efforts to align electrification and fiber construction, which impacted the Fiber Expansion Plan. Staff is deploying a pilot to determine how to align the grid

[13] Staff Report ID 14800 https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmrs/2022/12-19-2022-id-14800.pdf

modernization project and projects under the Fiber Expansion Plan to help minimize utility engineering pole make-ready work, pole replacements, noise disruption, and construction activity in neighborhoods.

In the FY 2024 Fiber CIP budget, $20 million will be budgeted in the new Fiber-to-the-Premises (FO-24000) CIP and an additional $13 million will be budgeted in the Fiber Optics Network – System Rebuild (FO-16000) CIP for the new fiber backbone.

5.3 Reliability

There were no unplanned fiber outages or events to report in Q1 of FY 2024.

5.4 Financial Health

Below is a summary of the financial position for the fiber utility.

5.4.1 Fiber Sales

Actual dark fiber licensing sales in FY 2024 Q1 were $1.2M and aligned with the revenue forecast. Fiber expenses were $0.6M and 50% below forecast due to the timing of unprocessed Q1 invoices for Magellan to support FTTP. With the project realignment of FTTP with grid modernization, Magellan had to perform engineering redesign and surveying work in the pilot area to minimize and align underground construction with the grid modernization project which is 100% aerial construction in the pilot.

5.4.2 Financial Position

The ending FY 2023 Fiber Optic Utility Rate Stabilization Reserve is $32.5 million and an additional $3.4 million of contract commitments.

6 Customer Programs (Efficiency and Sustainability)

The City's Utilities Department maintains a number of programs to help customers save money, use energy and water efficiently, and reduce carbon emissions. These programs are funded through a variety of funding sources, some of which are summarized below.

6.1 Customer Programs Updates

Below is a summary of the City's energy and water efficiency programs, as well as programs to encourage building electrification and adoption of electric vehicles. Summary descriptions of Utilities Customer Program are provided in Appendix D.

6.1.1 Energy and Water Efficiency

Energy & Water Efficiency Workshops

The City, in partnership with the Bay Area Water Supply and Conservation Agency (BAWSCA), offers landscape education classes throughout the year to introduce residents to the concepts of water-efficient and sustainable landscaping. Workshop topics include rain gardens, how to water trees, steps to take to convert lawns into drought-tolerant landscapes, and available rebates. During Q1 FY 2024, we held 2 webinars and 2 in-person workshops; attendance was strong, with 176 residents participating over the course of the quarter.

Please visit the BAWSCA website for a complete list of available classes and events at: https://bawsca.org/conserve/programs/classes[14]. All past Landscape Class Videos are available online at: https://bawsca.org/conserve/landscaping/videos/[15]. For updates on future events and workshops, please visit http://cityofpaloalto.org/workshops[16]

Residential Energy Efficiency Programs

The Home Efficiency Genie program continues to provide residents with professional advice and information to improve their home's efficiency and comfort, lower their energy and water usage including guidance on home electrification options. In addition to in-home efficiency assessments of energy equipment and the building envelope (attic, windows, walls), the program also offers a Home Electrification Readiness Assessment (HERA) to plan for electrification upgrades; both the efficiency assessment and HERA are offered in a virtual option. During Q1 FY2024, the Genie performed 8 comprehensive in-home assessments and Home Electrification Readiness Assessments (HERA).

[14] BAWSCA Programs and Classes - https://bawsca.org/conserve/programs

[15] BAWSCA Landscaping Videos - https://bawsca.org/conserve/landscaping/videos/

[16] City of Palo Alto Workshops - https://www.cityofpaloalto.org/Departments/Utilities/Utilities-Workshops-and-Webinars

CPAU's Residential Energy Assistance Program (REAP) for income-qualified customers continues to reach our most vulnerable population offering energy and water efficiency improvements at no cost to the customer. In Q1 FY 2024, 2 customers participated in the REAP program.

Water Conservation Programs for Residents and Businesses

CPAU partners with Valley Water to offer a robust portfolio of water conservation programs and rebates[17] for residents and businesses. On June 25, 2023, the City entered into a new cost-sharing agreement with Valley Water which includes $1.4M over 7 years to help the City deploy Advanced Water Metering Infrastructure and home water conservation reports. In FY 2023, 120 water-efficiency rebates were processed, 40 of which were lawn conversions to drought-tolerant plants. Through this program 53,907 square feet of grass was converted to low-water-use plants, a 91% increase from FY 2022. FY 2024 rebate data is not yet available; the City receives program results once a year from Valley Water in October at the end of the fiscal year.

The WaterSmart customer portal, an online water management tool, launched in November 2022. Through this program, home water reports are sent to most single-family customers on a monthly basis. A control group of single-family customers currently do not get the reports. As of November 1, 2023, 17% of all water customers have accessed the portal which provides information about their water consumption and personalized water conservation recommendations. We will have estimated water savings from the efficiency in the next couple of months. As water supply conditions have improved CPAU is focusing outreach on water conservation being a way of life and reducing water waste and continues to encourage participation in rebates and resources.

The Waterfluence program provides large commercial customers a monthly water budget that compares actual irrigation use to an ideal benchmark irrigation budget. Customers that are exceeding their suggested budget are eligible for a free landscape irrigation field survey. CPAU continues to engage Key Accounts on this resource to help them improve irrigation efficiency. During FY 2023, 47% of eligible customers, have accessed the Waterfluence portal.

Bay Area SunShares Program

For the eighth year, the City of Palo Alto is an outreach partner for Bay Area SunShares, a solar and battery storage group-buy program administered by Business Council on Climate Change (BC3). Palo Alto's participation as an outreach partner helps CPAU customers receive information and discounted prices from two prescreened contractors – SolarUnion and Solar Technologies. CPAU held an informational webinar on Oct 12th, 2023, where 28 attendees joined CPAU staff, Bay Area SunShares staff, and SunShares installers to discuss the program's offering. For the current program year, Palo Alto has 153 residents registered with the program, including 120 interested in installing battery storage systems. This level of interest is similar to the 2022 registration numbers, reflecting the continuing high level of interest in solar and storage technologies among residents.

Commercial & Industrial Energy Efficiency Program

As of November 9, 2023 , Enovity has 20 projects in process with 2,114,518 kWh savings. Key Account Representatives have been proactively engaging customers through direct email and face-to-face meetings. Key Account Managers are planning another Facility Managers Meeting on Zoom for November 7, 2023, following the high attendance of previous meetings on Zoom.

The key account program is increasingly focused on reengaging key accounts that have not historically partnered with the city on energy efficiency and electrification, especially commercial property owners. Identifying customer pain points and

[17] Rebates - https://valleywater.dropletportal.com/overview/

creating action plans to address them will help us develop a roadmap for better serving our key accounts and increasing their ESG commitment in the community.

The Enovity program total value is trending behind schedule due to higher commercial vacancy in the market. Many employers have remained fully remote and hybrid. This has led to a pause in facilities reinvestment and upgrading. In the short term, we expect this pattern to continue. Conversely, there are commercial customers that continue to expand their footprint, including Stanford, Google and Tesla. As they repurpose available space, some of the facilities may require retrofitting that coincide with electrification. Our next contract with Enovity will include a reevaluation of these market conditions.

Figure 30: Energy Efficiency Program Energy Savings

Project Name	Customer Facility Address	Project kWh Savings at Commitment	Project Cost at Commitment	Project Incentive at Commitment
1050 Arastradero LED Phase 2	1050 Arastradero	41,777	$37,100.00	$4,177.70
3165 Porter LED Phase 2	3165 Porter St	30,263	$47,381.00	$3,026.30
801 Welch LED	801 Welch	33,526	$44,492.00	$3,352.60
855 CA Chlr RCx	855 California	61,200	$5,000.00	$2,500.00
3375 Hillview Chlr Replacement	3375 Hillview	399,000	$350,000.00	$59,850.00
1189 Welch LED	1189 Welch	309,132	$50,000.00	$25,000.00
Tesla 3500 Deer Creek	3500 Deer Creek	0	$0.00	$0.00
3825 Fabian Way, SSL	3825 Fabian Way	0	$20,000.00	$3,150.00
PA Square Phase 1	3000 El Camino Real	70,436	$135,000.00	$7,043.60
Stanford Shopping Center LED	660 Stanford Shopping Center	187,143	$76,818.00	$18,714.30
CPI	811 Hansen Way	0	$0.00	$0.00
LPCH Main Ventilation Reduction	725 Welch Rd	0	$0.00	$0.00
1050 Arastradero Economizer	1050 Arastradero	51,450	$50,000.00	$8,495.00
855 CA Chlr RCx Phase II	855 California	26,754	$4,000.00	$2,000.00
CPI Power Supply	811 Hansen Way	0	$0.00	
LPCH Main LED	725 Welch Rd	748,037	$227,740.00	$74,803.70
875 Blake Wilbur Controls Upgrade	875 Blake Wilbur	123,800	$555,000.00	$53,170.00
1050 Arastradero HHW Valve	1050 Arastradero A	32,000	$20,000.00	$4,900.00
Stanford West Child Care Electrification	625 Clark Way	0	$0.00	$0.00
Cabana Hotel Electrification	4290 El Camino Real	0	$0.00	$0.00
		2,114,518	$1,622,531.00	$270,183.20

Business Energy Advisor

Since the Business Energy Advisor program launched in June 2022, 38 site assessments have been completed. In recent months we have focused on outreach and marketing to drive participation numbers up for this program. We have contacted customers through in-person outreach (going door-to-door), tabling at events, meeting with property management firms, presenting at various organization's staff meetings, direct emails to targeted customer lists, promotion in the Small and Medium Business Newsletter, and running a month-long Facebook and Instagram ad campaign. We have successfully caught up on past assessment reports, allowing us to complete new assessment reports with a quicker turnaround time. We have some projects underway, but this past quarter completed lighting projects at two sites.

Our next steps are to continue focusing on driving participation. We will be doing another call campaign this winter, which will reach over 700 additional customers. Along with the call campaign, we will continue to send direct emails to targeted customer lists. Additionally, we are going to investigate potential opportunities to incentivize customers to get projects completed at a faster rate, since installs are happening at a slower pace than we had hoped.

6.1.2 Building Electrification

Full-Service Heat Pump Water Heater Program

CPAU launched the Full-Service Heat Pump Water Heater (HPWH) Program in March 2023 that provides an end-to-end advisory and installation service to homeowners to switch from a gas water heater to a HPWH at a discounted price with over $4,000 in city subsidies per project. The program also offers an on-bill financing option with 0% interest for customers to lower their upfront cost by agreeing to a monthly bill payment of $20 for 5 years. The Home Efficiency Genie team at CLEAResult has been providing customer support for this program, while Synergy is the installer that provides the project cost estimate and completes the installation. The City has also been partnering with a marketing consultant to drive program leads through creative marketing campaigns in various channels including targeted Google ads. As of November 16, 2023, the program has completed the installation of 130 HPWH units with another 21 units scheduled for installation; 39 of these projects have applied for on-bill financing. With the current pace of new signups, the City currently is on a pace to do 200-250 installations per year, about 20% of the estimated number of water heaters replaced each year. This is one of the most productive energy programs the City has run, but far more installations are needed to achieve the City's S/CAP goals. Staff is making improvements to the program processes based on feedback to-date in an effort to attract and retain more residents in the program and has kicked off a customer outreach effort to gather more feedback to support further improvements.

On November 1, 2023, the program begins a new round of lower pricing[18] on a limited time basis, thanks to the new statewide HPWH incentives through the TECH Clean program. This new pricing includes up to $1500 of subsidy for site preparation work such as long conduit runs, relocation of the water heater, etc. The installer has expanded its staff capacity to shorten the time to provide project estimates and increase the number of installations per week to meet the anticipated increase in program demand.

In addition to providing a prescreened contractor to install HPWHs, CPAU also offers the option for customers to choose their own contractor and apply for a $2300 HPWH rebate if the equipment meets the program criteria and has been permitted. Between October 4, 2022 and November 16, 2023, CPAU has processed 43 HPWH rebates. Since the launch of the statewide HPWH incentive, CPAU has lowered the HPWH rebate to $1500. This is a significant jump from the 13 rebates processed between January 2022 to October 3, 2022 when HPWH rebates were between $1200 and $1500.

Customers that participate in either the Full-Service HPWH program or the HPWH rebate program are both eligible for the 30% federal tax credit for HPWH installation.

Business Electrification Technical Assistance Program (BE TAP)

The Business Electrification Technical Assistance program launched in August 2022, providing free electrification assessments and technical assistance to implement building electrification projects to businesses. Program interest in increasing, with 27 assessments completed thus far. There are currently three customers pursuing electrification projects, specifically installing heat pump HVAC units. We continue to work on ways to streamline the heat pump HVAC unit installation process, so we can increase the number of projects moving forward.

Since implementing various processes improvements earlier this year, including but not limited to engineering calculations and report preparation, we have reached a consistent cadence for assessment report distribution to customers. This has allowed us to decrease the customer's wait time to improve their experience and increase the number of reports we prepare in the coming year. Additionally, we plan to increase marketing efforts for this program to help reach our participation goals. We recently did a targeted outreach campaign to the highest gas consumers in Palo Alto,

[18] HPWH Lower Pricing https://www.cityofpaloalto.org/News-Articles/City-Manager/Limited-time-Savings-on-Your-Cleaner-Smarter-Safer-Water-Heater

since they would benefit from electrification most. Our next plan is to do a Facebook and Instagram campaign promoting electrification to businesses in Palo Alto.

6.1.3 Electric Vehicle Programs

Palo Alto continues to facilitate the installation of EV charging infrastructure throughout the City to support mass EV adoption, with equitable access for multifamily and income-qualified residents, as well as workplaces, public parking lots and retail areas. Correspondingly, cross-departmental work is progressing on proposals for fleet electrification.

EV Technical Assistance Program (EVTAP)

- **Goal**: Offer technical assistance for the installation of EV chargers at nonprofits, schools, multifamily properties and small medium businesses. Facilitate the installation of on-site EV charging access for 10% of multifamily households by the end of 2024.
- **Progress:** EVTAP is a high touch program, that includes a series of site visits, technical evaluations, engineering reviews, designs, support with hardware selection and cost estimates that culminate in the landlord receiving contractor bids and assistance submitting a building permit, applying for incentives and project management of the installation. Projects going through EVTAP have been taking two years or more to reach completion.

Since program inception in 2019, 120+ sites have expressed interest in EVTAP and are working through the program. However, due to each project taking much longer to complete than expected, staff is working to extend the contract to complete installations in the pipeline to hit original goals.

EV Charger Rebate Program

- **Goal**: Incentivize the installation of EV chargers at Non-Profits and Multifamily properties.
- **Progress:** Since the launch of this program in 2017, CPAU has facilitated the installation of 144 new EV charging ports/connectors at 19 sites (as of 11/2023). The breakdown of the installation sites: 8 MF and 11 non-profits (including 4 schools and 2 medical facilities). The average cost of each port has been $10k and projects have averaged 18 months to complete. Staff predicts that of the 114 program applicants, 30 multifamily properties will complete installations in the next couple of years.

California Electric Vehicle Infrastructure Project[19] (CALeVIP)

- **Goal**: Facilitate and Incentivize the installation of EV chargers at commercial sites.

As of June 2023, a total of $1.5M (out of $2M) was reserved by 10 site owners through CALeVIP, a commercial EV charging, matching grant program sponsored by the California Energy Commission (CEC). The proposed installations could lead to the installation of 128, Level 2 ports and 12 DC Fast Chargers. Still experiencing the aftermath of COVID, as well as permitting delays, installations are moving much slower than expected. Staff is working actively with the program administrator to fully reserve any available outstanding funds, and to encourage installations to materialize.

EV Awareness and Outreach

- **Goal:** Raise awareness about electric modes of transportation
- **Progress:** Using NCPA contracts and LCFS funds, CPAU is contracted with Acterra[20] and Cool the Earth[21] to offer 32 EV events in CY2023. These included 20 virtual EV educational workshops, attracting over 1,000 attendees and 12 in-person EV expos and e-Bike test rides attracting over 1,700 participants. Popular classes included multi-lingual Financial Incentive Clinics targeted towards lower income customers with one on one consultations as well as EV

[19] CALeVIP -https://calevip.org/

[20] Acterra - https://www.acterra.org/

[21] Cool the Earth https://cooltheearth.org/

charging 101 classes. CPAU is also currently offering limited time discounts on certain EV models, as well as an e-Bike discount campaign. A robust curriculum is also being planned for CY2024 with offer over 30 online and in-person workshops.

City-Owned EV Chargers

- **Goal**: Install EV Charging Infrastructure for the public as well as City-fleet.
- **Progress**: As of the End of November 2023**:**
    - 124 – City-Owned Ports
    - 120 – Publicly accessible EV Charging ports

Transformer Upgrade Rebate Program

- **Goal**: Provide discounts to defray the cost of utility distribution system upgrades, triggered by EV applications.
- **Progress**: Many older properties in Palo Alto, especially multifamily buildings, have limited electric capacity to accommodate EV chargers and building electrification. However, there has been an ongoing nationwide transformer supply shortage, delaying customer EV projects. In the meantime, the EV team is working closely with Engineering and is conducting a pre-screening of transformer loading for all commercial EV projects enrolled in EVTAP as well as proposing designs utilizing existing electric capacity. To date, uptake has been slow, however with many active EVTAP projects in the pipeline, we estimate that half of the sites will require new transformers and Utilities is planning accordingly.

7 Communications

This section summarizes communications highlights, updates on major campaigns and noteworthy events. Copies of ads and bill inserts are available online at http://cityofpaloalto.org/UTLbillinsert[22].

New Outage Management System: CPAU launched a new Outage Management System (OMS) in fall 2023. This will offer customers the ability to receive alerts and updates through text messages about power outages and other emergency notifications. The new OMS will provide benefits such reduced outage durations, faster response time, web outage viewer, customer account log in for updates, hosted Integrated Voice Response (IVR), phone capacity rollover, no busy signals, streamlined field communications, and situational awareness for both employees and customers. www.cityofpaloalto.org/outages[23]

Advanced Metering Infrastructure (AMI) Project: CPAU continued its deployment of Advanced Metering Infrastructure (AMI) in summer and fall 2023. Meters are being installed in phases to allow the City to test and validate quality assurance for data collection and billing. Full deployment of AMI for residential customers is estimated at the end of 2024. There have been delays in receiving meters for commercial customers, so deployment for commercial sectors is estimated in mid-2025. CPAU has been communicating directly with customers who will receive the meters to share resources and help with any questions or concerns. www.cityofpaloalto.org/ami[24]

Limited Time Price Adjustments for Heat Pump Water Heaters: CPAU is offering residential customers a new, limited-time price adjustments to our Heat Pump Water Heater (HPWH) program thanks to additional funding through TECH Clean California. TECH is a statewide initiative accelerating the adoption of clean water and space heating technology to help California meet its goal of being carbon-neutral by 2045. For a limited time, residents can now receive higher rebates and discounts on HPWH installations. If a customer chooses to hire their own contractor, they can receive $1,500 from Palo Alto plus up to $3,800 from the state for a total rebate of $5,300. The full-service program offers a standard 65 gallon heat pump water heater installation for the price of $1,900 plus up to $1,500 in credit toward site preparation costs; this price covers the permits and equipment installation for the customer. This discounted pricing is available for only six months; after that, the City will offer smaller discounts until the State TECH funding runs out. To learn more, please check out the website www.cityofpaloalto.org/switch[25] or call (650) 713-3411.

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[22] Utilities Bill Inserts - https://www.cityofpaloalto.org/Departments/Utilities/Customer-Service/Utilities-Bill-Pay/Bill-Inserts

[23] Outages https://www.cityofpaloalto.org/Departments/Utilities/Utilities-Services-Safety/Outages

[24] AMI https://www.cityofpaloalto.org/Departments/Utilities/Customer-Service/Meter-Reading-Info-Schedule/Advanced-Metering-Infrastructure-and-Smart-Grid

[25] Switch https://www.cityofpaloalto.org/Departments/Utilities/Residential/Ways-to-Save/Switch-to-an-Elec

EV Discount Campaign: CPAU offered a couple Electric Vehicle (EV) and e-Bike Discount Campaigns during fiscal year 2024 quarter one through the quarter two. Through this program we were able to offer discounts of $3,000 - $7,000 on select EV models, making it even easier and more economical to drive and bike electric.

Qmerit: CPAU has partnered with Qmerit to launch a program for Palo Alto homeowners to receive free online estimates from local, vetted contractors for EV charger installations. Online estimates will include permitting, inspections, and installation costs. Qmerit will assist with customer awareness of and education about embracing grid-friendly options, such as Level 1 and low-voltage Level 2 charging options.

SunShares: For the eighth year in a row, the City of Palo Alto participated in Bay Area SunShares, a solar and battery storage group-buy program administered by Building Council for Climate Change (BC3). As a SunShares program partner, CPAU promotes the program which offers discounted prices from two installers that have been vetted and selected through an RFP process: Solar Union and Solar Technologies. The program runs for a limited time: registration opened on September 1 and closed on November 15. More information can be found on cityofpaloalto.org/sunshares[26]

Energy Prices: Compared to this time last year, in state gas storage is in better shape and forward gas prices have come down about $2/MMBtu, so winter gas bills (and wholesale electric costs) will ***hopefully*** be back in the normal range. In accordance with Council direction, staff did purchase some insurance against higher prices for the months of December – February. CPAU is working on a communication strategy to be transparent with customers and clear about what to expect in terms of utility bill costs this winter.

Gas Safety Outreach: Throughout the year, CPAU delivers a variety of outreach materials to the community about utility safety. An important element of our public awareness program is the annual distribution of our gas safety awareness brochure. Per Federal Department of Transportation regulations, we directly mail this information to all customers, non-customers living near a gas pipeline, public officials, emergency responders, excavators, contractors, and locators working in Palo Alto. Gas safety brochures are typically delivered in the fall. www.cityofpaloalto.org/safeutility[27]

Program and Event Support: CPAU hosted many events and workshops in 2023 to spread awareness about customer programs for energy and water efficiency, electric vehicles (EV), electric bikes (including special discount campaign for EVs and e-Bikes), heat pump water heaters, and beneficial electrification. The communications team supported these efforts through comprehensive outreach via website, email newsletters, advertisements, and social media campaigns. www.cityofpaloalto.org/workshops[28]

[26] Sunshares https://www.cityofpaloalto.org/Departments/Utilities/Sustainability/Solar-in-Palo-Alto/Residential-Solar/SunShares
[27] Safe Utility https://www.cityofpaloalto.org/Departments/Utilities/Utilities-Services-Safety/Safety
[28] Work Shops https://www.cityofpaloalto.org/Departments/Utilities/Utilities-Workshops-and-Webinars

8 Legislative, Regulatory and Industry Activity

A summary the CY 2023 California Legislative session activity is provided here in the California Municipal Utility Association 2023 Legislative Session Report[29].

[29] California Municipal Utility Association 2023 Legislative Session Report https://www.cityofpaloalto.org/files/assets/public/v/1/utilities/utilities-advisory-commission/cmua_2023_legislative_session_report.pdf

Appendices

9 Appendix A: Energy Risk Management Program

This appendix provides a quarterly update on the City's Energy Risk Management Program.

9.1 Overview of Hedging Programs

The City's Utilities Department maintains a hedging program for its Electric and Gas Utilities. In the Gas Utility the program protects against short-term (intra-month) price spikes caused by weather or major incidents on the Western gas system. However, the City does not hedge its gas supply more than one month in advance, choosing instead to protect the Gas Utility's financial position by passing gas supply costs through to customers via a charge that varies monthly based on gas market prices. As a result, the Gas Utility's only market exposure is the amount by which gas demand deviates from forecasts within the month. This exposure is relatively small and can be managed using Gas Utility Operating Reserves. A risk assessment is performed each year as part of the Gas Utility financial planning process to ensure adequate reserves to cover all risks. The most recent Gas Utility Financial Plan was adopted June 21, 2021 (Staff Report #12240[30]).

The City has entered into long-term contracts for its Electric Utility to ensure that the City has carbon free electricity supplies equal to 100% of Palo Alto's annual electric demand. However, the output from these generating sources does not match Palo Alto's electric load. In the summer, the City has a surplus of carbon free energy and it has a deficit in the winter. This exposes the City to market risk, and staff maintains a hedging program to protect against this risk. In addition, hydroelectric generators make up approximately half the City's energy supply. During dry years these resources do not generate as much energy, creating an additional market exposure that must be hedged. Unlike the gas hedging program, which is operated by City staff, the electric hedging program is operated by the Northern California Power Agency (NCPA), a joint powers agency the City formed in partnership with several other California publicly owned electric utilities, with oversight by City staff.

9.2 Overview of Energy Risk Management Program

The hedging programs described above are conducted in accordance with the City's Energy Risk Management Program, which includes a set of Program Policies adopted by the City Council, Guidelines adopted by the City's Utilities Risk Oversight Coordinating Committee (UROCC), and Procedures approved by the Utilities Director. In addition, for the electric hedging program, NCPA maintains its own Risk Management Program. The City is able to provide policy level oversight of this program through its seat on the NCPA Risk Oversight Committee, which is held by the City's Risk Manager.

Per the Energy Risk Management Policies, the City Council must receive quarterly reports on the City's forward contract purchases, market exposure, credit exposure, counterparty credit ratings, transaction compliance, and other relevant data.

9.3 Forward Deals

Palo Alto executed the following Electric and Gas transaction in Q1 of FY 2024.

Figure 31: Electric Energy Deals

Delivery Month	Deal Type	Total Energy (MWh)	Price ($/MWh)
Oct'23	Purchase	11,160	79
Nov'23	Purchase	10,815	79

[30] Staff Report 12240 – https://www.city of paloalto.org/files/assets/public/v/3/agendas-minutesreports/rep rts-cmrs/year-archive/2021/06-21-21-id-12240.pdf

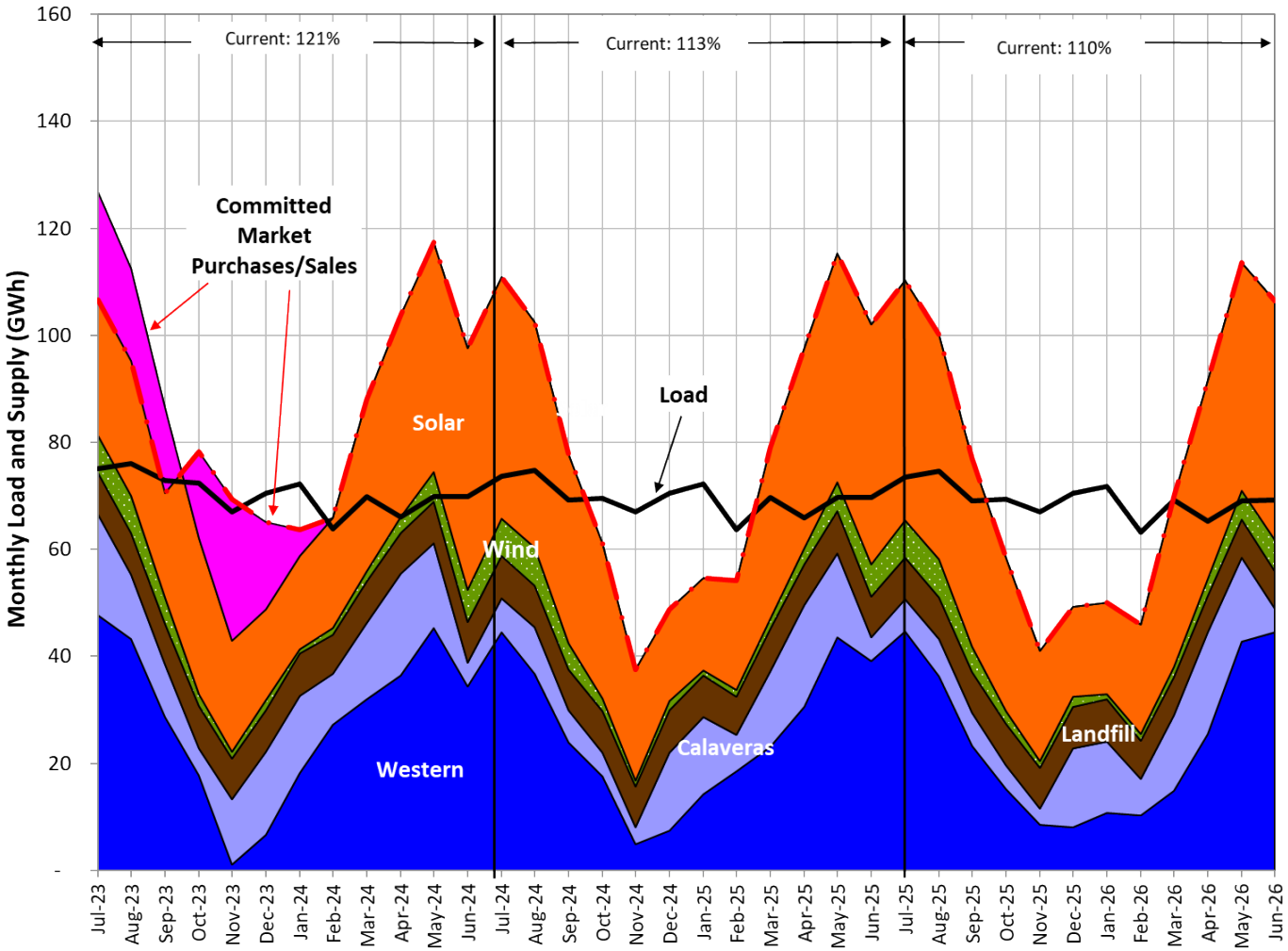
Figure 32: Electric Resource Adequacy Deals

Delivery Month	Deal Type	Avg RA (MW-mo)	Price ($/kW-mo)
Jan'24-Dec'24	Sale	15.08	4.3
Jan'24-Dec'24	Sale	57.01	24.50
Jan'24-Dec'24	Sale	3.75	37.54
Jan'24-Dec'24	Buy	30	7.25

9.4 Electric Market Exposure

The chart below shows the City's electric supply market exposure and committed purchases and sales to cover exposed positions. Additional purchases and sales will be executed for FY 2024 and FY 2025 in the coming months.

Figure 33: Electric Load Resource Balance, FY 2024 - 2026



9.5 Transaction Compliance

There are no transaction exceptions or violations to report.

10 Appendix B: Staffing and Vacancies

As of Q1 FY 2024, the Utilities Department has 44 vacant positions out of 257 authorized positions or a 17% vacancy rate. Below is a breakdown of the vacancies by division. Utilities has designated three HR liaisons from Utilities Administration to assist HR with some of the recruitments. With the three HR liaisons, CPAU will be able to post positions, schedule interviews, and make job offers at a faster pace after they are fully trained. CPAU have been attending engineering career fairs at Sacramento State University, Cal Poly San Luis Obispo, and San Jose State University. Since the inception of the HR liaison program, Utilities has made steady progress in reducing the number of vacancies from 58 in Q1 2023 to 44 in Q1 2024 or a 24% decrease year over year. If we exclude the four newly added Fiber positions in FY 2024, Utilities has filled 18 vacant positions since prior year which does not include the number of internal promotions within Utilities.

Figure 34: Utilities Vacancies and Position Movements by Division, up to Q1 FY 2024

Division	Authorized FTEs	Vacant FTEs	Active Recruitments	Vacancy %
Administration	20.5	3	2	15%
Customer Service[1]	23	4	1	17%
Fiber[2]	4	4	0	100%
Resource Management	25.5	2	2	8%
Electric Operations	69	17	15	25%
Electric Engineering	21	6	6	29%
WGW Operations	70	5	5	7%
WGW Engineering	24	3	3	13%
Total	**257**	**44**	**34**	**17%**

[1] 3 of the meter reading-related vacancies in Customer Service are frozen

[2] 4 vacant fiber positions for FTTP will be recruited in 2024

11 Appendix C: Gas Utility Annual Infrastructure Maintenance and Replacement Report

In each Quarterly Update the Utilities Department will provide a detailed overview of a single utility's investment and maintenance activity. An update on the gas Utilities were scheduled for this report.

Gas Utility Asset Management Overview

Executive Summary

- The City provides safe and reliable gas service to residents and businesses.
- The City meets or exceeds minimum federal safety regulatory requirements (examples: Accelerated leak survey program and Cathodic Protection (CP) maintenance requirements).
- The Gas Main Replacement program continues to replace Polyvinyl Chloride (PVC) gas mains, corroded steel pipeline material, and services that have exceeded operational life expectancy.
- The City has replaced approximately 41,000 LF of gas main pipeline and approximately 1,500 gas services in the last five (5) years.
- The City annually inspects and maintains gas distribution assets.
- As of November 2023, the City is at 12% implementation of Advanced Metering Infrastructure (AMI) and Meter Data Management (MDM).

Infrastructure Planning

Key infrastructure replacement efforts in the next five years include:

- Replace PVC and corroded steel pipelines with polyethylene pipes for gas mains and services through the application of federal grant
- Upgrade the VA hospital meter sets
- Upgrade security system cameras at the four (4) natural gas receiving stations.
- Maintain and inspect gas assets for regulatory compliance
- Replace inoperable large-diameter emergency valves
- Implement a calibrated hydraulic gas system model
- Transition to an ESRI-based Geographical Information System (GIS)
- Upgrade utility fleet, equipment, and tools

Asset Management Goals

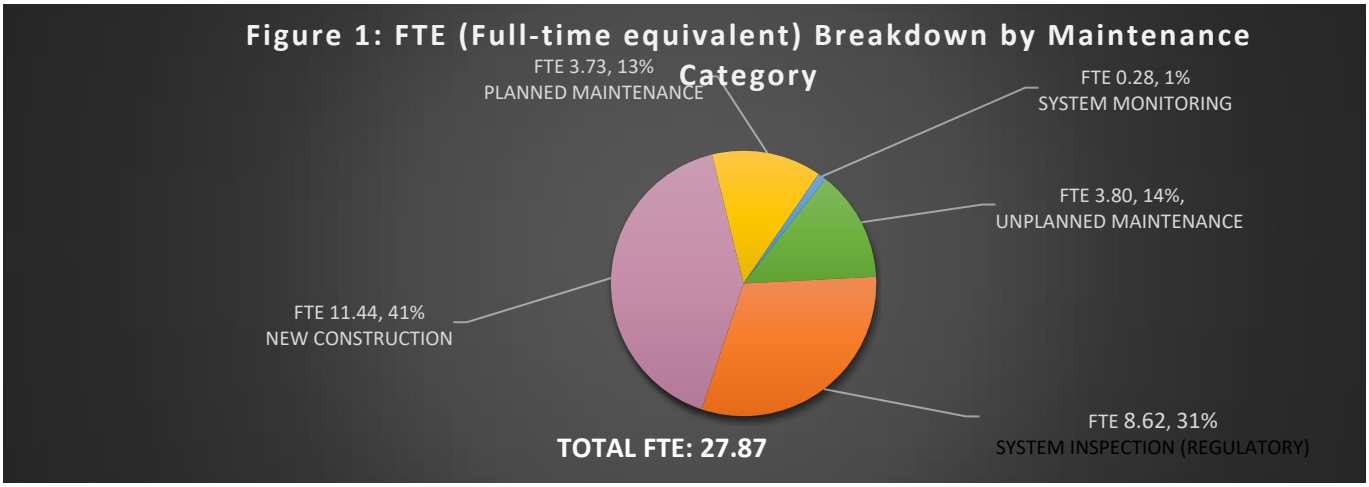
What are our goals?

-Build a calibrated hydraulic gas system model and utilize the calibrated gas model to prioritize future pipeline replacement projects.

-Minimize gas service interruption during planned repairs, tie-ins, and installation by following gas handling procedures.

-Invest in CIP replacements to reduce maintenance costs and extend gas system life.

-Increase routine maintenance on aging pipelines to maximize asset life to keep costs down



- **Staff assigned to New Construction:**
  Install new gas mains, services, valves, and meters that require extensive maintenance. Support Capital Improvement Projects (CIP) and install bollards for meter protection.
- **Staff assigned to System Monitoring:**
  - Monitor and manage the system continuously to ensure it operates safely and maintains adequate pressure throughout the City. A 24/7 on-call staff responds to emergency alerts sent by the SCADA software.
- **Staff assigned to System Inspections:**
  - **Emergency Valve Exercise:** Regularly exercise valves to meet regulatory requirements and ensure proper operation.
  - **City Gate Stations:** Annual inspection of the four (4) gas receiving stations.
  - **Cathodic Protection:** Take monthly pipe-to-soil reads to monitor cathodic protection levels on steel pipelines.
  - **Mobile and Walk Leak Survey:** Perform annual mobile leak surveys of the gas distribution mains and biennial walking leak surveys of gas services to detect underground gas leaks and check for atmospheric corrosion on aboveground pipelines.
  - **Patrolling:** Perform quarterly inspections of gas pipeline bridge spans, railroad, and creek crossings.
- **Staff assigned to Planned Maintenance:**
  Repair and replace gas distribution system pipelines, leaks, and valves. Installation of bollards for meter protection. Support on Gas Main Replacement projects.
- **Staff assigned to Unplanned Maintenance:**
  Respond to emergencies. Repair and replace infrastructure requiring immediate attention.

GAS MAINTENANCE ONGOING

Table 1: Status of Gas System Operation and Maintenance Programs

System Operation or Maintenance Program	Status Green = good Yellow = room for improvement	Comments
Emergency Valve Inspection and Exercise		ESD valves within the gas receiving stations are exercised annually, and maintenance is performed once a year. Valves are inspected, cleaned, exercised, maintenance performed, and greased. Emergency valves are brass-tagged for identification. ESD key valves are activated remotely and restored to ensure operation. There are 110 valves were maintained and exercised in April 2023.
Non-Emergency Valve Inspection and Exercise		The valves are inspected and exercised once every five years by the maintenance department. Valves are exercised, greased, and cleaned to ensure the valve nut is accessible and operable. Operations plan a program to locate and expose paved valve cover lids. The City is behind on the schedule of valve inspection and exercise.
System Monitoring		**SCADA provides continuous system monitoring and alerts. Gas Operations staff handles the monitoring of the gas system and are adequately trained to operate the system. On-call staff responds to emergency alerts after hours. System updates are done regularly.**
City Gate Station Maintenance		The four City gate stations' regulators are annually maintained, and the aboveground piping and fences are visually inspected. Every station has dual runs with two regulators per run for redundancy, a working regulator, and a backup (monitoring) regulator, alternating each year.
Gas Supply Monitoring		The monthly gas meter revenue reports are generated for each station from PG&E's monitoring module. The City's SCADA technician monitors and reviews the reports. Whenever a discrepancy is detected, the SCADA technician requests maintenance and repair from PG&E. Installation of the City flow meters and gas quality monitoring equipment for each station would allow the City to double-check PG&E's gas volumes and quality.
Pressure Monitoring		There are currently ten pressure monitoring points around the City of Palo Alto, one at each of the 4 City gate stations and six at the outer ends. Operations are maintaining the pressure

		monitoring points in the City. Additional pressure transducers for test stations would improve reliability in emergencies.
Large Commercial Gas Meter Maintenance (Includes VA Hospital)		Large commercial gas meters consist of rotary, turbine, and ultrasonic meter types. These meters are replaced on a 10-year cycle, with some being replaced sooner due to non-compatibility with AMI. Additional tasks include verification of all information and performing maintenance.
Gas Curb Meter Maintenance		Gas meter assemblies are visually inspected. Gas meter assemblies that are located in utility boxes are visually inspected. The meters are inspected if there is a leak, and the condition of the box is checked once every three years.
Residential and Commercial Gas Meter Maintenance		**Meters are inspected and maintained every two years. Maintenance includes repainting as needed, a leak survey, and an aboveground visual assessment of the gas meter set.**
Gas Inspection Along Bridges		The City has 30 bridges and crossings for gas main maintenance. Visual inspection (pipeline markers, pipeline support condition, wrap condition, etc.) and leak surveys are performed quarterly. Recoating of the Ross Road gas main and abandonment of exposed steel gas mains along bridges are planned as part of future projects.
Unplanned Maintenance		There are no backlogs of leaks or assets in need of repair. The City maintains an emergency on-call program to respond to and control gas leaks or other system emergencies after hours. To remain in compliance, the staff is pulled to respond to emergencies, resulting in planned work delays. The City is currently experiencing extended lead times for material.
Cathodic Protection Maintenance and Monitoring		Elecsys provides 24-hour rectifier monitoring and alerts to the City's cathodic operators with troubleshooting and software support for their system. Rectifiers and galvanic anodes are regularly inspected and are in good condition. Anodes are replaced as needed and require more frequent replacement during the ongoing drought. Operations are currently using Paradigm software to generate annual DOT reports. Paradigm will need a software update from the manufacturer (Fera) for compatibility with the current operating system. Paradigm software will be replaced in the near future. An apprenticeship program for the cathodic protection crew is suggested to ensure a sufficient supply of trained staff.

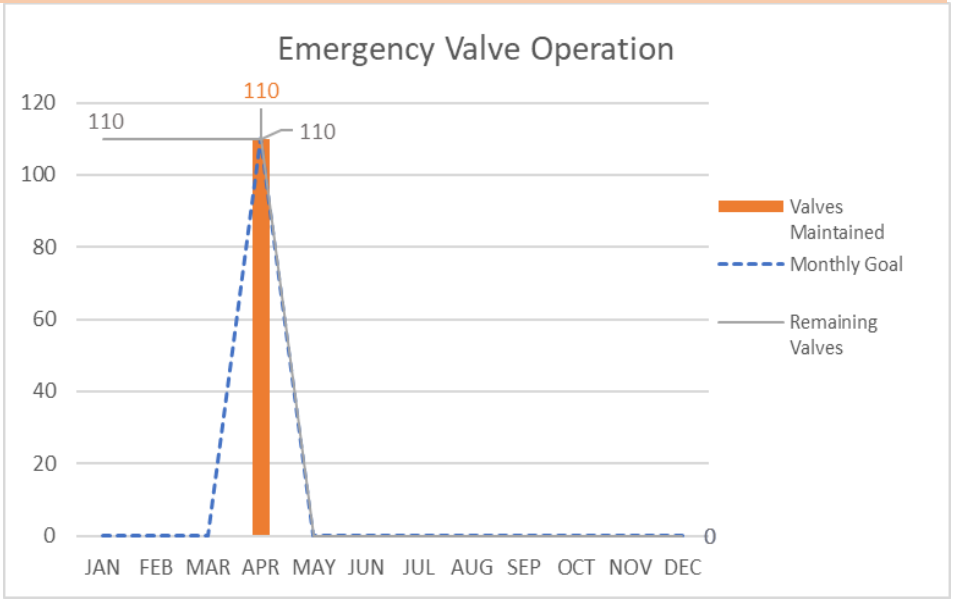
Table 2: Condition of Gas System Assets

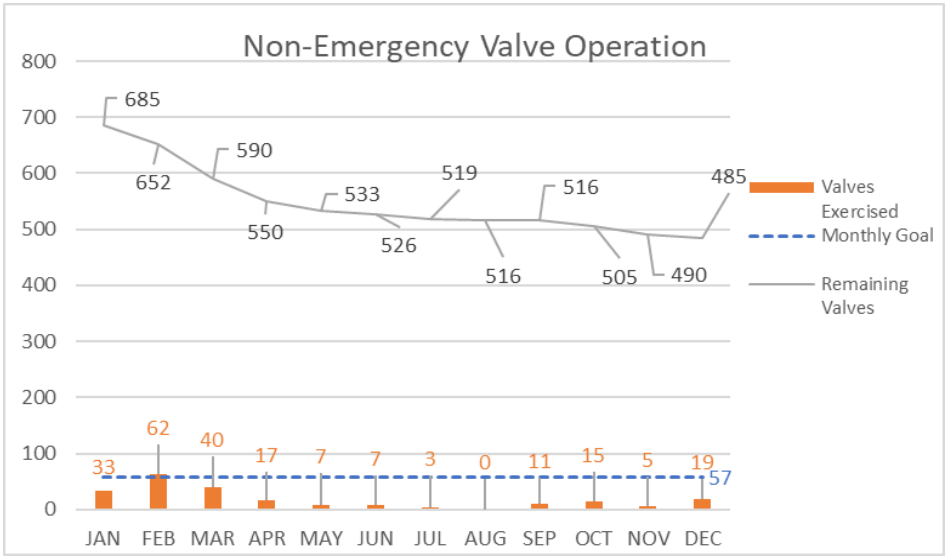
Asset Class	Quantity	Maintenance	Asset Condition
Gas Receiving Stations (City Gate Station)	4	Annual maintenance One (1) station undergoes maintenance each quarter.	The City's meter technicians perform standard maintenance. • Visual inspection and regulator alternating is performed annually • Paint is inspected quarterly and replaced as needed • Equipment and parts are maintained quarterly and are in good condition. • Station enclosure and safety headers are adequate and in good condition. • Station regulators are rebuilt once every three years.
Pressure Monitoring Stations	Six (6) system testing points and 4 Gate Stations	Annual calibration and maintenance	• The pressure monitoring points in the City are maintained regularly by Operations. • The pressure monitoring systems in all 4 City gate gas stations were updated in 2016 when the stations were rebuilt. • Five (5) of the six (6) pressure monitoring points at the outer ends of the City are over 20 years old. They should be upgraded from conduit to fiber optic, and additional pressure monitoring stations should be added. Pressure monitoring points along Scripps Ave will be upgraded.
Cathodic Protection	577 test stations	Annual maintenance	• 158 test stations, on average, are read monthly throughout the year to meet and exceed the yearly maintenance regulation.
Rectifier and Galvanic	40 Rectifiers & 10 Galvanic systems	Monthly maintenance	• Rectifier systems are in good condition and monitored through Elecsys for power interruptions or low readings. • Anode-based systems are suggested for an upgrade to rectifiers due to poor performance during the ongoing drought.
Meter Regulators	Gas Meter Audit Project	Once every two years for the entire system	• Program exchanges regulators on a 20-year program. Large regulators are visually inspected and maintained every two years. • The City plans to establish a program to replace large orifice regulators with properly sized regulators.
Gas Meters	~24500		• Program exchanges large meters (630cfh & larger) every ten years and smaller meters every 17-20 years. • Maintenance of curb meters and residential meters is in good standing. • Maintenance for large commercial gas meters aims to catch up in 2021 with recent full staffing. • The City is implementing Advanced Metering Infrastructure (AMI) with Sensus to transition to smart meters, currently in the alpha stage.

Risers	~14800	Atmospheric Survey Maintenance The survey is performed every two years.	• The risers are in good condition. They are inspected during the biennial leak survey. • As part of the biennial leak survey responsibilities, they are visually inspected. Maintenance & ACP are performed on an as-needed basis.
EFV (Excess Flow Valve)	~8600		No routine maintenance is required for the EFVs in the system. The City is planning to perform an EFV trip-test when replacing gas meters.
Gas Valves	110 Emergency Valves ~3400 regular valves	Annual emergency valve maintenance Regular valve maintenance is performed once every 5 years	Maintenance of emergency gas valves and regular valves is in good standing. Maintenance activities include exercising valves, greasing valves, cleaning the valve boxes, and ensuring the valve nut is accessible.
Gas Main and Services	~211 miles of main ~17,200 services	Mobile and Walking Leak Survey	• The ongoing Gas Main Replacement program, prioritizing leak-prone seismically susceptible PVC and corrosion-prone steel pipelines, continues as planned. • The single Gas Service Replacement project replaced the majority of ABS and tenite gas services in the City. The only remaining ABS and tenite services are on streets with active street-cutting moratoriums. City crews will replace these remaining services as their moratoriums expire. • Once ready, the calibrated hydraulic gas system model will prioritize future pipeline replacement projects.
SCADA Software	NA	Quarterly updates for the system and everyday troubleshooting for the 4 City gate stations	The City's SCADA system is structured for Electrical Utilities but also handles all needed functions for the gas system. Quarterly patches and updates ensure the system is in proper working order. Several gas operations staff are trained to monitor the SCADA system but must be trained to perform repairs handled by the City's SCADA tech or third-party contractors.

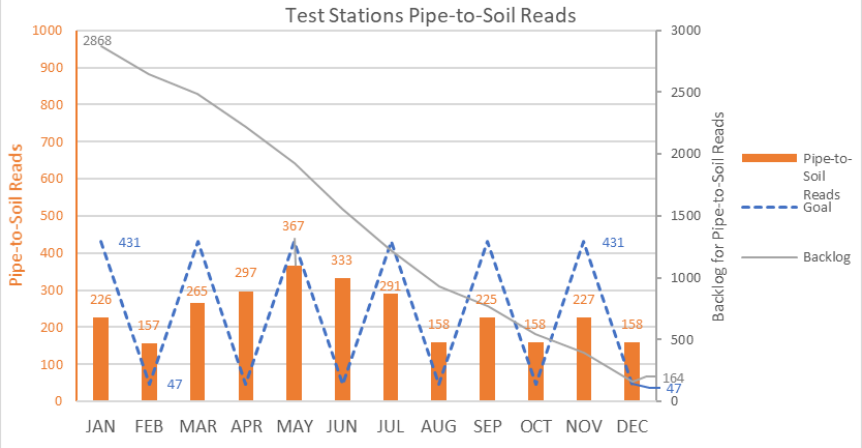
FIGURE 2: 2022 Gas Maintenance and Inspection Charts

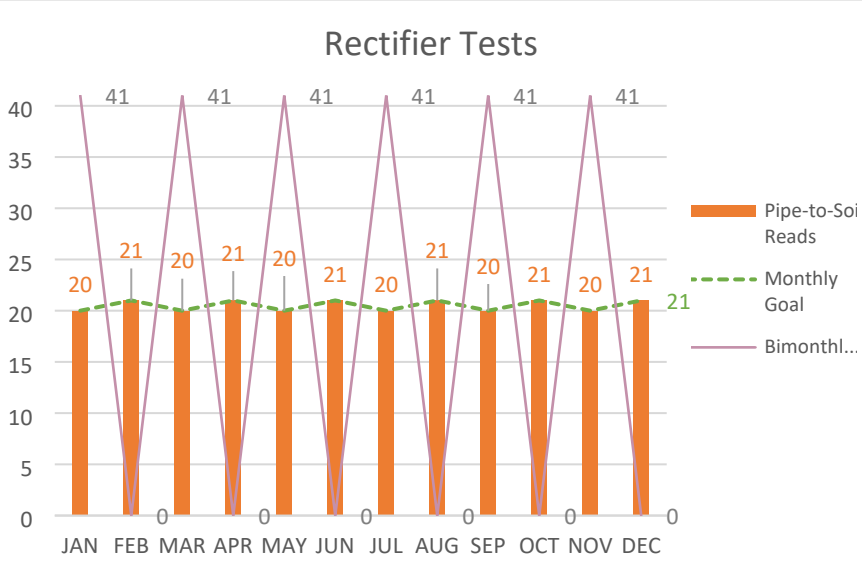
GAS VALVES



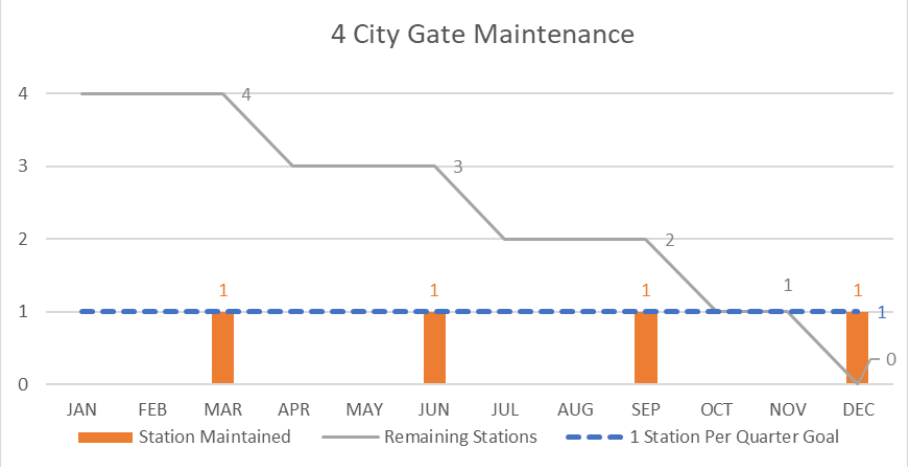


CATHODIC PROTECTION

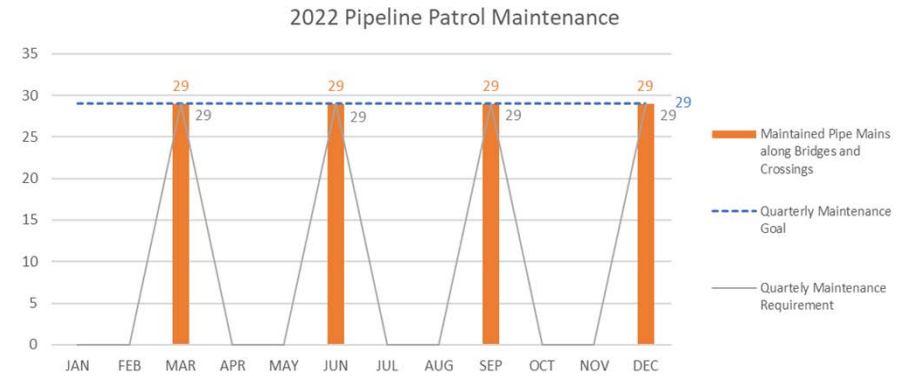




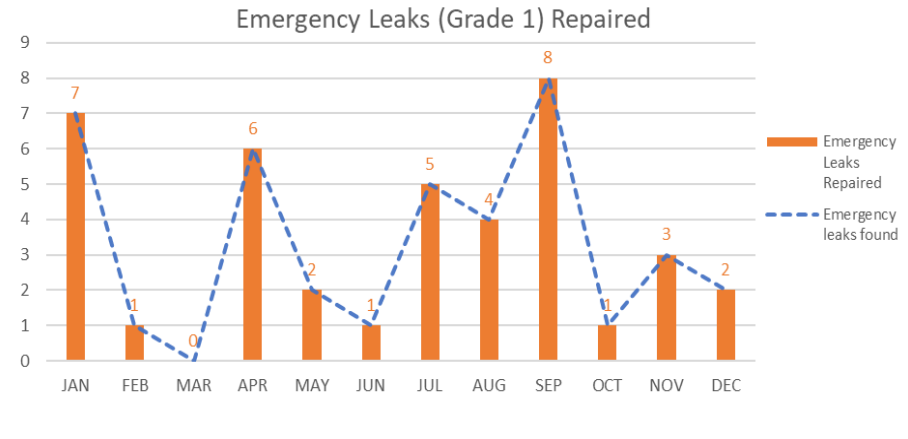
CITY GATE MAINTENANCE



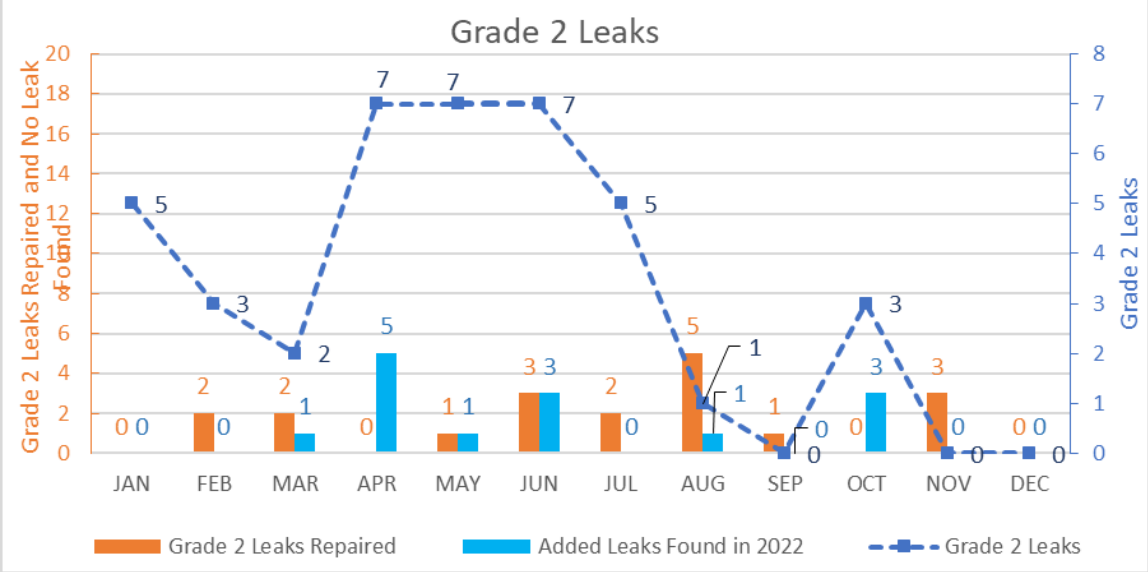
PIPELINE PATROL MAINTENANCE

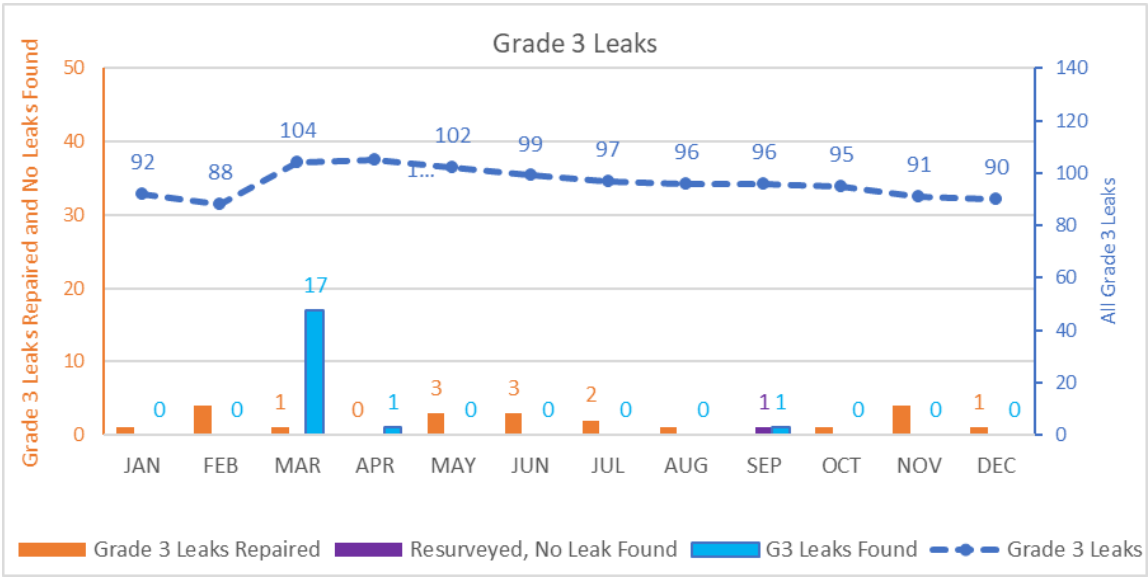


UNPLANNED MAINTENANCE

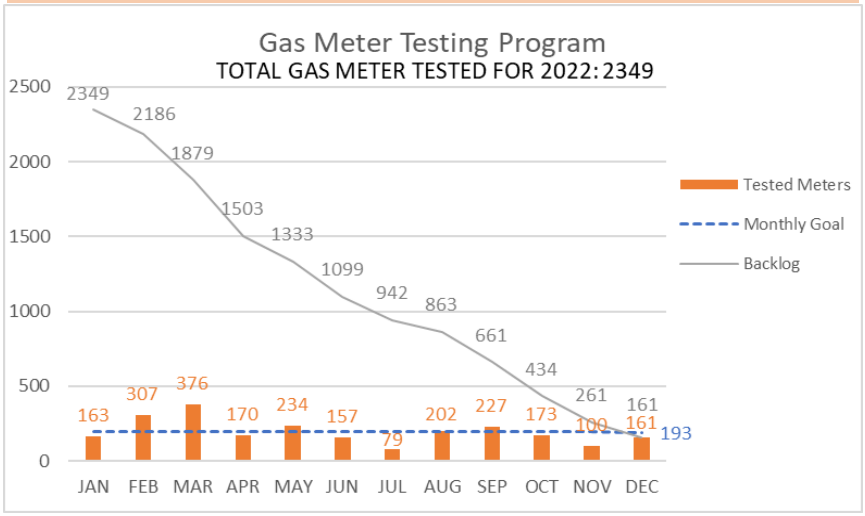


PLANNED MAINTENANCE (MONITORED LEAKS WITH PLANNED REPAIRS)





GAS METERS


Gas Meter Testing Program
TOTAL GAS METER TESTED FOR 2022: 2349
2500
2000
1500
1000
500
0
2349
2186
1879
1503
1333
1099
942
863
661
434
261
161
193
163
307
376
170
234
157
79
202
227
173
109
161
JAN
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JUL
AUG
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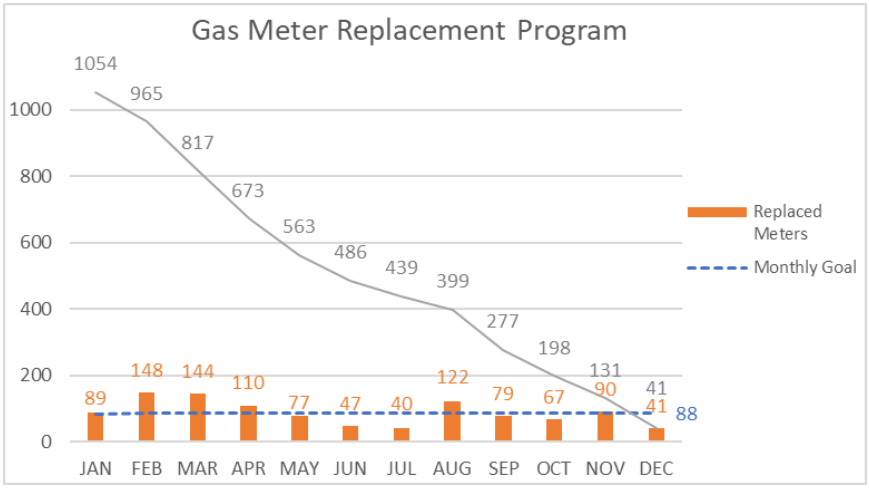
OCT
NOV
DEC
Tested Meters
Monthly Goal
Backlog


Gas Meter Replacement Program
1000
800
600
400
200
0
1054
965
817
673
563
486
439
399
277
198
131
90
41
88
89
148
144
110
77
47
40
122
79
67
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JUL
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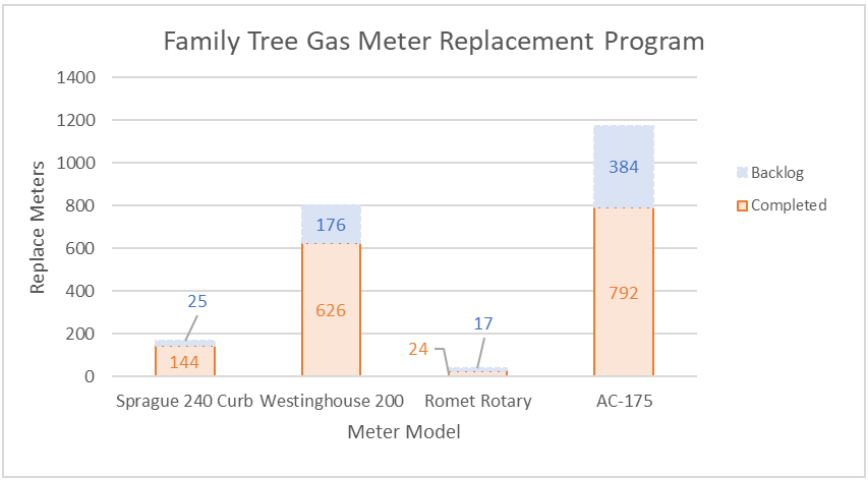
SEP
OCT
NOV
DEC
Replaced Meters
Monthly Goal


Family Tree Gas Meter Replacement Program
Replace Meters
1400
1200
1000
800
600
400
200
0
25
144
176
626
24
17
384
792
Sprague 240 Curb
Westinghouse 200
Romet Rotary
AC-175
Meter Model
Backlog
Completed

12 Appendix D: Utilities Customer Program Descriptions

The City's Utilities Department maintains a number of programs to help customers save money, use energy and water efficiently, and reduce carbon emissions. These programs are funded through a variety of funding sources, some of which are summarized below.

12.1 Customer Programs Overview

Below is a summary of the City's energy and water efficiency programs, as well as programs to encourage building electrification and adoption of electric vehicles.

12.1.1 Energy and Water Efficiency

Residential Energy Efficiency and Water Conservation Programs

The Home Efficiency Genie program provides residents with professional advice and information to improve their home's efficiency and comfort, lower their energy and water usage and get guidance on home electrification options. Even with the Genie returning to in-home comprehensive and diagnostic assessments in the fall of 2021, the virtual option developed during COVID continues to be a service that residents are interested in. The Home Electrification Readiness Assessment (HERA) was also amended to include a virtual version during COVID. Both the in-home and virtual versions continue to help residents assess home electrification upgrades that their home can accommodate and provide actionable next steps. During FY 2023 the Genie team provided 47 comprehensive in-home assessments and 26 virtual assessments. Those assessments also included 38 HERA to help residents evaluate their homes for electrification upgrade planning.

CPAU's Residential Energy Assistance Program (REAP) for income-qualified customers continues to reach our most vulnerable population offering energy and water efficiency improvements at no cost to the customer. Residents who are newly qualified for CPAU's Rate Assistance Program (RAP) are notified each month of their eligibility for these free upgrades installed by CPAU's vendor, Synergy. Multiple projects are being scheduled for REAP customers to take advantage of the free efficiency upgrades, with projects including building envelope improvements, furnace replacements with high efficiency models, and lighting upgrades to LEDs. Recently a new measure for high-efficiency toilets (HETs) was added.

For our multifamily (MF) property owners, CPAU continues to offer the Multi Family Plus (MF+) program which offers free energy efficiency upgrades installed by our vendor, Synergy. These upgrades include lighting upgrades to LEDs and whole building envelope upgrades. Recently a new measure for high-efficiency toilets (HETs) was added.

CPAU partners with Valley Water to offer a robust portfolio of water conservation programs and rebates[31] for residents and businesses.

Commercial & Industrial Energy Efficiency Program

The Commercial and Industrial Energy Efficiency Program (CIEEP) offers free energy audits to businesses. These audits help businesses identify areas where they can save energy, such as improving lighting, controls, occupancy sensors, refrigeration systems, HVAC systems, and other equipment. Furthermore, CIEEP's can help provide technical assistance to businesses to help them implement energy efficiency measures. This can include suggestions that help customers develop energy efficiency plans, provide information on energy-efficient technologies, and connecting businesses with contractors.

Business Customer Rebates, formerly Commercial Advantage Program

The Business Customer Rebate (BCR) remains the primary program for customers to apply for rebates for energy efficiency and electrification projects installed at customers sites. City of Palo Alto Utilities (CPAU) offers rebates to commercial,

[31] Rebates https://www.cityofpaloalto.org/Departments/Utilities/Sustainability/Ways-to-

industrial, and public sector customers to upgrade their equipment to energy-efficient products. In May 2022, BCR was expanded to offer electrification rebates to incentivize customers to retrofit gas space heating, water heating and cooking equipment with efficient electric alternatives.

Business Energy Advisor

The Business Energy Advisor program provides consultation and on-site assessments from the Business Energy Advisor with custom recommendations for businesses to help them lower utility costs with more efficient equipment.

12.1.2 Building Electrification

Full-Service Heat Pump Water Heater Program

This program, launched in early 2023, aims to make it easier and more affordable for residents to switch to a heat pump water heater (HPWH). The program has a goal of installing 1,000 HPWHs in one year, by providing a prescreened contractor to install HPWH at single family homes at a cost comparable to a gas water heater installation and offering on-bill financing to lower the upfront cost. Customers also have the option to choose their own contractors and apply for a $2300 rebate if the equipment meets the program criteria and has been permitted.

Business Electrification Technical Assistance Program (BE TAP)

For commercial customers, staff partnered with CLEAResult in the launch of the Business Electrification Technical Assistance Program (BE TAP) in August 2022. This program offers free electrification assessment and technical assistance to implement building electrification projects to a variety of business types including but not limited to hotels, restaurants, churches, and office buildings. To date, program outreach activities include call campaigns, e-newsletters, in person door-to-door outreach, and utility bill inserts.

12.1.3 Electric Vehicles

Palo Alto continues to facilitate the installation of EV charging infrastructure throughout the City to support mass EV adoption, with equitable access for multifamily and income-qualified residents, as well as workplaces, public parking lots and retail areas. Correspondingly, cross-departmental work is progressing on proposals for fleet electrification.

Summary of All EV Programs for Multi-family (MF) Properties and Workplaces

- **Mission:** The EV team's mission is to facilitate the installation of EV chargers to support increased EV adoption with a priority on MF properties. To reach 80 by 30 S/CAP goals, it is imperative that there is enough charging infrastructure for residents, commuters and visitors. For residents, the priority is to close the MF EV access gap, as only 13% of EVs in Palo Alto are registered at MF buildings, while MF makes up 42% of households.
- **Goal of EV Programs:** Expand EV charging accessibility to 10% of MF households (about 1,100 homes) by 2025.
- **Why:** Most middle-income and low to moderate-income residents in Palo Alto live in MF housing. Of the 11,000 households living in MF, 23% have annual income levels which are under 400% Federal Poverty Levels. EVs provide significant lifetime household savings, and yet those who most need those savings have the hardest time gaining EV charging access due to the challenges associated with installing chargers at MF properties. Private industry is not adequately serving this market, whereas the City is well-positioned to support this hard to reach and slower to move customer segment, making meaningful use of available City funding sources for EV promotion.
- **Target Customer Segment:** MF property owners, Homeowners Associations (HOAs), nonprofits, owners of small medium businesses and buildings, as well large C&I customers.
- **What CPAU can provide:**
    - Trusted, neutral advisory services (rather than vendor sales services) with a direct connection to internal City staff to facilitate problems.
    - Technical assistance (site evaluation, including electrical capacity, business case development, project design, obtaining bids, preparing permit packages)

- Incentives (both for charging equipment and distribution upgrades)

- **Strategy:** Facilitate development of shared Level 2 chargers in multi-family buildings as well as, as many Level 1 chargers as can be installed. Size electrical infrastructure to enable the building owner to add more EV charging ports in the future. Also, encourage the installation of low-power Level 2 chargers when appropriate as a grid-friendly strategy to increase EV charging options for as many EVs as possible.

EV Technical Assistance Program (EVTAP)

- **Goal**: Facilitate the installation of 180-360 ports @ 60-90 sites (By 2024)
- Offer technical assistance for the installation of EV chargers at Non-Profit and MF properties, involving a series of site visits, technical evaluations, engineering reviews, and design proposals, culminating in the landlord receiving contractor bids, followed by assistance submitting a building permit, applying for incentives and project management of the installation. Completed projects have taken up to 2 years to reach completion.

EV Charger Rebate Program

- **Goal**: Incentivize the installation of EV chargers at Non-Profits and Multifamily properties. CPAU currently offers up to $8,000 per port for up to 10 ports. Currently looking into lowering rebate levels due to increased demand for rebates and a decreased income from Low Carbon Fuel Standard credits (see 6.2.1). The program is also considering putting a time limitation on fund reservations, to accelerate projects reaching completion.

California Electric Vehicle Infrastructure Project

- **Goal**: Facilitate and incentivize the installation of EV chargers at commercial sites.

EV Awareness and Outreach

- **Goal**: Raise awareness, answer questions and encourage residents to consider transitioning to electrified modes of transportation, including electric cars, e-Bikes and other modes of clean transportation.

City-Owned EV Chargers

Goal: Install EV Charging Infrastructure for the public as well as City-fleet.

Transformer Upgrade Rebate Program

- **Goal**: Provide discounts to defray the cost of utility distribution system upgrades triggered by EV applications, costs that would otherwise be borne by the customers. With this program we are offering up to $100K for MF & non-profits and up to $10K for Single Family Homes

Many older properties in Palo Alto, especially multifamily buildings, have limited electric capacity to accommodate EV chargers and building electrification. Yet, there is a nationwide transformer supply shortage, potentially delaying customer EV projects. In the meantime, the EV team is working closely with Engineering and is conducting a pre-screening of transformer loading for all commercial EV projects enrolled in EVTAP as well as proposing designs utilizing existing electric capacity.

12.1.4 Funding Sources for Emissions Reductions

Energy efficiency and water efficiency programs have traditionally been funded by electric, gas, and water rate revenues. To fund emissions reduction programs, the City has developed multiple alternative funding sources:

- **Low Carbon Fuel Standard (LCFS) Program:** The City participates in the California Air Resources Board (CARB) LCFS program, receiving credits for the provision of low-carbon fuels (such as clean electricity and compressed natural

gas) and must use the revenues from the sale of these credits for programs and other efforts promoting low-carbon vehicle adoption.

- **Cap and Trade Program:** The City's electric and gas utilities are required to participate in the State's cap and trade program, but these utilities receive some of the revenue from the auction of allowances for the program. The revenue must be used for emissions-reducing activities.
- **Public Benefits Funds:** Locally owned municipal utilities must collect a surcharge from their electric utility customers under section 385 of the Public Utilities Code (there is a similar requirement for gas utilities) to be used on cost-effective energy efficiency and conservation, low-income programs, renewable energy, and research and development.

The amount of revenue currently held in reserve for each revenue source and the projections for future revenue are shown below.

Figure 35: Potential Emissions Reduction Funding Sources

	Reserves ($000)	Projected Revenues ($000)			
	(July 1, 2023)	FY 2023	FY 2024	FY 2025	FY 2026
LCFS Program	7,000	935	1,200	1,400	1,600
Cap and Trade (Electric)	1,189	3,027	3,016	2,992	2,999
Cap and Trade (Gas)	6,731	2,102	3,074	3,487	3,898
Public Benefits	3,890	3,841	4,780	5,076	3,729

Expenditures for each revenue source are as follows:

- LCFS revenues have been used primarily to facilitate the installation of EV chargers in multi-family buildings and are expected to be used that way in the future unless the City's priorities shift. Some has been used for general promotion of EVs.
- Cap and Trade revenues have been used to purchase renewable energy and for the Advanced Heat Pump Water Heater pilot. More use of these revenues for electrification programs is expected in the future, though no specific approvals have been sought yet.
- Public Benefit funds are used for energy efficiency (including low-income programs) and building electrification.

APPROVED By:
Dean Batchelor, Director of Utilities
Staff: Eric Wong, Resource Planner

Date: January 3, 2024

FORECAST
12-MONTH ROLLING CALENDAR

	Utilities Advisory Commission	City Council
January 2024	- Preliminary Financial Forecast - Utilities Quarterly Report FY24-Q1 - Discussion and Update on Five Year Capital Improvement Progress	* Tesla and Capacity PPP Project (C) * Consultant for S/CAP Funding Study (C) * Recommendation on California Oregon Transmission Project (COTP) (C) *InfoSend Contract Amendment (C) * Temp Staffing WaterTalent (C) * Procurement of 12KV Circuit Breakers for Hanover & Hansen Way Substations (C) Eric Gouldsberry Art Design Contract Amendment for Graphic Design Services (C)
February 2024	- SFPUC Water Allocations During Droughts - Tesla Project - Crossbore	* Contract Amendment for Fiber & Grid Mod Pilot (C) * Lead Sampling in Schools (C) * Approval of Amendment No2 with Clearesult (C) * Reliability and Resilience Strategic Plan Update (C) * Preliminary Financial Forecast (FCM) * Adoption of Resolutions and Ordinances for Electrification Programs and Budget Amendments in Electric and Gas Funds (C) * CLEAN Programs Rules and Agreement Resolution (C) * Third Phase Agreement with Norther California Power Agency (C)
March 2024	- Financial Plans and Rates - Residential Customer Satisfaction Survey Results	
April 2024	-	* Financial Plans and Rates (FCM)
May 2024	-	
June 2024	-	* Financial Plans and Rates (C)
July 2024	-	
August 2024	-	
September 2024	-	
October 2024	-	
November 2024	-	
December 2024	-	

<u>To be Scheduled</u>

- Educational Update on any Type of New Technology or Terminology
- Projects with a Resiliency Component
- Quarterly Reports (Q1-3 Info Rpts)(*<u>Q4 Discussion Summary of the year</u>*)
  - Financial Report
  - Utilities Programs Update
    - Informational EV Charger Installation Updates
    - Informational Bucket 1 REC Sales Updates
    - Informational Fiber Updates
- Recycled Water Purple Pipe
- DER discussion
- Second transmission line update
- 24/7 load following
- Distributed energy resources
- Update on grid modernization progress
- Reliability and resiliency strategic plan update
- Dark fiber utility rates comparison
- Commercial electricity segmentation plans
- Cyber Security meeting
- Permitting Process Return