UTILITIES ADVISORY COMMISSION
Regular Meeting
Wednesday, December 04, 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 UAC@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 UAC@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.

Signs and symbolic materials less than 2 feet by 3 feet are permitted provided that: (1) sticks, posts, poles or similar/other type of handle objects are strictly prohibited; (2) the items do not create a facility, fire, or safety hazard; and (3) persons with such items remain seated when displaying them and must not raise the items above shoulder level, obstruct the view or passage of other attendees, or otherwise disturb the business of the meeting.

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 6:00pm – 6:05pm

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

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

APPROVAL OF MINUTES 6:25pm – 6:30pm

1. Approval of the Minutes of the Utilities Advisory Commission Meeting Held on November 6, 2024

UTILITIES DIRECTOR REPORT 6:30pm – 6:45pm

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

2. Discussion of Utilities Annual Report for Fiscal Year 2024 (FY24) *(**DISCUSSION** 6:45 PM – 7:00 PM)* Staff: Karla Dailey and Dave Yuan

3. Discussion on the Time of Use Electric Rates *(**DISCUSSION** 7:00 PM – 7:30 PM)* Staff: Micah Babbitt

4. Review and Discuss Preliminary Fiscal Year 2026 Utilities Financial Forecast and Rate Projections (***ACTION*** *7:30 PM – 9:30 PM)* Staff: Lisa Bilir

FUTURE TOPICS FOR UPCOMMING MEETING AND REVIEW OF THE 12 MONTH ROLLING CALENDAR: January 7, 2025

COMMISSIONER COMMENTS AND REPORTS FROM MEETINGS/EVENTS

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
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 UAC@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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Utilities Advisory Commission
Staff Report

From: Alan Kurotori, Utilities Chief Operating Officer
Lead Department: Utilities

Meeting Date: December 4, 2024
Staff Report: 2411-3819

TITLE
Approval of the Minutes of the Utilities Advisory Commission Meeting Held on November 6, 2024

RECOMMENDATION
Staff recommends that the UAC consider the following motion:

Commissioner _____ moved to approve the draft minutes of the September 4, 2024 meeting as submitted/amended.

Commissioner _____ seconded the motion.

ATTACHMENTS
Attachment A: 11-06-2024 DRAFT UAC Minutes

AUTHOR/TITLE:
Kaylee Burton

UTILITIES ADVISORY COMMISSION MEETING
MINUTES OF NOVEMBER 6, 2024 REGULAR MEETING

CALL TO ORDER

Chair Scharff called the meeting of the Utilities Advisory Commission (UAC) to order at 6:02 PM.

Present: Chair Scharff, Vice Chair Mauter, Commissioners Croft, Gupta, Metz, Phillips, and Tucher (Arrived at 6:07 PM)

Absent: None

AGENDA REVIEW AND REVISIONS

None

ORAL COMMUNICATIONS

Dave Warner, a private industry CFO, expressed concern that water rates were very high and would substantially increase. Mr. Warner presented two slides. One slide was on the long-term trend of water demand and projections, depicting a decrease in water demand. The second slide demonstrated the price of water per acre-foot in various demand and supply scenarios, concluding water rates would be too expensive in 2045 even in the best case scenarios.

APPROVAL OF THE MINUTES

ITEM 1: ACTION: Approval of the Minutes of the Utilities Advisory Commission Meeting Held on September 4, 2024

Chair Scharff invited comments on the September 4, 2024 UAC draft meeting minutes.

Commissioner Metz made a comment in the meeting that he felt was important and should be included in the minutes near the bottom of Packet Page 12. Chair Scharff advised it was helpful to provide written corrections if anyone wanted to change the minutes. After “load,” Commissioner Metz wanted to add: He clarified that the current demand management program is really energy conservation and not active demand management. He recommended two actions: (1) Create a real active demand-side management program and (2) set a much higher target than 2% to 4% for energy conservation.

ACTION: Chair Scharff moved to approve the draft minutes of the September 4, 2024 meeting as amended by Commissioner Metz.

Vice Chair Mauter seconded the motion.

The motion carried 6-0 with Chair Scharff, Vice Chair Mauter, Commissioners Croft, Metz, Phillips, and Tucher voting yes. Commissioner Gupta abstained.

UTILITIES DIRECTOR REPORT

Utilities Chief Operating Officer Alan Kurotori delivered the Director's report.

Smart Energy Provider Award: CPAU was honored with the American Public Power Association's (APPA) Smart Energy Provider Award. This award recognized the City for demonstrating leadership and being a smart energy provider in the City's energy efficiency programs, distributed energy programs, and environmental and sustainability initiatives. Staff accepted the award at the APPA conference in October.

Changes to Gas Transportation Charges: The City utilizes PG&E's transmission pipelines to move gas into Palo Alto and passes those costs through to customers. PG&E raised rates for those transportation services; therefore, City Council approved in October an increase in the maximum pass-through limit from $0.25/therm to $0.30/therm. Staff anticipated PG&E would continue to increase rates, at which time staff would return to Council to seek approval for CPAU to pass those costs through to customers.

Limited-Time Commercial HVAC Incentives: The City was offering increased rebates for commercial building owners who electrify their rooftop HVAC systems to $3500/ton (was $650/ton) up to $120,000 for retrofits.

Emergency Replacement Heat Pump Water Heater Program: In September 2024, the City initiated an emergency program for customers replacing a gas water heater with a heat pump water heater. As of late October, 466 residents had either completed installations or signed contracts to install a heat pump water heater through one of the City's programs, including three projects completed through the emergency replacement program.

Hourly Water Usage Now Available on the WaterSmart Web Portal: Hourly water data is now available to CPAU's customers on the WaterSmart portal. WaterSmart could provide information about a customer's water consumption, personalized efficiency recommendations, and leak alert notifications. Customers were encouraged to log in to their CPAU account to obtain information. About 20% of customers have logged in to the WaterSmart portal. Staff's goal for 2025 was to increase WaterSmart participation to 30% of customers.

EV Programs Update: CPAU successfully installed five new multifamily EV charging stations over the past three months, including one at an affordable housing project at Alta Housing's Arastradero Park Apartments. Combined, these projects provided 133 Level 2 chargers and 48

EV spaces in Palo Alto. To date, about 36 properties used the EV Rebate Program, resulting in 433 EV charging ports and 73 EV-ready spaces for 814 multifamily units. Multifamily, nonprofits, and schools were encouraged to visit the City website for further information.

Public Power and Natural Gas Week: CPAU had awareness campaigns to businesses and residents during the first week of October for Public Power Week and Natural Gas Power Week.

Recent and Upcoming Events: A slide was shown of events held in October. Upcoming public events included Rain Garden on November 9 and Edible Water-Wise Garden on November 13. The Facility Managers Meeting on November 14 would not be open to the public as its purpose was to hear the interests and needs of business customers and facility managers, talk about programs, and an outside tour to see the completed upgrades at the Hanover Electric Substation brought online last month.

Chair Scharff inquired if staff followed up to see if the installed multifamily EV charging stations were being used. Mr. Kurotori replied that staff could ask customers to share metrics and data, and report utilization rates back to the UAC. Chair Scharff wanted to determine if people were using the chargers and if it was a good use of resources. Mr. Kurotori had more data on the City's facilities and charger networks, and he offered to provide utilization rates as an informational item.

Chargers recently installed at schools were for school staff and district use only, not open to the public, as of Mr. Kurotori's last visit to those sites. Chair Scharff recalled some people tried to use the charger at the Paly track field on Churchill and were told no. Chair Scharff questioned whether the chargers should be open to the public because they were installed with City funds. Karla Dailey, Assistant Director of Utilities, Resource Management, has worked with schools to accommodate public access to chargers outside of school hours; however, some sites had security around the schools.

Commissioner Croft voiced her support for installing chargers at schools and anywhere people gather for public events. Commissioner Croft traveled to schools to attend events but missed an event because she was searching for a charger.

Vice Chair Mauter asked if the City notified customers of leaks in case they were not actively monitoring their bill or receiving WaterSmart leak detection alerts. Mr. Kurotori responded that residents could sign up to receive a text if a leak was over 5 gallons/hour for a period of time.

In reply to Commissioner Gupta asking if the WaterSmart program was available to multifamily properties, Mr. Kurotori stated that WaterSmart was only available to single-family residences.

NEW BUSINESS

ITEM 2: DISCUSSION: Discussion on the Upcoming Recruitment for the Utilities Director Position

Assistant City Manager Kiely Nose addressed the UAC on behalf of City Manager Ed Shikada. Human Resources Director Sandra Blanch and Assistant Director of Human Resources Nick Raisch were present virtually.

Dean Batchelor announced his retirement. The City Manager's office was working with the HR Department on recruitment for Mr. Batchelor's replacement. Stakeholder outreach to various groups that interact with the position was being performed. A discussion had taken place with the Finance Committee. Tonight, the UAC could provide feedback on the recruitment process and characteristics of the ideal candidate.

Tina White, with Teri Black & Co. Recruiting, acknowledged it was an important recruitment for the City of Palo Alto and the UAC. Using the input received from stakeholders, Ms. White will develop a recruitment brochure to use as the primary marketing tool for this position. Social media and other channels will also be used to communicate the opportunity. Stakeholder input will be taken into consideration when Ms. White conducts outreach and speaks to potential candidates as well as in developing interview questions. This recruitment process will have multiple stages of interviews, beginning with a screening interview by the recruiting firm.

Two primary areas Ms. White wanted to focus on tonight were key challenges faced by the Utilities Department from the UAC's perspective and what the UAC would like to see in the next Director of Utilities, such as skillset, technical skills, and leadership qualities.

Commissioner Phillips asked if this was an unusual position because it encompassed electricity, gas, water, and wastewater. Commissioner Phillips felt it would be very difficult to find someone who had meaningful experience in all four utilities and wondered if one of the utilities would be prioritized above the others. Including fiber, Ms. White agreed that having five utilities was unusual. Ms. White did not think she would find someone who had experience or expertise in all five utilities. The UAC's input would help determine what was more was important, a candidate's technical expertise in a certain utility or leadership attributes.

Commissioner Phillips inquired if splitting the job into more than one position was considered. Mr. Raisch replied that, if needed, the Utilities Director or General Manager of Utilities and Utilities Chief Operating Officer could counterbalance with different areas of strength. Ms. Nose remarked that there was a great team behind the General Manager or Utilities Director position, so background and knowhow in all five utilities was not needed. The nomenclature of General Manager or Utilities Director had not been decided yet but the person would be the leader and vision for the Utilities Department. The Chief Operating Officer and Assistant Directors had specialized utility knowledge to ensure the Director had the necessary support. Given the incredible importance of these functions to the City, Commissioner Phillips encouraged staff to ensure the right structure was in place to provide support.

Because of issues with recruitment and retention of staff across all levels due to challenges with compensation and the high cost of living, Vice Chair Mauter believed that the input on this process from staff employed at the Utility was exceptionally important. Ms. Nose confirmed

that staff was included in the stakeholder outreach. Ms. White held two virtual listening sessions open to all employees, announced via email. Ms. White was working on an employee survey that HR will administer and provide the data to Ms. White for her to include when considering characteristics they were looking for in the candidates.

Commissioner Tucher is on a board that had a broader depth of utilities, including snow removal. Commissioner Tucher thought it was helpful to have data on the breadth of portfolios of utility districts of comparable size to Palo Alto. Commissioner Tucher did not believe there should be a discussion on splitting up the position by utility.

Commissioner Croft wanted someone with interest and experience in developing and retaining the workforce. Commissioner Croft thought it was important to create a place where employees felt like they were growing and wanted to stay. Secondly, Commissioner Croft wanted someone who believed in and would diligently work toward the City Council's climate goals to the extent they were relative to the Utility. Thirdly, Commissioner Croft wanted someone to oversee the Utility's finances and ensure transparency and clear communication on the Utility's revenues, expenses, and reserves. With money moving around, it was unclear how much there was in the reserve accounts. When making utility payments, make it transparent and easy for customers to understand where their money was going and what it was paying for.

Commissioner Metz agreed that having operational excellence and financial excellence were critical but the number one quality was to be a visionary. Commissioner Metz recommended strengthening the job description around visionary strategic planning. CPAU's investment in hydro dams decades before it was fashionable and having sewers and potable water at a very early time were visionary actions. We are at a turning point in how electricity is delivered and used. The City is in the midst of a $300 million grid modernization, so vision of how we execute that is particularly important. If Commissioner Metz had to pick one area of expertise, it would be deep knowledge in the electrical business. Commissioner Metz spoke of the importance of having succession plans. Commissioner Metz opined that an engineering degree was needed to make necessary decisions in the electric space.

Commissioner Gupta was excited about municipal fiber. It could be an attractive attribute for a potential candidate to develop and help bring forth a new utility. Commissioner Gupta suggested that the Purpose of Classification include the dark fiber telecommunication system, perhaps adding the fiber-to-the-premises utility or the utility pilot. Commissioner Gupta wondered if bullet points concerning the fiber utility could be added under Essential Duties and Knowledge Skills and Abilities. Since it is a new utility, it would be helpful to have a Utilities Director with experience or knowledge of that area.

Chair Scharff did not think possession of a valid California driver's license was a necessity because it excluded candidates from other states, so he recommended changing it to possession of a driver's license. Chair Scharff expected someone who had 15 or 20 years of experience. Chair Scharff disagreed on requiring an engineering degree because he did not think the major mattered. For equity, inclusion, and diversity, Chair Scharff did not want the

requirements to be exclusionary. Chair Scharff was not sure he would include an education requirement. Someone could have worked their way up through the ranks and if that person had the skills and impressed people, Chair Scharff did care if that person did not have a bachelor's degree.

Chair Scharff agreed with Commissioner Croft's point about moving forward the City's climate goals; however, the Utilities Director, needed to say what would or would not work, or what had to be done to make it work but doing it in a cost-effective manner was important. The Council does not run a utility. Council and staff may at times be aspirational and not focus on what is practical, and someone needed to tell Council and staff. Chair Scharff was looking for a Utilities Director who had leadership qualities and sound judgment in balancing different issues.

Vice Mayor Lauing mentioned a few things the Finance Committee discussed. From Vice Mayor Lauing's background in recruiting, this was referred to as finding a unicorn. First, this position was critical, so you had to invest in getting the unicorn. The Finance Committee said to shoot very high and come back if a higher salary was needed. We have to finance the right person. Second, it was emphasized it had to be somebody who has done and wanted to do big projects. We have massive challenges and a $300 million investment. Lastly, somebody who had a demonstrative track record in recruiting targets. We cannot get anything done if we do not have the people to do the jobs.

Commissioner Croft opined that the description of minimum qualifications was too short and was not reflective of the senior person we need. Commissioner Croft thought 20 years of experience was a good target.

Commissioner Gupta asked if the minimum qualifications acted as a gating function to exclude candidates. Mr. Raisch explained that the minimum qualifications were meant to set a floor for applicants; however, using the wording "and/or equivalent experience" allowed the recruiting team to determine if someone was qualified. Commissioner Phillips had experience in recruiting unicorns and it was necessary to cast a wide net. Requiring X years of experience and a certain degree may exclude the perfect person.

Vice Chair Mauter wanted a better understanding of the process, timing, and any plans for an Interim or Acting Utilities Director. Ms. White was working on the marketing brochure and will finish it after receiving all stakeholder input. The recruitment can open when the marketing brochure was done, with the goal to open the recruitment in November. Ms. White wanted flexibility with the typical 30-day timeline because people are distracted during the holidays, making potential candidates tougher to reach. Mr. Raisch remarked that during a five- to six-week period, Ms. White's team will post the marketing brochure on their site and our site as well as do active sourcing, including letter writing and mailers to the people they have identified within this field, including calling people who work as Utilities Directors. Once that process closes, Ms. White's team does the initial screening; looking at everyone's qualifications, experience, education, and training; and might select the top 20 to do 45- to 60-minute interviews using a supplemental questionnaire based on feedback received from the UAC,

Finance Committee, and employee surveys. Then, top candidates will be invited to panel interviews, followed by final-round interviews with the City Manager's Office.

Ms. Nose stated that executive recruitments typically take at least six months. Ms. Nose's understanding of the Finance Committee's feedback was not to rush the process but to find the right person. Mr. Batchelor's last day with the City will be around the holidays. City Manager's Office staff and Utilities staff will ensure coverage of necessary duties during the absence of a Utilities Director.

Commissioner Gupta queried if there would be a follow-up process with the UAC. Ms. Nose offered to keep the UAC apprised of where they were in the recruitment process. Ms. Nose or Mr. Shikada can provide updates at some of the UAC's regularly scheduled meetings.

Commissioner Phillips wanted to see the brochure when it was available and would appreciate it if the brochure could be distributed to the UAC.

ACTION: None

ITEM 3: DISCUSSION: Discussion with Bay Area Water Supply and Conservation Agency (BAWSCA) CEO/General Manager, Nicole Sandkulla: BAWSCA Overview, Regional Water Use and Efficiency, and San Francisco Public Utilities Commission Water Supply Reliability Investments

Nicole Sandkulla, BAWSCA Chief Executive Officer/General Manager, delivered a slide presentation. BAWSCA was a special district formed in 2003 by the State Legislature to represent the interests of 26 water suppliers in San Mateo, Santa Clara, and Alameda Counties who rely on water supply from the San Francisco (Hetch Hetchy) regional water system to meet their customers' needs. The City of Palo Alto relies on the regional water system for 100 percent of it potable water supply. In FY 2022-2023, the City of Palo Alto purchased over 3 billion gallons of water from the regional water system. The BAWSCA Board of Directors was comprised of an elected or appointed representative from each member agency. For Palo Alto, Mayor Greer Stone was appointed to the BAWSCA Board in March 2023.

Starting with the headwaters of the Tuolumne River where 85 percent of the water supply comes from, water is stored in Hetch Hetchy Reservoir. The water supply is conveyed by gravity to the Bay Area. Along the way, the regional water system picks up supply from the East Bay and Peninsula watersheds that amount to about 15 percent of the water supply delivered. The regional water system included seven major reservoirs and three hydropower plants.

As a result of encouraging water-saving behavior, rebates, and policy changes such as plumbing codes and state legislation, 32 percent less water is used today in the BAWSCA region compared to FY 1986-87 despite a 34 percent population increase. BAWSCA initiated a project to update the demand projections for the region to better inform the long-term planning

efforts for BAWSCA agencies and San Francisco, including updated water management plans and San Francisco's alternative water supply (AWS) plan.

State law required San Francisco to fix its earthquake-vulnerable regional water system. The resulting Water System Improvement Program (WSIP) contained 43 projects to ensure the system would continue to provide water following an earthquake, meeting minimum day-water use within 24 hours and normal water use within 30 days. BAWSCA provided oversight of WSIP, which was scheduled to be completed in June 2032. The two remaining projects were a regional groundwater conjunctive use project in northern San Mateo County and an Alameda Creek recapture project. The WSIP cost of $4.788 billion was fully funded by ratepayers.

Recognizing the need to invest to ensure a reliable regional water system, SFPUC's 10-year capital plan (FY24-FY33) identified and prioritized capital improvements.

Public Comment:

1. Peter Drekmeier, Policy Director for the Tuolumne River Trust, presented slides. Two years ago, BAWSCA perform their most recent demand study including a sensitivity analysis. The 2000 Urban Water Management Plan (UWMP) water demand projections were much higher than actual demand. Mr. Drekmeier thought that SFPUC basing their AWS plan on UWMP demand projections was a huge mistake and very political, would add $17 billion to the budget, and double rates in 20 years. Therefore, it had to be determined how much AWS was needed. Mr. Drekmeier has worked on these issues for 17 years and offered to provide a workshop to the UAC.
2. BAWSCA's goal was to provide reliable, high-quality water supply at a fair price. Dave Warner thought Palo Alto paid the highest wholesale water price of any major water agency in California.

Commissioner Croft asked about the City's contractual agreement with SFPUC, the contract duration, ownership structure, and SFPUC's long-term obligation to the City. Ms. Sandkulla responded that the contract included guaranteed rights in perpetuity for supply assurance. The contract was an allocation of costs, wholesale customers in comparison to San Francisco pay in proportion to their water use. The contract provided assurance that the City would have a share of water during droughts, with the goal of no more than 20 percent rationing system-wide but the amount of rationing was not guaranteed. The contract states that San Francisco must provide the City with water that met drinking water standards. It was a 25-year contract, signed in 2009, expiring in 2034. There have been a couple of amendments since 2009 and the City will see an amendment in the coming months for renegotiation of the drought allocation among the wholesale customers. San Francisco built and operated the system. In the litigation that Palo Alto and others brought forth, the assertion was that the Raker Federal Act gave San Francisco the authority to build water facilities in a federal park, so wholesale customers argued that they were granted authority along with San Francisco. A lawyer would need to provide any further response to the question of ownership.

Commissioner Tucher said that the City's wholesale prices were the highest in California at nearly $2500/acre-foot. Commissioner Tucher believed there had been almost a doubling in price over 10 years. Commissioner Tucher asked about the public commenter's question of fair share versus fair price. Ms. Sandkulla stated that Mr. Warner's comment was correct. BAWSCA, because of the contract and pay proportional to use for a reliable supply of high-quality water at a fair price, fair was focused on making sure you pay your fair share. There were WSIP and capital investments in the last 20 years. About 11 years ago, the original Mountain Tunnel, one of the major single tunnels to deliver water from Hetchy to the system, had deterioration issues inside. It could not be taken out of service because it was a single conduit. Engineers said the best alternative was a new tunnel in the Sierras, which would take a long time to build. A technical advisory panel suggested repairing the existing tunnel. BAWSCA was a strong advocate to an alternative that was in the financial best interests and for reliability. Ms. Sandkulla did not know if $2500/acre-foot was the highest water rate in California because the price was not subsidized. The City paid San Francisco the cost of the water. The price of water that Santa Clara Valley Water District charges their wholesalers is offset by property tax within the county for their State Water Project charges, as do most agencies relying upon the State Water Project including Metropolitan Water District, but those charges were not reflected in the cost of water.

Utilities Chief Operating Officer Alan Kurotori commented that the Water District's projected treated water and groundwater pumping charges would exceed San Francisco's cost in the future because of necessary changes and upgrades to their dams and systems. Commissioner Tucher inquired if Palo Alto and BAWSCA did a financial review of SFPUC's CapEx based on affordability criteria and cost per acre-foot. Ms. Sandkulla stated that BAWSCA reviewed San Francisco's capital plan and provided input and comment throughout the development and implementation process to ensure the resulting projects were the best projects to meet the identified level of service goals and that San Francisco could meet its contractual and legal obligations.

Commissioner Phillips stated his understanding was that San Francisco Water had two customers, San Francisco and BAWSCA. Ms. Sandkulla answered no; BAWSCA did not have a contract with San Francisco. San Francisco had 26 wholesale customers under the BAWSCA umbrella under a single contract. San Francisco sold water to other suburban customers throughout the service area that were holdovers from the past or because of location of the pipelines. Commissioner Phillips wanted to understand the decision-making process and BAWSCA's potential leverage if the City of San Francisco was the ultimate decision maker. Ms. Sandkulla replied that the SFPUC, a department of the City of San Francisco, had authority. The contract states that for actions SFPUC took to meet their contractual obligations, there was not an approval authority from the wholesale customers or BAWSCA. Within 184, SFPUC was within their right to do whatever they needed to do to meet the obligation. BAWSCA's goal was to make sure it was the best choice possible. Ms. Sandkulla routinely speaks to the commission, general manager, commissioners, elected officials, and others.

Commissioner Phillips asked what was in BAWSCA or the contract to provide oversight if SFPUC increased capacity beyond the 184. Ms. Sandkulla's recollection was that it required a separate agreement for that need and its cost allocation. There was language in the contract that opened it up for further negotiation. San Francisco had not indicated they wanted to provide anything more than 184.

Commissioner Croft noted in tonight's annual report that Palo Alto's prices were about 50 percent higher than Hayward which gets 100 percent of its water from Hetch Hetchy. Commissioner Croft wanted to understand why Palo Alto was so high and what caused the huge variability in costs to the end customer in comparison to other cities, given that the cities were paying the same price under one contract. Senior Resource Planner Lisa Bilir explained that Hayward and Redwood City get 100 percent of their water from SFPUC. The reason for the difference for other agencies was because they either mixed their SFPUC water with another source or had a different source of water. A benchmarking study performed in about 2020 and presented to the UAC compared Palo Alto to many other Bay Area agencies that get 100 percent Hetch Hetchy water. The study demonstrated that most of those agencies were smaller than Palo Alto and had higher rates. The only two that had lower rates were Hayward and Redwood City; however, the gap between Palo Alto, Hayward, and Redwood City had been narrowing over time. In 2009, Palo Alto's rates were 60 percent higher than Hayward. Now, Palo Alto's rates were about 10 percent higher than the average of Redwood City and Hayward at median usage level but 2 or 3 percent higher than other agencies at low and high usage levels. The study found that operating costs was one reason for the difference. Another reason that contributed to the higher rates was that Palo Alto had consistently good and appropriate levels of capital investment in the water system.

Commissioner Croft asked if the higher rates in Palo Alto were mainly due to the costs of maintaining the system within the city. Commissioner Croft believed it was more than a 10 percent difference because the annual median in Hayward was 85 and Palo Alto was 113. Ms. Bilir replied that operating costs, capital costs, and rate design could be different across cities. The median usage level was 8 or 9 CCF in Palo Alto. Every few years, a cost-of-service study examined costs and revenues. Palo Alto charged its customers in accordance with the recommendations of its cost-of-service study.

Chair Scharff wanted further explanation as to why Hayward had cheaper water if they paid the same wholesale cost as Palo Alto. Chair Scharff inquired if Palo Alto was overinvesting or incorrectly designing rates. Ms. Bilir responded that it was complex to compare cities in different cost categories because cities get revenue from different sources or categorize their departments differently. Palo Alto did two or three benchmarking efforts with outside consultants and internal staff to perform comparisons across cities. Ms. Bilir clarified that rate design also meant that Hayward could get additional revenue from nonresidential growth that could influence some of their rates. In discussions with some of Hayward's staff, Ms. Bilir understood they had a new school and new parks.

Chair Scharff inquired if Hayward was buying and selling more water than Palo Alto. Ms. Bilir answered no; Hayward did not use a lot more water per person. Many of the costs were fixed. Over time, the trend was that Hayward had different customer usage and growth than Palo Alto on residential and nonresidential. Chair Scharff was looking at primarily residential rates. Ms. Bilir said that staff was happy to look at it further but it was a very complex question that did not have a simple answer. Chair Scharff told staff to come back or email the UAC because it was worth spending the time to determine why other BAWSCA agencies were a lot cheaper than Palo Alto. Mr. Kurotori remarked that staff could follow up with the City of Hayward. Staff could reach out to Alex Ameri, the Director of Public Works for the City of Hayward and previous Palo Alto UAC Commissioner. There were differences between Palo Alto and Hayward in compaction of their areas. Hayward might have a lot more industrial and commercial use. Staff could follow up and inform the UAC why Palo Alto was higher than Hayward if both were receiving water from Hetch Hetchy. Director of Utilities Dean Batchelor stated that if staff could get the information, it would be provided to the UAC next month for the discussion on preliminary rates and comparisons for all the utilities.

Commissioner Phillips wondered if the benchmarks could include comparable communities that were not BAWSCA members, such as Menlo Park and San Carlos. Ms. Sandkulla clarified that Menlo Park and San Carlos were BAWSCA-served agencies. San Carlos and Menlo Park were served by Cal Water. Menlo Park was also served by a private water district, O'Connor Tract.

Commissioner Tucher asked Mr. Drekmeier to elaborate further on his comment about SFPUC consistently over-projecting or over-forecasting demand. Mr. Drekmeier explained that projections from the 70s and 80s projected demand today would be 400 to 450 million gallons per day (MGD), more than twice of actual demand. The regional service area (San Francisco and BAWSCA) had been less than 200 MGD for the last 10 years. SFPUC created a Water First policy after a six-year drought that favored water supply over hydro because they previously were trying to generate as much hydro as possible to generate revenue but got into some trouble during the drought. That is when SFPUC came up with the design drought that was also in the AWS plan, which combined two of the worst droughts on record to create a mega drought.

Mr. Drekmeier asked a couple of SFPUC commissioners why there were two sets of demand projections. The Water Enterprise demand projections were used in the UWMP and everything was based on it, and the Finance Bureau does sales projections. Those SFPUC commissioners asked for a report comparing the two projections to actuals. The resulting report found that both departments over-projected but Finance was a lot closer to actuals. The Finance Bureau projected water sales of 207 MGD in 2045, the Water Enterprise projected 244 MGD, a 37 MGD difference. 92 MGD costs $17 billion, so a 37 MGD difference was more than a third less. The report said that sales projections were as close to accurate as possible because otherwise there was a deficit if you do not sell as much water as you projected. One SFPUC commissioner asked SFPUC staff a year ago how it would impact rates if they did not sell as much water as they had projected. That commissioner did not receive a response and was not get reappointed, so Mr. Drekmeier hoped the UAC could ask the same question.

It was a complex regional network, so Vice Chair Mauter thought it was important to highlight BAWSCA's role in providing technical expertise to a very diverse set of relatively small agencies and regional coordination. Vice Chair Mauter emphasized that capital improvements to a hundred-year-old system were essential and important to ensure we had a reliable water supply. Vice Chair Mauter did not want to underinvest in maintenance of a system that was critical to the economy of this region and our enjoyment of it.

Vice Chair Mauter wanted to hear more about demand projections. Vice Chair Mauter felt it was important to incorporate climate uncertainty into the analysis. There could be potential changes in the frequency, intensity, and duration of droughts across California. Vice Chair Mauter noted that Palo Alto consistently overestimated water demand, as shown in this quarter's budget report that sales were a little under the projected amount. Water efficiency improvement had been tremendously successful. The metric of gallons per day per person had to take growth into account from urban infill versus maintaining the tree canopy. San Jose and Santa Clara were intermittent purchases of water in the system, so Vice Chair Mauter wondered if they should be included in the demand projections if there was not a supply obligation. Vice Chair Mauter thought a policy decision needed to be made as a Utilities Advisory Commission and as a region on how to fill the gap between supply and demand, acknowledging there were technical and political issues. Vice Chair Mauter saw a need for technical engineering guidance. Vice Chair Mauter believed there should be citizen, Council, and UAC engagement because these questions were policy grounded, had huge affordability implications, and strong implications about how we see growth happening in the region. Vice Chair Mauter asked for Ms. Sandkulla's advice to the UAC on how to effectively engage with her predecessor and the SFPUC.

Ms. Sandkulla remarked that drought was driving the AWS numbers, not growth. Efficiencies were beyond covering growth. Investments were for reliability. As we become more efficient, it was more challenging when you needed to reduce 20 percent in a drought year. Vice Chair Mauter queried if SFPUC's definition of the design drought was correct. Ms. Sandkulla responded that since BAWSCA's formation they had been engaged on the design drought and would continue to support the design drought as the appropriate metric for planning purposes for this service area, given our reliability on a singular source of supply. Better, more informed data was needed in order to revisit the design drought.

Vice Chair Mauter thought there had been a lot of progress in the science of making better projections instead of combining two droughts to create a design drought. Distinct attributes as well as frequency, intensity, and duration of droughts have different implications for the water supply and structure needed in the future. Vice Chair Mauter thought that a more detailed study out of BAWSCA clearly defining an appropriate design drought for our region for not just today but potentially under future climate scenarios 50 years out would be an incredibly valuable service from BAWSCA to its members. Ms. Sandkulla pointed out that BAWSCA did not own and operate the system, so her preference was to have SFPUC do it. Vice Chair Mauter believed that BAWSCA and SFPUC working together on a study was ideal but if it was not possible, then it was imperative that BAWSCA take it on independently.

Ms. Sandkulla remarked that San Jose and Santa Clara chose not to participate in the lawsuit that Palo Alto and other cities brought forth that resulted in the 184 contract. Therefore, San Jose and Santa Clara were not beneficiaries of the lawsuit settlement to have perpetual supply assurance through 184. All individual contracts were the same, including San Jose and Santa Clara. San Jose and Santa Clara have consistently purchased water from the system every year since the 70s. The BAWSCA Board has continuously supported making San Jose and Santa Clara permanent customers and was actively engaged in discussions about that with San Jose, Santa Clara, and San Francisco.

In answer to Commissioner Tucher's question if system meant the Hetch Hetchy system, Ms. Sandkulla said yes. Commissioner Tucher asked if San Jose's and Santa Clara's contracts were through BAWSCA or SFPUC. Ms. Sandkulla replied that San Jose and Santa Clara were signatory to the water supply agreement, were members of BAWSCA, had seats on the board, and contracted directly with SFPUC the same as everyone else. The only difference was that San Jose and Santa Clara did not have perpetual supply assurance.

Vice Chair Mauter wanted to clarify if costs were driven by drought years, not by ample water supply years. Ms. Sandkulla responded that future costs, not current costs, were driven by drought years. Vice Chair Mauter thought that the region needed to make a policy decision on how to address the fact that two entities did not have supply assurances. Ms. Sandkulla remarked that it had been a struggle to find projects. Current conversations were around determining if there was a project that could be part of San Jose and Santa Clara giving permanent status and bringing in additional dry year supply that made it worthwhile for there to be a regional benefit.

Santa Clara and San Jose do not have a perpetual right to water from the system. Santa Clara's and San Jose's contract with San Francisco says they can get 4½ MGD every year, pay the same rate as everybody else, and cannot be terminated without a 10 years' notice. Chair Scharff wondered if Santa Clara and San Jose were costing us money because of the cost of investment for the design drought or if there were benefits resulting in a net positive because Santa Clara and San Jose saved us money in good water years since they buy water we would not otherwise sell. Ms. Sandkulla replied that there was a benefit to everyone when you sell water. Most of the time, the system had sufficient water to sell to its customers and was limited to who they could sell water. Selling up to 9 MGD to San Jose and Santa Clara was a benefit to the region as a whole. Everyone benefited from having a secure water supply in the region. Businesses rely on water supply.

Ms. Sandkulla advised the UAC to make sure the next CEO for BAWSCA comes to talk to the UAC.

Ms. Dailey asked Ms. Sandkulla to provide an explanation on Individual Supply Guarantee (ISG) and how or if it applied during drought. Ms. Sandkulla stated that collective wholesale customers were allocated supply assurance through 184. What was available in a normal year

was divided amongst the wholesale customers to calculate the ISG as a planning number to know how much you were entitled to purchase from San Francisco. Agencies could purchase more but did not have a right to it. Drought allocations were a separate formula based on wholesale customers, including San Jose and Santa Clara, negotiating for 2½ years on how to share available supplies during drought. The negotiations were concluding and the formula would be available in the next couple months.

Chair Scharff asked if Hayward had unlimited supply. Ms. Sandkulla explained that everybody's contract had an end date except Hayward's, so Hayward has asserted that their contract read that San Francisco would supply water to meet your community's needs. Hayward said that if they grew above their allocation of supply assurance in the 184 contract, everyone else had to cut back based on Hayward's interpretation of their contract.

Ms. Dailey confirmed Commissioner Tucher's understanding that Palo Alto consistently did not use their allocated ISG.

Commissioner Phillips questioned if supply and demand were not connected in the analysis and if demand changes were disconnected from the rates. With 50 percent debt service, rates would increase. Commissioner Phillips was concerned that the impacts of costs on the long-term use of water were being ignored. Ms. Sandkulla acknowledged that cost had an impact. A major component of the demand model was econometric, taking into account the available data. Until the last two years, data on droughts was very sparse. Costs increased because of investments. Sensitivity analysis was being done on total demand and PUC purchases. A third of the water supply was from water supplies less reliable than San Francisco. A more robust analysis will come out, which would be more useful to inform decisions.

Independent of San Francisco, BAWSCA has done forecasts on behalf of the wholesale customers since 2002. BAWSCA goes through an independent demand projection process with each of the 26 agencies. BAWSCA provided the projections to San Francisco for their use. Commissioner Tucher wanted to hear comment on SFPUC's Finance and Enterprise projections. Ms. Sandkulla asked Mr. Ritchie to respond. Vice Chair Mauter asked whether BAWSCA's projections were closer to the Enterprise or Finance projection. Ms. Sandkulla replied that the Water Enterprise projection was informed by BAWSCA's projection because the Enterprise projection was for long-term water supply planning purposes. The Finance Department projections were for year-over-year cash flow and rate-making purposes.

Ms. Sandkulla confirmed Commissioner Phillips's understanding that the econometric model explicitly used an elasticity of demand to calculate and adjust the forecast based on the rates the people were paying. Commissioner Phillips queried if those elasticities were available. Ms. Sandkulla stated that the demand projections and elasticities from the prior demand study as well as the entire demand study were publicly available on BAWSCA's website. Ms. Sandkulla offered to provide the elasticities from the prior demand study to Commissioner Phillips tomorrow. Ms. Sandkulla did not have the elasticities for the current study.

Chair Scharff pointed out that we never ran out of water even though the region has had many droughts since the 70s and a lot more water was used in the 70s, 80s, and 90s. Ms. Sandkulla felt it was more appropriate to allow SFPUC Assistant General Manager Steven Ritchie to respond. Chair Scharff asked to hear Ms. Sandkulla's comment and then Mr. Ritchie's. Ms. Sandkulla stated there had been a lot of singular one or two dry years but not many droughts extended to three years. Massive droughts occurred in 76-77 and 87-92. Then, there were a couple dry years but no droughts until the last 10-year period. We have grown into our demand. People used a lot more on a per-person basis in the 70s but you could save a lot by not flushing your toilet because a toilet used 7-9 gallons per flush. Your toilet today used less than 1 gallon per flush, so we have less ability to conserve. Regulatory constraints made the San Francisco system less reliable. The challenge was how to provide and manage the additional water that the environment needed. New drought year supplies needed to be developed.

Commissioner Gupta inquired if the contract in 2009 specific to San Francisco's obligation to provide safe drinking water included perfluorinated substances or microplastics in our water supply, and if BAWSCA or SFPUC was looking at that issue. Ms. Sandkulla answered that San Francisco's obligation was to provide water that meets drinking water standards. Mr. Ritchie and his team were actively looking at perfluorinated substances and microplastics, so Ms. Sandkulla would let Mr. Ritchie talk about it.

ACTION: None

UAC took a break at 8:30 PM and resumed at 8:42 PM.

ITEM 4: DISCUSSION: Discussion with San Francisco Public Utilities Commission's Assistant General Manager of the Water Enterprise: Operations, Drought Planning, and Alternative Water Supply Planning

SFPUC Assistant General Manager Steven Ritchie addressed the UAC. SFPUC delivered potable water to the system. Most wholesale agencies delivered raw water, not potable water, so a comparison of rates could be misleading. Valley Water's rates may have surpassed SFPUC. Because of the quality and purity of the water from Hetch Hetchy, the water is only disinfected but did not need to be filtered. The water was delivered by gravity through the system across the Central Valley and up the Peninsula to the Bay Area without any pumping. From a sustainability perspective, this was one of the highest ranking water systems in the nation if not the world. SFPUC had junior water rights on the Tuolumne River, meaning in wet years we had plenty of water but had the right to very little water in dry years. The irrigation districts have senior water rights. For reliability, SFPUC relied on stored water in their reservoirs. The source water had been sampled for years and PFAS had never been seen in the system. Microplastics may be the next water quality requirement.

Management decisions and planning were guided by Water First, experience, and risk management. Water First meant that water supply was a top priority with hydropower generation a secondary consideration. Experience was gained during the severe 1987-1992

drought. We cannot operate to zero storage because there would be no cushion for the next potential dry water year. For drought planning, analysis was done of a drought worse than 1987-1992 by adding two additional dry years. This year might be the beginning of a new drought because October was extremely dry. A photo was shown of the upstream face of O'Shaughnessy Dam with water available at the bottom level but the other outlets were dry.

All water agencies were obligated to create an Urban Water Management Plan (UWMP) every five years to demonstrate there was enough supply to accommodate anticipated growth over the ensuing 25 years. For example, SFPUC communicated with the City of Palo Alto's Planning Department about their expectation for growth. When a Finance Department does demand planning, they have to make sure they do not run out of money. SFPUC has to make sure they do not run out of water.

The 2018 adopted Bay-Delta Plan was contested and SFPUC filed litigation. Unimpaired flow paradigm and existing agreements may require up to 93 MGD of impact to regional water system supplies. A Healthy Rivers and Landscapes Program was an alternative being considered by the State.

In the last couple droughts, the State curtailed SFPUC's diversions in the system by certain water right holders. SFPUC had been working with the State on this but it could potentially impact SFPUC's water rights.

Housing Elements called for many new housing units in every community served by SFPUC. The population will continue to grow. Demand hardening would see if people could achieve 20 percent rationing in a drought.

Regarding climate change, SFPUC worked with UMass Amherst on a long-term vulnerability study, the results of which showed shifts for more precipitation as rain than snow with changes in runoff patterns.

The Alternative Water Supply (AWS) Plan for the regional water system was requested by SFPUC and the BAWSCA Board of Directors. This was not an adopted plan nor was it a plan to construct any particular project. The AWS Plan was meant as a planning document to give information to decision makers regarding potential future water supply issues and actions to augment the regional water system supplies to retain our current, appropriate risk management approach.

Wholesale customers had a supply assurance of 184 MGD, if available and requested, divided by Individual Supply Guarantees (ISG) among 23 customers, excluding San Jose and Santa Clara as well as Hayward's unique circumstance. San Francisco's supply allocation was 81 MGD. San Jose and Santa Clara had a combined supply of 9 MGD. Total regional water system demands were 244 MGD based on the 2020 UWMP, comprised of numbers received from wholesale customers collectively through BAWSCA plus work that SFPUC did with their econometric modeling in San Francisco. Assuming implementation of the Bay-Delta Plan Amendment, water

availability would be 152 MGD but total regional water system existing and potential obligations were 274 MGD, resulting in a shortfall of 122 MGD.

A map was shown of AWS projects throughout the service area: Daly City recycled water expansion, PureWater Peninsula, South Bay purified water, Los Vaqueros Reservoir expansion (LVE), supply alternatives for LVE, conveyance alternatives for LVE, Alameda County Water District and Union Sanitary District (ACWD-USD) purified water, and Calaveras Reservoir expansion. The three projects with PureWater or purified water in their name were potentially using recycled water for drinking water. According to the press, the Los Vaqueros Reservoir expansion project may not happen for various reasons. SFPUC thought they would continue to pursue the purified water projects because it was the surest future water supply. SFPUC will hire a Purified Water Program Manager in San Francisco to ensure SFPUC was moving in the right direction.

The regional groundwater storage and recovery project and the Alameda Creek recapture project were part of the WSIP that SFPUC was working on with BAWSCA and the wholesale customers. The San Francisco groundwater project had been instituted for years and SFPUC could expand it. PureWaterSF would be a purified water project in San Francisco. There were potential projects with Turlock and Modesto Irrigation Districts. SFPUC will develop additional demand scenarios. SFPUC will explore the feasibility of a regional water system grant program where money could be distributed to customers who had projects they wanted to pursue that may not have been cost effective but might be beneficial to the region.

A total of about $12 million was spent for the AWS Program over the last four years, mostly in planning purposes, and most went for the Los Vaqueros expansion project.

Earlier this year, SFPUC approved a 10-year capital improvement plan, including funding for AWS planning. The FY25-34 CIP totals were $1.63 billion for regional water and $1.53 billion for Hetch Hetchy water. Those funds were going for a lot of projects, the bulk of which were replacements of old facilities, including the hundred-year-old Hetch Hetchy facilities and various pipelines throughout the system. The AWS program represented about $260 million in the 10-year plan. Almost $11 million was planned to be spent in FY24-25 through FY25-26 but a lot of that was for the Los Vaqueros expansion, so SFPUC may change where that money goes. This funding supported purified water projects.

Delivering SFPUC's CIP takes sound financial planning, including smart infrastructure planning and investment, low-cost debt funding, and conservative financial policies on reserves and debt coverage. In November of 2023, the SFPUC adopted a ratepayer affordability policy. Historically, 2 percent of median income was affordable under EPA guidelines. The median income is high in San Francisco but it is a bimodal economy. SFPUC does numerous proactive audits. Rate setting is compliant with Prop 2018 and the Water Supply Agreement. SFPUC planned their finances to support their infrastructure needs without overly burdening their constituents.

FY 2025 projected wholesale rate: The wholesale revenue requirement was how much money it cost to operate the system in any given year, most of it fixed costs. Fixed fees were meter fees for various customers. There was a balancing account because sometimes funds were over or under collected depending on actual demand because it was prorated across water consumption. The wholesale revenue requirement minus fixed fees and plus or minus the balancing account was divided by wholesale volumes, which was $5.55/unit. This represented a 6.5% rate increase. The factors driving the rate increase were growth in capital spending, continued low water usage, and changes in the balancing account. A graph was shown of historic and projected wholesale rates. There were no rate increases from 2019 through 2022.

Commissioner Gupta asked Mr. Ritchie to expand on the different components and reasons for the rate increases from 2024 through 2029 shown on the graph of historic and projected wholesale rates. Mr. Ritchie replied that a lot of it was due to changes in the capital improvement program and increasing debt service. SFPUC had indicated when they started on WSIP that water rates would triple; and wholesale and retail customers collectively agreed it was worth it because the system was at too much risk of a failure.

Commissioner Tucher noted the chart started with 2018 but he recalled that rates were $1.50 or $2.00 prior to 2018. Mr. Ritchie agreed that rates were cheaper before but SFPUC had planned expenditures to build $4.8 billion worth of improvements and associated debt service.

Public Comment:

1. Peter Drekmeier with the Tuolumne River Trust showed slides. In the fall of 2016, the State Water Board came out with the Bay-Delta Plan. Within a month, the SFPUC and BAWSCA had an editorial in the Chronicle saying that the Bay-Delta Plan could lead to 50 percent rationing, and the loss of 188,000 jobs and $49 billion. Mr. Drekmeier wondered where those numbers came from. An update to the socioeconomic study was 2½ times lower. During the drought that ended in 2016, jobs had increased 27 percent in the service area and water demand decreased by 23 percent. If the worst recorded drought were to repeat and the Bay-Delta Plan flows were in place, the SFPUC could manage the drought without requiring any rationing or developing any alternative water supplies. Water conservation and alternative water supplies could strengthen water resources much further. SFPUC was planning for a design drought 72 percent more severe than the worst drought on record.

   In 2021, SFPUC released a Long-Term Vulnerability Assessment (LTVA) climate change study, spent three-quarters of a million dollars, and SFPUC never cited it to support their position; however, the Tuolumne River Trust cited it all the time. The LTVA did not include a return period for the design drought, meaning the number of years it might be expected to pass between severe droughts. The SFPUC did not say what the return period was for the design drought. A 2020 document uncovered through a Public Records Act request suggested a design drought return period of 25,000 years and 1.3 billion acre-feet would need to come out of storage. The design drought was downgraded to once in 8000 years proportional to what SFPUC did in the final LTVA. A

graph from the climate change study demonstrated 100 years of observed data and 1100 years of tree ring data. After 25,000 simulated model runs, the worst droughts do not come close to the 1.3 billion acre-foot deficit in the design drought.

2. Dave Warner stated that Valley Water's current wholesale rate for treated water was $2344 per acre-foot after a recent 12 percent rate increase, compared to $2470 in Palo Alto. Valley Water was working on a study on reliability balanced with affordability. It was wonderful that CPAU was comparing their rates to Redwood City and Hayward, trying to determine why their rates were different and learn how CPAU's rates could be better. Money needed to be spent on infrastructure to replace the penstocks but maybe it could be spread over more time to make it more affordable. Mr. Warner believed that there were a couple of things the SFPUC could do to help rates that could make a big difference in what end customers have to pay.

In response to Commissioner Gupta asking if the graph of projected wholesale rates included any of the potential AWS, Mr. Ritchie answered no.

Vice Chair Mauter asked if Mr. Ritchie felt confident in SFPUC's scientific understanding of how frequency, intensity, and duration of drought were likely to change under future climate scenarios, and if the study done within SFPUC was complete. Mr. Ritchie explained that the study was not intended to answer that question. The number of more than 24,000/year was part of an original analysis done by the researchers; however, without direction from SFPUC, the researchers concluded they did not have any data so it was too speculative to rely on in the report. As part of the study, an expert elicitation was done with 10 climate experts for two or three days of learning about the system and having discussions. When the climate experts were asked if they thought SFPUC's design drought was appropriate, too conservative, or not conservative enough, 7 of the 10 answered appropriate or not conservative enough.

Vice Chair Mauter remarked that the impact of changes in frequency, intensity, and duration of drought have very different financial implications. Vice Chair Mauter thought that an important part of the AWS Plan was to clarify how those individual drought attributes were likely to change going forward, and develop design droughts that were not just lengthening but were changing in frequency or intensity. Mr. Ritchie stated that was one of the key points the researchers made in the report that just came out. In an interview the researchers gave on this report, they said it was not just precipitation but the demand of the atmosphere and the biota had a big impact and those factors were now being incorporated much more. In response to Vice Chair Mauter asking if there was a planned update of the definition of a design drought, Mr. Ritchie answered no. At Hetch Hetchy, an analytical group of four or five people was providing insights to the SFPUC. The analytical group was connected to all the research networks on drought conditions, precipitation, atmospheric rivers, and other things. Mr. Ritchie agreed with Vice Chair Mauter's understanding that climate science in this area was changing very quickly. Vice Chair Mauter thought that keeping updated and regularly revisiting it was very important and in the best interest of all the SFPUC system. Mr. Ritchie remarked that SFPUC did not have any control over that because it was done through the Water Research

Foundation to UMass Amherst with SFPUC funding. Mr. Ritchie was happy to participate in additional work that came from that study.

Vice Chair Mauter spoke about the difference in the Enterprise and Finance demand models. Mr. Ritchie stated that the finance demand models were trying to get as close as they could to actual demands to make sure the SFPUC does not run out of money. The UWMP model was artificially inflated because it was based on what the Planning Department says would be the buildout, and SFPUC was legally obligated to show they had the water to meet that demand.

Vice Chair Mauter commented that it was important to explicitly look at how new projects affected rates and how it subsequently affected demand. Mr. Ritchie remarked that the SFPUC received a comment letter from BAWSCA on behalf of the wholesale customers, which said that they fully supported all the planning the SFPUC wanted to do but to not build anything until the SFPUC came back to talk about it and made sure they were the right investments.

Vice Chair Mauter requested clarification on how it was decided what gets built and the role that BAWSCA played in the decision making, and at what point individual projects come before BAWSCA. Mr. Ritchie explained that SFPUC was obligated within San Francisco to do an annual review of their capital improvement program. SFPUC did a thorough review every two years. SFPUC was starting on their mid-cycle review. The Water Enterprise identified candidate projects, which were then passed to the Infrastructure Division to develop cost estimates. The information was put into an 11 x 17 spreadsheet for discussion on each line item. Usually in October or November, SFPUC met with BAWSCA to discuss the coming year's plan.

Vice Chair Mauter asked what advice Mr. Ritchie had for Palo Alto City Council, the UAC, and CPAU on preparing our citizens for the potential blending with reused water and when should the City start the education process. Mr. Ritchie replied it was never too soon to start. SFPUC had been in discussion with BAWSCA and Valley Water about maybe doing something jointly with Valley Water. The common agreement was that the Bay Area should have a consistent set of messages on purified water. The messaging did not need to be project oriented. It was not a topic in the industry until about a decade ago. Now, it was getting more discussion and people were reading about it in the papers. When it is implemented, you need to have been working at it for several years and continue working at it.

Vice Chair Mauter expressed her personal support for a regional cost sharing program. Finding low marginal cost projects helped everybody in the region, and there was the potential to reduce cost as a result of continued regional coordination.

Vice Chair Mauter inquired if there was elasticity in other demands along the Tuolumne River and whether there had been any work to reach an agreement with the irrigation districts on water allocations in drought years. Mr. Ritchie explained that there were political and engineering considerations. In 2012, SFPUC thought they had a potential deal but there was a large public outcry during the public hearings about sending water to the Bay Area. SFPUC had been working closely with the General Manager and Chief Counsel but they were gone within

six months. SFPUC was starting to have conversations with the irrigation districts to find creative ways they might share benefits of projects. Vice Chair Mauter thought that as the marginal water supply costs of some AWS sources became a ceiling on willingness to pay, it may look beneficial to some of our partners at the irrigation districts. Mr. Ritchie said that SFPUC offered the irrigation districts a hundred times what they were paying for water and yet the deal died in 2012.

Commissioner Tucher's primary concern was that Palo Alto not be rushed into heavy investment in alternative water. Commissioner Tucher was open minded to questions of recycling when the time comes but he was concerned about rushing into making investments along the lines of the One Water discussion without open and transparent data and modeling, and without understanding the assumptions.

Commissioner Tucher noted the wholesale rates that Palo Alto paid to the SFPUC were high and CapEx for the SFPUC was high. Commissioner Tucher saw $1.6 billion in the presentation and he wanted to clarify that was not all SFPUC water. Commissioner Tucher thought CapEx was in excess of $10 billion over 10 years. Mr. Ritchie replied that CapEx was not in excess of $10 billion over 10 years. Mr. Ritchie was responsible for three capital improvement programs. Hetchy water up in the Sierras was about $1.5 billion, the regional water in the Bay Area was $1.6 billion, and $1.3 billion for local water in San Francisco; that was the Water Enterprise. The $1.5 billion upcountry included power projects, so maybe about half was a water project but it was carried out on behalf of the system that SFPUC was responsible for managing.

Commissioner Tucher attended a summertime BAWSCA meeting and learned that total SFPUC CapEx over 10 years was almost $12 billion and had gone up significantly in a two-year period. Mr. Ritchie stated that the total included the wastewater program. Commissioner Tucher pointed out that CapEx presumably had implications on future wholesale and consumer rates. Mr. Ritchie said it did in the sense that the split was roughly one-third and two-thirds for wholesale water and wholesale water costs but about half of SFPUC's budget came from San Francisco for retail. San Francisco residents received a combined bill for water and wastewater. Bigger wastewater increases in the future will lead to affordability issues. There could be a constraint on what San Francisco was able to pay into improvements that benefit the whole region. We have to get creative and look at alternative ways of financing. A regional financing authority was created in the legislation but it had never been used. The legislation gave the region the ability to issue debt.

Commissioner Tucher expressed his concern that Palo Alto would be affected by SFPUC's large and growing CapEx. Commissioner Tucher thought he read that CapEx jumped 30-something percent from a couple years ago. The alternative water projects in the presentation were an extra investment. Mr. Drekmeier explained that a large increase occurred after a zero percent water increase in San Francisco, so it was restoring money that was deferred.

Commissioner Tucher asked if 152 MGD was the amount of water that SFPUC gets from the Tuolumne. Mr. Ritchie answered no. After meeting the environmental obligations of 40 percent

unimpaired flow under the Bay-Delta Water Quality Control Plan, 152 MGD was the available supply from SFPUC's sources for the regional water system to deliver.

Commissioner Tucher inquired about SFPUC's entitlement of water from the river. There was reference to junior water rights in the presentation. Mr. Drekmeier explained that the SFPUC was entitled to 750,000 acre-feet from the Tuolumne in an average year, which was about 690 MGD. Demand had been less than 200 MGD for the last 10 years, which was 225,000 acre-feet per year. The Bay-Delta Plan required an average of 93 million gallons left in the river. In the 70s, 80s, and before then, the SFPUC projected much higher demand, which was why they invested a lot in storage. Hetch Hetchy was a quarter of SFPUC's storage. SFPUC had a water bank at Don Pedro. During extended droughts, on paper the SFPUC was giving up water from their bank but could keep all the reservoirs full. At full storage, SFPUC had about 1.45 million acre-feet, of which about 90,000 was dead pool, so SFPUC had about 1.35 million acre-feet. SFPUC needed 225,000 acre-feet per year. During the drought when SFPUC declared a water shortage emergency in November 2021, SFPUC had enough water in storage to last 4½ years. At the height of that drought, SFPUC had enough water in storage to last four years. In 2017, SFPUC had enough water to last 14 years.

Between 2012 and 2016, unimpaired, natural flow in the lower Tuolumne was an average of 12 percent; 88 percent of the water was held in storage or diverted. 2017 was a bigger water year and the unimpaired flow was 79 percent. Going from 12 percent to 79 percent was not a good way to manage a river. A salmon run supports a whole ecosystem. Had the Bay-Delta Plan been in effect between 2012 and 2016, it would require 40 percent of the flow to come down the river in the absence of dams and diversions between February and June. In 2017, it would have been 44 percent. The Bay-Delta Plan was adopted in 2018 and had unanimous support from Palo Alto.

Commissioner Tucher asked Mr. Warner to elaborate on his comment about affordability and reliability. Mr. Warner's understanding was that the SFPUC's focus was on reliability. Mr. Warner has not heard that the SFPUC was trying to balance reliability and affordability. Valley Water was looking at very significant increases in their water rates but they did a study to see what they could do to balance affordability and reliability. Mr. Warner wanted the SFPUC to say it would be great to do this project for reliability, here is how it would affect our water rates, and then decide if they should put off the project to help with water rate affordability.

Commissioner Tucher asked for Mr. Warner's point of view on SFPUC's rising CapEx, which had an effect on our water rates. Mr. Warner thought there was a need to look more closely at water rates. Some water districts, including Valley Water, get subsidized water from the State Water Project and their property owners pay a State Water Project fee. Palo Altans also pay a State Water Project fee on their property tax bill. There were many factors to consider, such as how reliable the system was, how much it was out of repair, if you were building reserves, and how much debt you have.

At the Yosemite Visitor Center, Commissioner Croft recalled seeing tree rings from 900 AD through now showing a 21-year drought in the Klamath River system, two 10-year droughts in the Sacramento River system, and a 13-year drought in the San Joaquin River system. Commissioner Croft supported investment to know the feasibility and necessary lead time for drought scenarios. Commissioner Croft expressed her concern about a longer-duration drought happening again.

Commissioner Gupta wanted further explanation on what SFPUC was doing now and potentially in the future on microplastics. Commissioner Gupta's concern was if purified water had the same chemical composition quality as the water from Hetch Hetchy. Commissioner Gupta heard that purified water would meet the federal maximums but Palo Alto's water was currently well below many federal maximums for contaminants. For example, the total dissolved solids in in Palo Alto's water were consistently below 100 but the federal maximum was up to 500. Mr. Ritchie replied that purified water would undergo required treatment under the regulations. The water would not have a noticeable taste difference nor would it be chemically distinguishable. There was no standardized methodology for analyzing microplastics. The State Water Resources Control Board will provide standardized methodology to evaluate source waters in a pilot project in the next two to three years with 10 or 11 of the largest water agencies in California, including SFPUC.

In response to Chair Scharff wanting to confirm that Mr. Ritchie said the main drivers for cost increases were capital improvements and declining water sales, Mr. Ritchie answered yes, they were the main drivers for rate increases. Mr. Ritchie explained that a household bill was a better point of comparison instead of rates. The rates San Francisco and SFPUC's wholesale customers pay for water was a certain cost per unit but somebody in Los Angeles would use twice as many units at maybe a lower rate but they were paying more on a monthly bill because of the amount of water they used. Chair Scharff asked what the primary reason was for SFPUC wanting to sell less water. Mr. Ritchie stated that SFPUC did not want to sell less water. SFPUC wanted people to use water wisely to ensure water was available in future drier years. Demand was low in wet years because there was no irrigation. Stretching water supplies as long as possible was the purpose for conservation and using water wisely at all times. Mr. Ritchie did not want to encourage more water use in wet years and have people cut back if there was a drought the following year because people would get used to using more water and question having to cut back.

Chair Scharff asked what the plan was to resolve the issue of continuously rising fixed costs causing an affordability crisis because not everyone could afford to pay high water rates, which may constrain SFPUC's ability to put money toward new sources of water or large capital improvement projects. Mr. Ritchie replied that the plan was that people relied and would continue to rely on this water; as a result, capital assets have to be renewed, which costs money. SFPUC's message was that the rate itself was irrelevant, what people were paying on a monthly basis was mostly relevant, and people would pay to have water supply reliability. Alameda County Water District gets 40 percent of their supply from the State Water Project but does not get any water from the State Water Project during a drought. Alameda County Water

District asks SFPUC for increased water supply during droughts because they need to have reliability of supply. They were not paying for the water; they were paying for the reliability and purity of the supply was the message SFPUC needed to give more than anything else.

Chair Scharff stated that desalination plants could be built, it would cost a fortune, rates would go ridiculously high but you could have a ton of water. It was a question of how much money you wanted to spend, what were the rates going to be, and what the effect was on the people. Spending a huge amount of money to make expensive water was a social negative. We cannot continue to spend vast amounts on capital improvements. Chair Scharff asked when the amount spent on capital improvements would stabilize so there would not be huge spikes in rates. Chair Scharff wondered if SFPUC was on sustainable 20-year path if they continued to sell less water, especially if the population did not increase.

Karla Dailey, Assistant Director of Utilities, Resource Management, said there was State legislation and regulation. There was the SBX. For the most part, everybody accomplished the reduction by the year 2020. New legislation was making conservation a California way of life by having to meet urban water use targets. Regarding selling more water in wet years, there were other pressures to make sure that water was being used wisely in California.

Commissioner Phillips noted that when utility demand goes down, the price goes up. As long as you were guaranteed growth, it was not a problem. When you start losing customers, the price goes up for the remaining customers. The Utility's obligation was to serve and provide reliability. In return, a formula was used to ensure the Utility gets their money back.

Chair Scharff was concerned about the long-term plan. Chair Scharff said that legislature and people's thinking could be influenced. Things could usually be fixed if you plan early.

Commissioner Tucher queried what the projected wholesale price to SFPUC would be in one, three, and five years, and if it was contractual. Ms. Dailey replied that CPAU relied on SFPUC's financial plan for the wholesale cost. Mr. Ritchie stated there was a graph that projected costs one, three, and five years from now.

ACTION: None

ITEM 5: DISCUSSION: Discussion of Utilities Annual Report for Fiscal Year 2024 (FY24)

ACTION: Vice Chair Mauter moved to have UAC Commissioners email their questions to Utilities Administrator Assistant Kaylee Burton for staff response; and to allow for a 15-minute conversation at the December UAC meeting for additional follow-up questions and provide staff response available to the public.

Commissioner Phillips seconded the motion.

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

At the Commission's request, Utilities Chief Operating Officer Alan Kurotori set a one-week deadline for commissioners to submit questions, staff had one week to return answers to the Commission.

Commissioner Tucher requested further information on the Utilities Annual Report. Director of Utilities Dean Batchelor explained that a report was given to the UAC every quarter. Discussion took place with the fourth quarter report because the whole year was compiled. Utility KPIs were reported along with comparisons. In response to commissioners' questions about reliability and the financials, staff included the information in the quarterly reports. Commissioner Tucher was looking for cost information. Commissioner Tucher would like to see a line for annual totals on the spreadsheets. Karla Dailey, Assistant Director of Utilities, Resource Management, directed Commissioner Tucher to look at Figure 9 showing gas supply cost actual versus budget on Page 14.

FUTURE TOPICS FOR UPCOMING MEETINGS ON December 4, 2024, AND REVIEW OF THE 12-MONTH ROLLING CALENDAR

Commissioner Croft asked about an offer for a graduate student to talk to the UAC about her project. Karla Dailey, Assistant Director of Utilities, Resource Management, responded that the student had worked on some of Palo Alto's electric portfolio models but had since taken another job. Commissioner Croft thought it would be interesting to hear about her project if she was available. Ms. Dailey will follow up with the student to see if it was possible for her to speak at a UAC meeting.

COMMISSIONER COMMENTS and REPORTS from MEETINGS/EVENTS

Commissioner Phillips went on a tour of the Hetch Hetchy Reservoir and highly recommended it. Commissioner Phillips found the tour useful to understand the complexity of the water system.

Commissioner Tucher visited the Water Temple.

ADJOURNMENT

Commissioner Mauter moved to adjourn.

Commissioner Scharff seconded the motion.

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

Meeting adjourned at 10:33 PM.

CITY OF PALO ALTO

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: November 6, 2024
Staff Report: 2407-3230

TITLE
Discussion of Utilities Annual Report for Fiscal Year 2024 (FY24)

RECOMMENDATION
Staff recommends that the Utilities Advisory Commission review and comment as appropriate.

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 37 vacant positions out of 259 authorized positions or a 14% vacancy rate at the end of June 2024 compared to 49 vacancies or 19% in June 2023.
- Progress has been made in filling vacant Electric Engineering and Operations positions year over year from 27 vacancies in June 2023 to 20 vacancies in June 2024, a decrease of 7 positions and vacancy percentage rate has decreased from 30% to 22%. In FY24, Utilities has hired a new Electric Engineering Manager, one Principal Engineer, and two journey level Linesperson.
- 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. Due to the success of the HR-Utilities liaison program, the City has rolled out this program to other departments to acquire new talent.

Electric Utility:

- Improved hydroelectric generation and revenue from Resource Adequacy sales are resulting in a projected net supply cost of $70.8M for FY 2024, or a 23% decrease compared to budget. (Section 1.1.1)
- A number of construction projects are in progress or have been recently completed. (Section 1.2)
- A summary chart of quarterly electric outages is included in the report. (Section 1.4)
- FY 2024 electric sales volume were 4.3% higher than forecasted. (Section 1.5.1)

Gas Utility:

- Gas prices have been relatively low and stable.
- Council approved a strategy to collect funds to mitigate the impact of a potential future short-term price spike. (Section 2.1)
- One gas main replacement project is in progress, and one is in the design stage. (Section 2.2)
- Gas sales in FY 2024 were 8.1% lower than forecasted. (Section 2.5.1)

Water Utility:

- The State Board is completing CEQA review of the Tuolumne River Voluntary Agreement and moving forward with implementation of the Adopted Phase I Bay Delta Plan.
- Work continues on the One Water Plan. (Section 3.1)
- The turnouts project was completed, and two main replacement projects are in progress. (Section 3.2)
- Water sales at the end of FY 2024 were about 2.0% lower than forecasted and water sales revenues were 4.6% lower than budgeted. (Section 3.5.1)

Wastewater Utility:

- Funding from Valley Water in an amount of $11.8 million will be applied to Palo Alto's share of approved RWQCP projects, directly benefitting Palo Alto customers. (Section 4.1)
- A sewer system rehabilitation replacement project (SSR 31) on El Camino and Page Mill is complete. (Section 4.2)
- Actual wastewater sales revenues have been lower than expected due to low water usage in the commercial sector. (Section 4.4.1)

Fiber Utility:

- Fiber construction start in the pilot areas is dependent on two critical milestones: the installation of the fiber hut at Colorado power station and completion of pole-make ready work. Staff is finalizing the fiber hut design, working with the vendors to provide designs for internal building and fire permit review. The hut is anticipated to be installed by the end of Q1-2025. Electric pole-make ready work such as pole replacements and hanging messenger wire is in progress and on track to be completed by Q1-2025. Fiber cable may be strung once electric pole-make ready work is completed.
- The RFP for the operating support system and business support system (OSS/BSS) software is in progress. Existing fiber construction and IT networking equipment contracts will be leveraged to build the pilot area. New RFPs will be issued for the remaining area in Phase 1 next year.
- CPAU has filled the role of Outside Plant Manager to oversee planning, construction, and inspection of the FTTP infrastructure and new fiber backbones. This position will oversee field technicians and coordinate construction, installation, and repair activities while adhering to quality and customer service standards.
- In conjunction with the City's wildfire mitigation plan to underground utility poles in the foothills, CPAU establishing a dark fiber license agreement to provide customers in the foothills area dark fiber to enhance their home broadband service.

Customer Programs (Section 6):

- In 2023, the City began offering lower pricing for heat pump water heater (HPWH) replacements through a full service turnkey program as well as rebates offered for customers who use their own contractor. More than 400 HPWHs have been installed as a result of a wide range of marketing approaches for the program. (Section 6)
- In October 2024, the City launched the emergency water heater replacement pilot program. to help our customers replace broken gas water heaters with clean and efficient heat pump water heaters within 48 hours.

This pilot program is part of the Advanced HPWH Pilot Program in the S/CAP workplan to help meet the City's climate goals. So far the program has served two customers, and is expected to expand rapidly as marketing ramps up.

- 23% of all water customers have utilized the City's new WaterSmart online water management tool, and preliminary results from the efficiency study show that sending home water reports results in water-savings of 2.1%.

Communications:

- A digest of major outreach efforts is provided in Section 7, with topics 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 Annual Report
FY 2024

Figures

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 but does not operate any transmission lines or any 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.

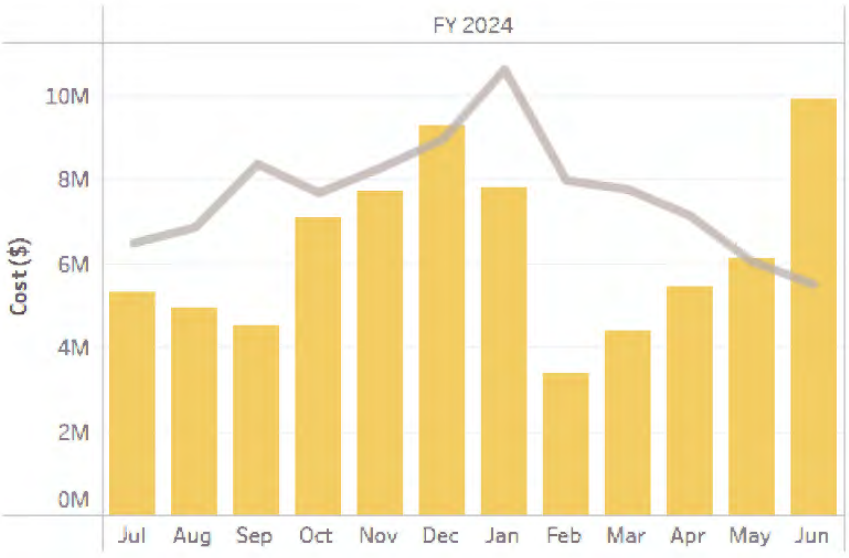
1.1 Electricity Supply and Transmission

Below is an update on electricity supply and transmission services.

1.1.1 Forecasted Supply Costs

With hydroelectric generation conditions improving significantly and market prices coming down over the past year, the electric net supply cost for FY 2024 is currently projected to be $70.8M, which represents a 23% decrease from the Adopted Budget level of $91.7M. The cost decrease is primarily driven by the aforementioned improvement in hydro generation projections, as well as greater than projected revenues from resource adequacy (RA) capacity sales. For FY 2025, electric net supply cost is projected to increase slightly to $77.7M.

Figure 1: FY 2024 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.

Following the extremely wet water year of 2022 to 2023, reservoir levels across the state began this water year at above average levels. With the majority of the rainy months behind us, water year 2023 to 2024 was roughly average from a precipitation and snowpack perspective, which has resulted in reservoir levels being above average for this time of year. As of August 26, precipitation in central and northern California is about 10-15% below average for that time of year. Snowpack levels are as expected for this time. As a result of these relatively favorable conditions, hydro generation levels are projected to be slightly above average this year and next year, with total output of about 113% of the long-term average level for FY 2024 through FY 2026.

Figure 2: Hydro Generation: FY 2024 - FY 2026 Actuals & Projections (GWh)

	FY 2024	FY 2025	FY 2026
Calaveras Generation (GWh)	142	137	156
Western Generation (GWh)	386	294	299
Total Hydro Generation (GWh)	527	431	455
% of Long-term Average Total	132%	108%	113%
Long-term Average Total Hydro (GWh	401	401	401

1.1.3 REC Exchange Program

Under the Renewable Energy Credits (REC) Exchange Program, which was approved by Council in August 2020 (Staff Report #11556[2]), staff has contracted to sell 230 GWh worth of in-state RECs (for $16.5M) and purchased 155 GWh worth of out-of-state RECs (for $0.7M) in FY 2024, resulting in a net revenue of $15.7M. The price spread between in-state versus out-of-state RECs has widened significantly since the start of 2023, due to the strong demand for in-state products.

1.1.4 Renewable Energy Procurement

As noted in the previous quarterly report, NCPA recently issued a Request for Proposals (RFP) for new renewable energy and storage projects to meet NCPA members' procurement needs which yielded a total of 29 proposals – nine for standalone solar projects, nine for standalone battery energy storage systems (BESS), and 11 for solar-plus-storage projects. Utilities staff has evaluated all of these proposals (for total value to the City and ability to meet the City's procurement needs) and provided feedback to NCPA on which proposals to pursue further, and NCPA staff has recently reached out to the proposers of the shortlisted projects to discuss commencing contract negotiations.

1.2 Capital Improvement Plan Status

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

[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] Staff Report #11556: https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmrs/year-archive/2020/id-11556.pdf

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

- This project is scheduled to be completed in several phases. Phase 1 is completed. Phase 2 engineering design is in progress and to be completed by December 2024. Phase 2 construction will be completed June 2025.

EL-10006 (Rebuild Underground 24)

- This project is in the design phase and scheduled to be completed in Dec 2024. Construction will be completed by summer 2025.

EL-16000 (Rebuild Underground 26)

- This engineering design for this project is currently in progress and is expected to be completed in Dec 2024. Construction will be completed by summer 2025.

EL-19004 (Wood Pole Replacement)

58 poles have been replaced in FY2024. CPAU staff and contract consultants are continuously working on pole replacement designs for construction. Replacement of poles in the Grid Modernization – Pilot area is the top priority. EL-16003 (Substation Physical Security). This project is scheduled to be completed in several phases. Substation Security lighting and camera contract was awarded in June 2022. The installation will be completed over a 2-year period. Construction is currently complete at 7 of the 9 substations. The bid package for the final two substations is being prepared for solicitation.

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. In this past quarter, Council approved the purchase request for the sixteen 12KV circuit breakers. A purchase order has been issued and the breakers are scheduled to be received in late August 2024. The installation of the breakers will be completed in FY 2025. The project to purchase the seven 60KV breakers was approved by City Council on May 20, 2024. 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 construction 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-24000 (Grid Modernization)

- Engineering design and construction is in progress. 39 (56%) poles out of the 69 targeted for replacement have been replaced in the Grid Modernization Pilot area, with the remaining 30 poles slated for replacement before year end 2024. Additionally, 184 (14%) of the 1,290 homes in the Pilot area are ready for electrification, with another 334 homes inline to be connected to the upgraded infrastructure by the end of August, and the remaining 772 homes to be connected by year end 2024.

1.3 Rate and Bill Comparisons

During Q4, Council adopted new rates with a wide range of rate changes that differ by rate class for FY 2025, effective July 1, 2024. The median residential user will see a 9% bill increase, while medium and large businesses will see bill decreases of a few percent. Effective July 1, 2024 PG&E decreased its residential rates 9.4%[3] as two wildfire and energy resource recovery charges expired in June 2024. Santa Clara typically only changes their rates in January and has not adjusted rates since their 10% increase in January 2024. Figure 3 shows an updated bill comparison based on these updated rates. Staff estimates that based on these rates the average monthly bill (a full year's worth of bills divided by 12) for the median

[3] PG&E Decreased Residential Rate https://www.pge.com/assets/pge/docs/account/rate-plans/electric-rate-advisory-0724.pdf

residential customer is approximately half of what it would be in PG&E territory and about 24% above what it would be in Silicon Valley Power (City of Santa Clara) territory.

Figure 3: Residential Monthly Electric Bill Comparison (Effective 7/1/2024, $/mo.)

Usage (kwh)	Palo Alto	PG&E	Santa Clara
300	63.02	109.47	49.02
(Summer Median) 365	75.67	141.07	60.03
(Winter Median) 453	92.87	183.85	74.93
650	135.95	279.63	108.29
1200	256.22	547.02	201.42

1.4 Reliability

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

Figure 4: 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 5: Electric Outage Reliability, FY 2023 to FY 2024

Outage Reliability	FY 2023				
	Q1	Q2	Q3	Q4	Annual
System Average Interruption Duration Index (SAIDI)[4]	81.69	7.38	111.90	1.09	198.60
System Average Interruption Frequency Index (SAIFI)[5]	0.61	0.04	1.00	0.01	1.64
Customer Average Interruption Duration Index (CAIDI)[6]	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)[4]	-	37.75	67.03	16.01	120.80
System Average Interruption Frequency Index (SAIFI)[5]	-	0.18	0.36	0.19	0.73
Customer Average Interruption Duration Index (CAIDI)[6]	-	213.82	183.33	83.76	164.73

*Note: Annual data only reflects Q2-Q4 2024 results. Q1 data is currently not available.

1.5 Financial Health

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

[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)

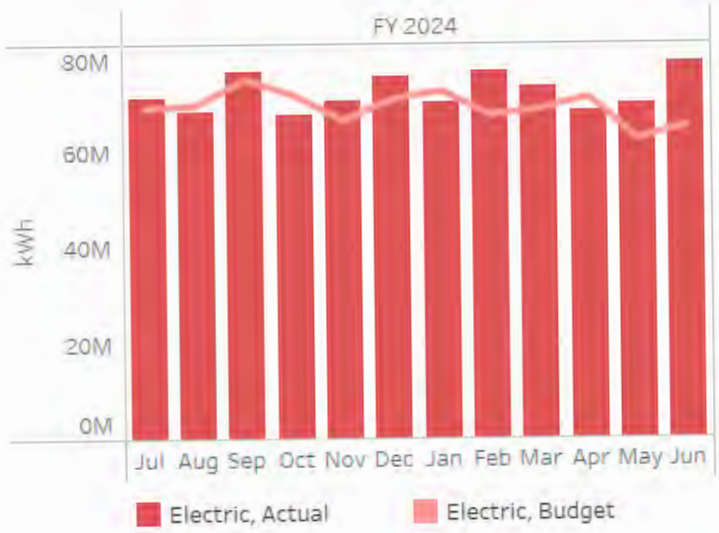
[5] System Average Interruption Frequency Index (SAIFI) - the average number of times a customer will experience an interruption during a given time frame. SAIFI = (Total Customers Interrupted) / (Total Customers Served)

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

1.5.1 Sales Forecasts vs. Actuals

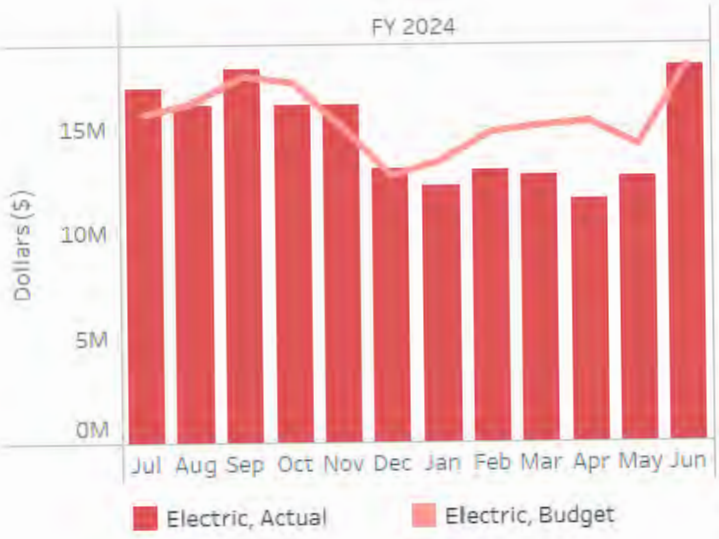
Since the beginning of FY 2024, actual electric sales volumes exceeded forecasts by 4.3%. The increase in sales volume is attributable to new data center load, in addition to increasing sales to other medium commercial customers recovering from the pandemic.

Figure 6: Electric Sales Volume (kWh), up to FY 2024-Q4



	Budget	Actual	Variance	Variance %
Jul	69,109,149	71,044,788	1,935,639	2.8%
Aug	69,639,480	68,198,516	-1,440,964	-2.1%
Sep	74,996,300	76,536,946	1,540,646	2.1%
Oct	71,617,616	67,606,331	-4,011,285	-5.6%
Nov	66,425,940	70,556,240	4,130,300	6.2%
Dec	70,874,031	75,421,395	4,547,364	6.4%
Jan	72,516,748	70,089,967	-2,426,781	-3.3%
Feb	67,545,778	76,498,754	8,952,976	13.3%
Mar	68,654,637	73,179,169	4,524,532	6.6%
Apr	71,164,798	68,383,129	-2,781,669	-3.9%
May	62,396,710	69,851,395	7,454,685	11.9%
Jun	65,109,422	78,419,406	13,309,984	20.4%

Figure 7: Electric Sales Revenue ($), up to FY 2024-Q4



	Budget	Actual	Variance	Variance %
Jul	15,642,045	16,773,250	1,131,205	7.2%
Aug	16,155,424	16,046,794	-108,630	-0.7%
Sep	17,362,908	17,728,130	365,222	2.1%
Oct	17,046,992	16,020,584	-1,026,408	-6.0%
Nov	15,033,813	16,031,090	997,277	6.6%
Dec	12,686,045	12,976,479	290,434	2.3%
Jan	13,356,506	12,196,761	-1,159,745	-8.7%
Feb	14,758,161	12,919,030	-1,839,131	-12.5%
Mar	15,043,708	12,652,295	-2,391,413	-15.9%
Apr	15,249,525	11,470,820	-3,778,705	-24.8%
May	14,120,723	12,562,784	-1,557,939	-11.0%
Jun	17,812,120	17,779,611	-32,509	-0.2%

1.5.2 Financial Position

The Electric Operations Reserves ended Q4 FY 2024 at $32.3 million, below the target of $45 million, but above the minimum guideline of $32 million. At the end of FY 2024, $17 million of funds were transferred into the hydro stabilization reserve, which will enhance the utility's ability to manage supply cost volatility in the future and prevent drastic rate changes as experienced after the Covid-19 pandemic and the drought from 2020-2022.

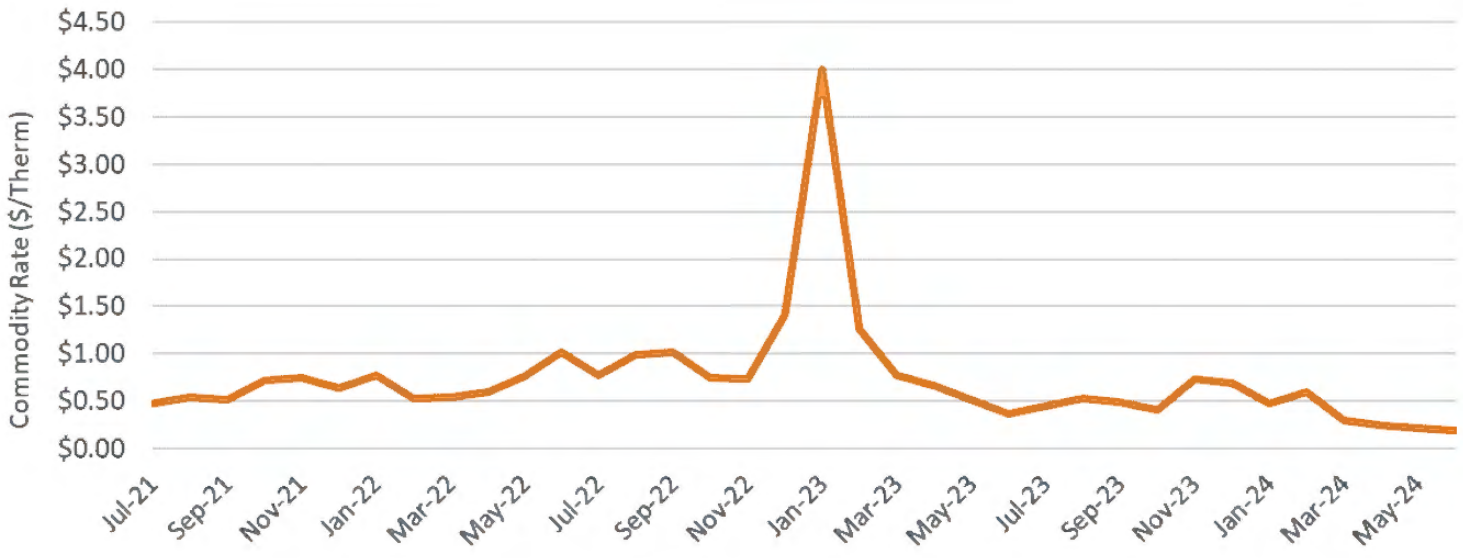
2 Gas Utility

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 during winter 2022-2023, natural gas prices have seen a significant decline, returning to more typical ranges. This shift can be attributed to several factors, including milder temperatures and above average gas storage levels nationwide. The combination of these factors has put downward pressure on natural gas prices, and we do not expect an extreme price spike to occur in the near future. The chart below shows Palo Alto's gas commodity rates from July 2021 to June 2024.

Figure 8: Palo Alto Gas Commodity Rates



Long Term Gas Hedging Policy

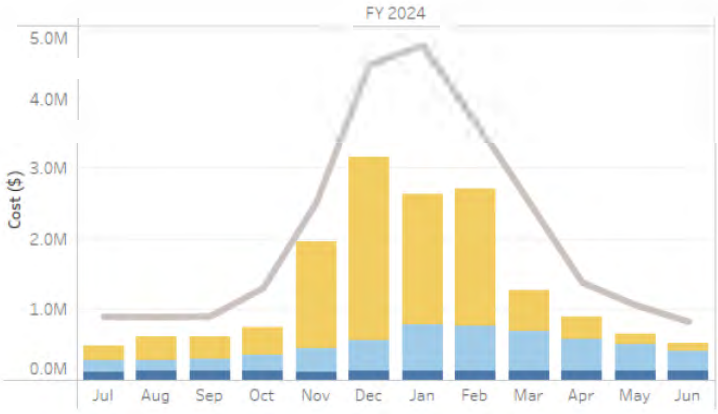
At its August 19, 2024 meeting, Council adopted a new gas hedging policy effective November 2024 as an alternative to the capped-price premium which was adopted by Council last year and ends at the end of October 2024. This new policy includes a 5.5 cents per therm adder in the gas commodity charge for a period of 3 years, aiming to accumulate about $4.5M in a reserve to mitigate potential short-term price spikes, such as the one experienced in January 2023. This policy

also includes lowering the maximum gas commodity charge from $4 per therm to $3 per therm after 3 years after the reserve is built up. Based on Council's adoption of the new policy, the 5.5 cents per therm adder will be included in the Commodity Charge beginning November 2024.

2.1.1 Actual and Forecasted Supply Costs

Actual supply and costs in FY 2024 were approximately 36% lower than budgeted in the FY 2024 Financial Plan. The decrease was attributed to substantially lower gas commodity prices, which were driven by increased natural gas production, higher inventory levels, and the unusually mild winter across much of the U.S., which was the warmest winter on record according to NOAA.

Figure 9: Gas Supply Costs ($), Actual vs Budget, up to FY2024-Q4



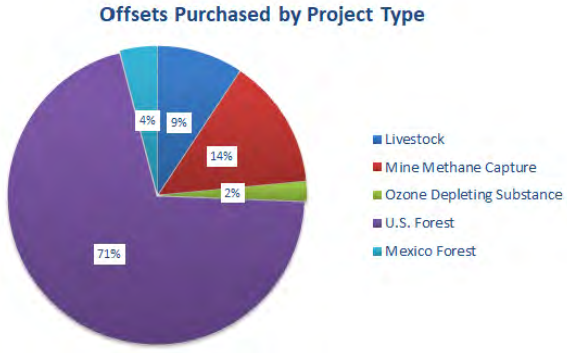
	Budget	Actual	Variance	Variance %
Jul	899,318	494,249	(405,069)	-45%
Aug	894,517	614,505	(280,012)	-31%
Sep	900,895	607,531	(293,364)	-33%
Oct	1,304,693	752,828	(551,865)	-42%
Nov	2,513,977	1,963,710	(550,267)	-22%
Dec	4,473,669	3,146,501	(1,327,169)	-30%
Jan	4,752,876	2,625,649	(2,127,227)	-45%
Feb	3,658,626	2,701,366	(957,260)	-26%
Mar	2,519,294	1,263,148	(1,256,146)	-50%
Apr	1,381,162	898,248	(482,914)	-35%
May	1,063,349	657,817	(405,532)	-38%
Jun	828,534	515,555	(312,980)	-38%

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. Staff procured 290,000 tons of offsets during Winter 2023/24 to cover FY23 and FY24 usage. The figure below shows the composition of offset purchases.

Figure 9: Offset Portfolio Composition



The following table provides a description of the projects.

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

Figure 10: 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	Mexico 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.
Hiawatha Sportsmans Club	U.S. Forest	Located in Michigan's Upper Peninsula, Hiawatha Sportsmans Club (HSC) is a member-owned 35,000-acre forest and Michigan's oldest certified Tree Farm. The property contains a variety of habitats: Lake Michigan shoreline, inland lakes, spring-fed rivers, marsh, mature conifer and hardwood forest and open fields. Supported by HSC's sustainable forest management, these diverse habitats attract and sustain a wide variety of birds, mammals and other wildlife.

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. In FY 2024, the net benefit to the Gas Utility was $440K, or a reduction of about 4.3% of the total gas commodity costs.

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.pdf

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 $805K in FY 2024.

2.2 Capital Improvement Plan Status

The following capital projects are currently in progress:

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

- The GMR 24B project construction has started. Gas pipelines on University from Webster to Hwy 101 and surrounding streets, as well as Geng Rd and Town & Country Village, are scheduled to be replaced. Construction is completed on University from Chaucer Street to Woodland Avenue, Geng Rd area, and Town & Country Village. Construction is anticipated to be completed in March 2025. The project 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 will be the remaining available budget under GS-14003.

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 as full federal funding was approved. Construction is anticipated to begin in FY26 due to federal grant funding requirements.

2.3 Rate and Bill Comparisons

The figure below compares the gas bills for residential customers in Palo Alto and PG&E in FY 2024, at various usage levels. The PG&E bills are based on their Climate Zone X, which includes Menlo Park, Redwood City, Mountain View, Los Altos and Santa Clara. For the summer season, Palo Alto's median residential bill is estimated to be about 77% more than that of PG&E. Conversely, during the winter, Palo Alto's median bill drops to about 21% less than PG&E's. On an annual basis, during FY 2024, the median residential bill for Palo Alto residents was around 1% less than PG&E customers.

Figure 11: Residential Natural Gas Bill Comparison ($/month)

Season	Usage (Therms)	Palo Alto	PG&E Zone X*	% Difference
Summer	10	$ 28.21	$ 7.15	294%
	(Median) 17	38.14	21.55	77%
	30	66.78	52.13	28%
	45	103.97	87.41	19%
Winter	30	$ 62.98	$ 71.23	(12%)
	(Median) 51	97.26	122.77	(21%)
	80	164.94	201.98	(18%)
	150	353.40	397.56	(11%)
Annual	(Median) 31	$ 62.77	$ 63.73	(1%)

**PG&E's bill estimates include an $85 annual Climate Credit*

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.

Figure 12: Gas Service Interruptions, FY 2023 to FY 2024

	FY 2023				FY 2024			
Gas	**Q1**	**Q2**	**Q3**	**Q4**	**Q1**	**Q2**	**Q3**	**Q4**
Number of Breaks	9	4	3	7	5	1	5	6
Total Minutes	643	330	240	1560	540	120	570	270
Customers Affected	20	5	7	60	51	1	41	14

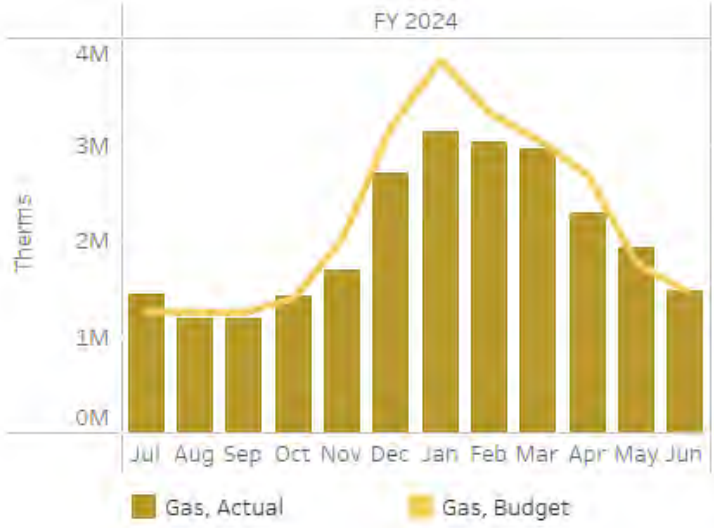
2.5 Financial Health

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

2.5.1 Sales Forecasts vs. Actuals

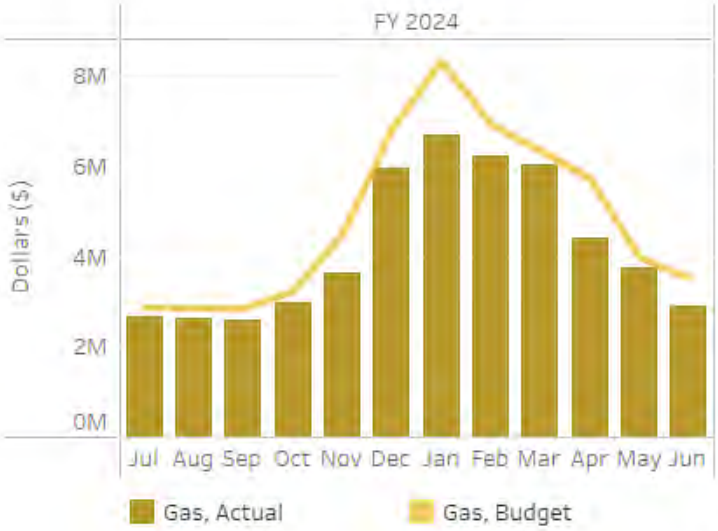
Actual gas sales volumes in FY 2024 were about 8.1% lower than forecasted, while actual sales revenues were about 12.9% lower than budgeted in the FY 2024 Financial Plan. After reaching historic highs in 2023, natural gas benchmark prices sharply declined this year, nearing historic lows. This decline was driven by increased natural gas production, reduced consumption, and higher inventory levels. Additionally, the unusually mild winter across much of the U.S., which saw the warmest winter on record according to NOAA, further contributed to the downward pressure on prices.

Figure 13: Gas Sales Volume (Therms), up to FY2024-Q4



	Budget	Actual	Variance	Variance %
Jul	1,262,980	1,449,976	186,996	14.8%
Aug	1,256,331	1,189,048	-67,283	-5.4%
Sep	1,252,809	1,181,469	-71,340	-5.7%
Oct	1,399,971	1,415,564	15,593	1.1%
Nov	2,026,429	1,697,519	-328,910	-16.2%
Dec	3,201,442	2,711,777	-489,665	-15.3%
Jan	3,881,379	3,139,138	-742,241	-19.1%
Feb	3,333,243	3,027,080	-306,163	-9.2%
Mar	3,049,391	2,950,374	-99,017	-3.2%
Apr	2,684,536	2,288,107	-396,429	-14.8%
May	1,765,332	1,923,804	158,472	9.0%
Jun	1,480,830	1,472,540	-8,290	-0.6%

Figure 14: Gas Sales Revenue ($), up to FY 2024-Q4



	Budget	Actual	Variance	Variance %
Jul	2,881,038	2,681,629	-199,409	-6.9%
Aug	2,858,852	2,617,519	-241,333	-8.4%
Sep	2,851,166	2,597,396	-253,770	-8.9%
Oct	3,230,838	2,982,388	-248,450	-7.7%
Nov	4,498,969	3,637,418	-861,551	-19.1%
Dec	6,838,020	5,952,574	-885,446	-12.9%
Jan	8,329,898	6,707,462	-1,622,436	-19.5%
Feb	6,934,294	6,241,172	-693,122	-10.0%
Mar	6,343,367	6,040,148	-303,219	-4.8%
Apr	5,734,550	4,425,379	-1,309,171	-22.8%
May	3,982,814	3,738,329	-244,485	-6.1%
Jun	3,529,310	2,900,358	-628,952	-17.8%

2.5.2 Financial Position

The FY 2024 ending Operations Reserve balance for the Gas Utility was $4.2 million, which is below the minimum threshold of $10 million. According to the proposed FY 2025 Financial Plan, the Operations Reserve balance fell below the minimum guideline at the end of FY 2024 due to one-time expense items deferred from FY 2023 to FY 2024, such as carbon offset purchases and Cap and Trade revenue transfers, as well as the impact on reserves from the unprecedented gas price spike in FY 2023. In June 2024, Council approved the FY 2025 Gas Utility Financial Plan[9] that included a 12.5% increase in gas rates to gradually restore reserves to within guideline levels and cover rising costs. Sales revenues in FY 2024 were lower by approximately 12.9% or $7.5 million from last year's projections, attributed to sales volume reductions of 8.1% lower than last year's projection as well as lower commodity prices.

[9] Staff Report 2404-2842, Attachment C, Exhibit 1: https://www.cityofpaloalto.org/files/assets/public/v/2/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/2024-rates/gas-financial-plan-fy25.pdf

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 draft Supplemental Scientific Basis Report for the Tuolumne River Voluntary Agreement in Fall 2024 and response to comments on the draft Scientific Basis Report, including peer review comments, by late 2024.

Concurrently, the State Board is moving forward with implementation of the Adopted Phase I Bay Delta Plan including preparing the draft Environmental Impact Report and regulation to implement the updates the State Board adopted in 2018. The Court in the State Board Cases on the litigation on the Adopted Phase I Plan ruled in the State Water Board's favor on all 116 claims by the 12 petitioners.

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.

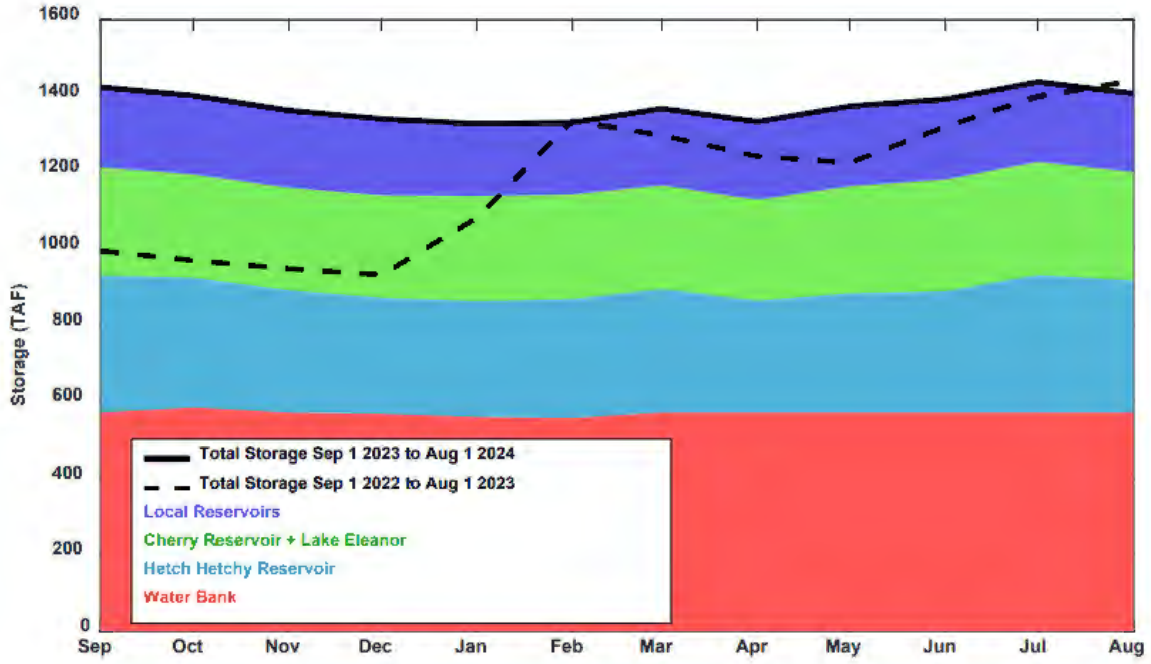
In order to plan for future reductions to existing water supply from climate change and regulatory uncertainties, the SFPUC undertook the Alternative Water Supply Plan. This plan is a roadmap to guide water supply planning to help address projected supply shortfalls through 2045. The SFPUC Commission approved the plan in February 2024 and expects to update the plan in Fiscal Year 2027.

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. BAWSCA's Board approved the contracting and funding to initiate the development of BAWSCA's

Long-Term Reliable Water Supply Strategy 2050. This planning document will enable BAWSCA to identify the highest priority water supply management activities to achieve its goal.

Cumulative Hetch Hetchy Weather Station precipitation for October 2023 through July 2024 was 32.06 inches, which is 104% of the median. As of August 1, 2024, the Regional Water System total storage operated by the San Francisco Public Utilities Commission (SFPUC) was at 96% 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 1,407 Thousand Acre Feet (TAF) as of August 1, 2024.

Figure 15: Regional Water System Storage

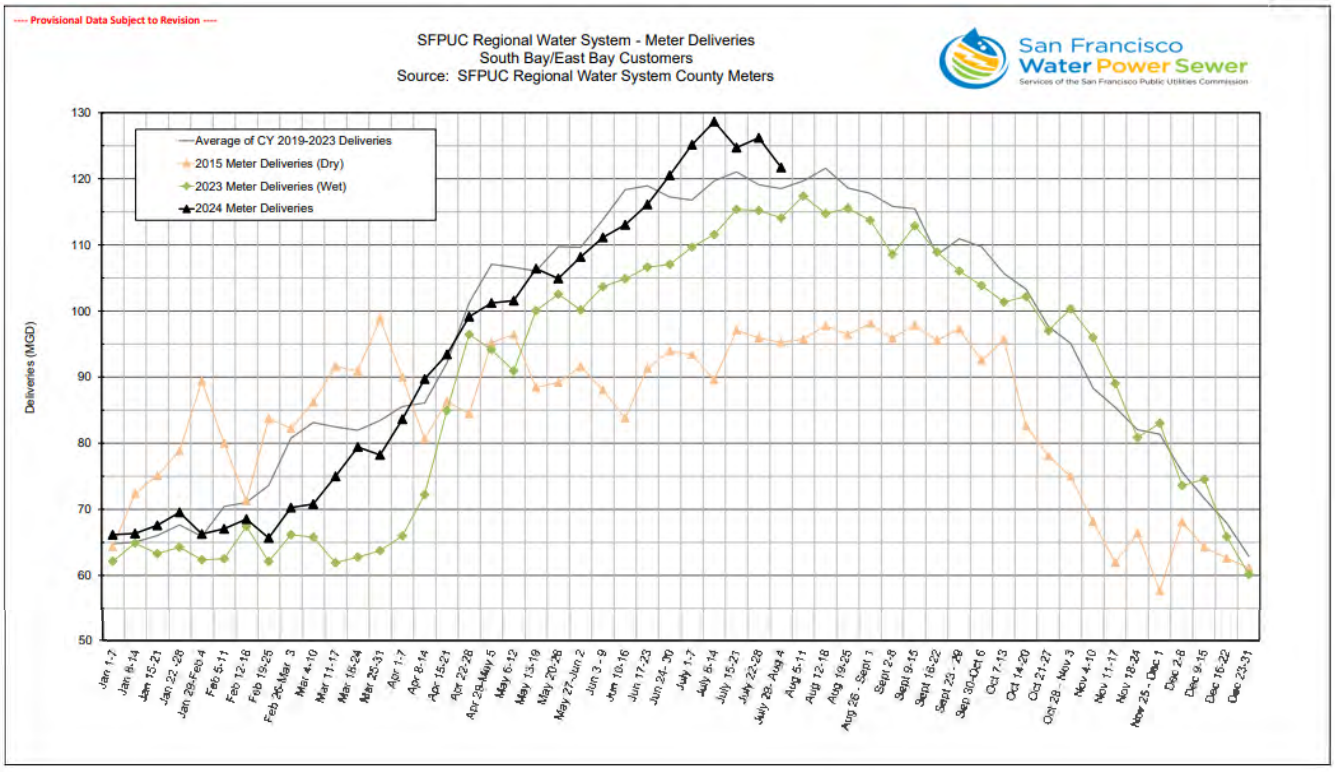


Palo Alto's eight permanent water use restrictions remain in effect; no additional local water use restrictions are in place at this time. The State's emergency regulation banning the use of drinking water for watering decorative grass in commercial, industrial, and institutional areas, other than to the extent necessary to ensure the health of trees and other perennial non-turf plantings expired in June 2024. However, the new legislative ban on non-functional turf potable watering in commercial, industrial, and institutional areas (AB 1572) will take effect in phases between 2027 and 2031.

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 2025.

The figure below shows water usage for the South Bay/East Bay (including Palo Alto) compared to several benchmarks including 2015 and 2023 and a five-year average. For the South Bay/East Bay region as well as systemwide, demand for the first six months of 2024 was similar to the average of the last five years but higher than the same months in 2023, which had historically wet weather.

Figure 16: SFPUC Water Deliveries



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 continued work on 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 which will identify alternatives for meeting the community's water needs in the future. 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. The UAC received a status update in February 2023 (Staff Report #14974[10]) and initial results in June 2024 (Staff Report #2404-2968[11]). Staff plans to return to the UAC and go to City Council at the beginning of 2025 to provide the final One Water Plan. The One Water Plan will be adaptable and staff can use the One Water excel-based tool to evaluate and prioritize water supply and conservation portfolios now and as future uncertainties are resolved.

3.2 Capital Improvement Plan Status

The following capital projects are currently in progress:

WS-07000 – California Avenue and Page Mill Road Turnouts

- The California Avenue and Page Mill Turnouts project was completed in June 2024. The project upgraded the California Avenue Turnout and added seismic restraints to the pressure reducing valve at Page Mill Road Turnout.

[10] Staff Report #14974 https://portal.laserfiche.com/Portal/DocView.aspx?id=66867&repo=r-704298fc

[11] Staff Report #2404-2968 https://portal.laserfiche.com/Portal/DocView.aspx?id=72156&repo=r-704298fc

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 started in November 2023 and was substantially completed in August 2024.

WS-16001 – WMR 30 (Water Main Replacement 30)

- The WMR 30 project is currently in the design phase and will replace approximately 7,000 linear feet of water main on Towle Way, on Stanford Avenue and Lambert Avenue from El Camino Real to Park Boulevard, and on Christine Drive. The anticipated project construction start date is in August 2025.

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 August 2024. CPAU is among the highest monthly bills of the group. Palo Alto's water bills at 9 CCF per month are 25% higher than the comparison group average.

Figure 17: Residential Water Bill Comparison ($/month)

Usage CCF/month	Palo Alto	Menlo Park	Redwood City*	Mountain View	Santa Clara	Hayward*
4	$58.26	$51.78	$64.16	$52.06	$35.60	$45.17
(Winter median) 7	$88.21	$68.13	$86.27	$68.13	$62.30	$69.59
(Annual median) 9	$113.47	$88.72	$112.31	$88.72	$80.10	$85.87
(Summer median) 14	$176.62	$140.21	$180.22	$140.21	$124.60	$135.87
25	$315.55	$263.76	$340.49	$287.41	$222.50	$245.87

** Indicates city received 100% of water supply from Hetch Hetchy*

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 18: Water Service Interruptions, FY 2023 to FY 2024

Water	FY 2023				FY 2024			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Number of Breaks	10	12	6	2	8	9	8	6
Combined Minutes	1007	1050	690	100	1086	880	1230	475
Customers Affected	46	249	63	19	147	96	164	75

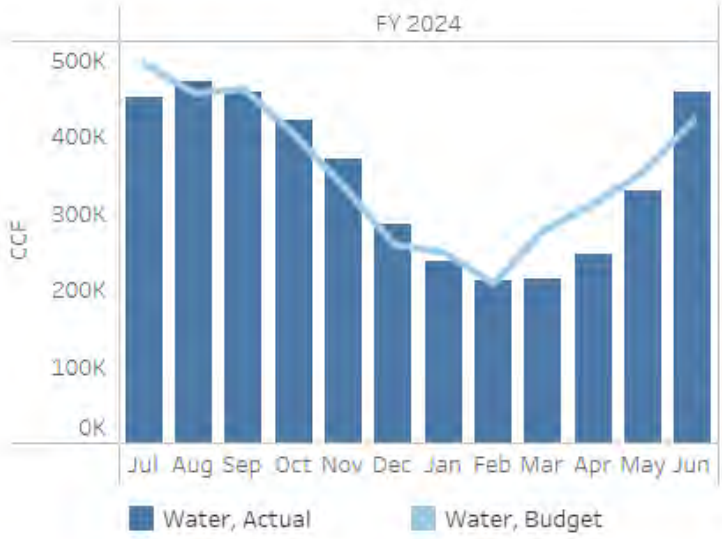
3.5 Financial Health

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

3.5.1 Sales Forecasts vs. Actuals

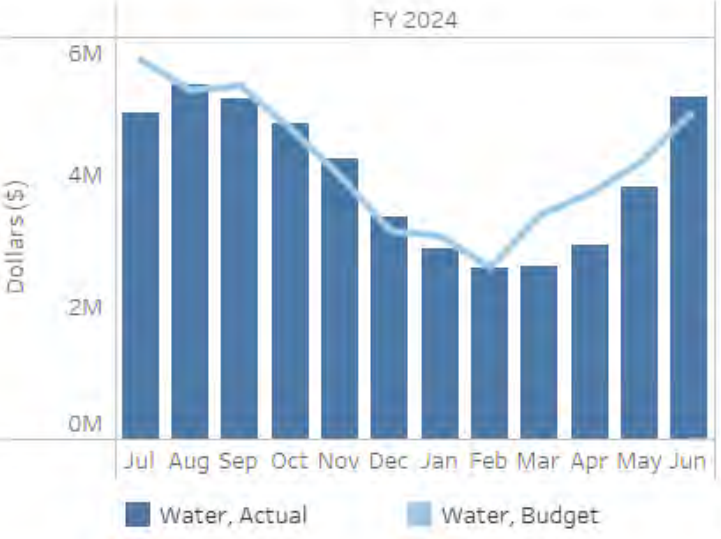
Actual water sales volumes in FY 2024 were about 2.0% lower than forecasted, and actual water sales revenues were about 4.6% lower than budgeted in the FY 2024 Financial Plan, which aligns with the anticipated recovery in water usage following periods of drought.

Figure 19: Water Sales Volume (CCF), up to FY 2024-Q4



	Budget	Actual	Variance	Variance %
Jul	495,002	450,829	-44,173	-8.9%
Aug	456,809	470,868	14,059	3.1%
Sep	462,050	457,652	-4,398	-1.0%
Oct	402,638	419,845	17,207	4.3%
Nov	334,604	369,124	34,520	10.3%
Dec	259,166	285,386	26,220	10.1%
Jan	248,878	236,414	-12,464	-5.0%
Feb	208,224	210,712	2,488	1.2%
Mar	277,406	213,850	-63,556	-22.9%
Apr	312,708	246,212	-66,496	-21.3%
May	353,888	329,290	-24,598	-7.0%
Jun	421,436	456,693	35,257	8.4%

Figure 20: Water Sales Revenue ($), up to FY 2024-Q4



	Budget	Actual	Variance	Variance %
Jul	5,747,300	4,949,382	-797,918	-13.9%
Aug	5,286,321	5,373,857	87,536	1.7%
Sep	5,353,828	5,149,441	-204,387	-3.8%
Oct	4,707,103	4,792,256	85,153	1.8%
Nov	3,985,964	4,242,115	256,151	6.4%
Dec	3,156,836	3,367,070	210,234	6.7%
Jan	3,083,159	2,874,368	-208,791	-6.8%
Feb	2,598,166	2,577,002	-21,164	-0.8%
Mar	3,402,499	2,620,172	-782,327	-23.0%
Apr	3,728,212	2,941,195	-787,017	-21.1%
May	4,190,885	3,810,663	-380,222	-9.1%
Jun	4,924,465	5,177,284	252,819	5.1%

3.5.2 Financial Position

At the end of FY 2023, the Water Operations Reserve stood at $7.9 million, which is within the guideline range but below the target of $10.8 million. In June 2024, Council approved the FY 2025 Water Utility Financial Plan,[12] which includes a transfer of up to $2.07 million from the Rate Stabilization Reserve to the Operations Reserve in FY 2024, as well as a 9.5% rate increase to pay for rising costs and offset decreased sales revenues. Based on the proposed FY 2025 Financial Plan, the Operations Reserve is projected to end FY 2024 at $9.2 million. The FY 2025 Financial Plan forecasts additional water rate increases will be needed over the next five years to maintain the Operations Reserve within the guideline range. Final FY 2024 reserve balances will be available in Fall 2024.

[12] Staff Report 2404-2842, Attachment B, Exhibit 1: https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/2024-rates/water-financial-plan-fy25.pdf

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

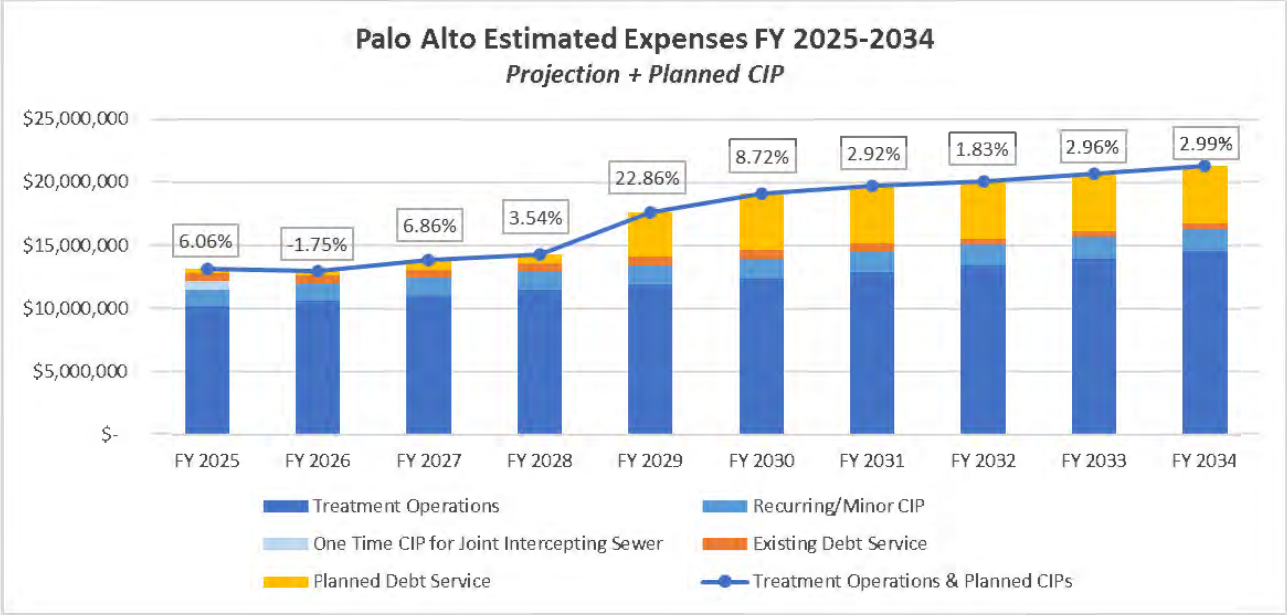
The RWQCP is operated by Palo Alto's Public Works Department and provides wastewater treatment to Palo Alto, Mountain View, Stanford, Los Altos, East Palo Alto and Los Altos Hills. The Palo Alto Wastewater Collection Utility pays its share (approximately 32% projected in FY 2025) of the costs for wastewater 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 5.6% 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 10% 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 or other capital cost payments to begin are reflected in the "Planned Debt Service" bar in the figure below and include:

- Joint Interceptor Sewer Rehabilitation (FY 2024)
- Building Purchase (FY 2025)
- Primary Sedimentation Tank Rehabilitation and Equipment Room Electrical Upgrade (FY 2025)
- Outfall Line Construction (FY 2027)
- Headworks Facility (FY 2029)
- Secondary Treatment Upgrades (FY 2030)

Figure 21: 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, and treatment operations costs. Operations costs 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 cost share increased in FY 23 from 32% to 35% based on updated data. RWQCP is updating the Long Range Facilities Plan which includes cost of service analysis and capital project cost allocation methodology.

In June, the Council approved a Cost-Sharing Agreement with Santa Clara Valley Water District for Guiding Principle 5 grant program funding for future projects at the RWQCP.[13] This grant program awards funds to communities like Palo Alto where property taxpayers pay State Water Project property taxes but receive on average 85% of their water supply from sources other than Valley Water managed supplies. Guiding Principle 5 awards grants to each community for certain purposes including wastewater treatment environmental upgrades. In FY 2025, staff will incorporate the estimated grant funding of $11.8 million into the treatment costs expected for Palo Alto. This funding will be applied to Palo Alto's share of approved RWQCP projects which will directly benefit Palo Alto customers. Four of the upcoming projects are eligible for Guiding Principal 5 program funding:

- Outfall Line Construction
- Headworks Facility Replacement
- 12kV Electrical Power Distribution Loop Improvements
- Joint Intercepting Sewer Rehabilitation

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-

[13] Staff Report 2404-2877, June 3, 2024 https://portal.laserfiche.com/Portal/DocView.aspx?id=72164&repo=r-704298fc

Range Facilities Plan update will direct additional/future CIP. The RWQCP's current capital work in-progress includes an estimated $418 – $515 million in projects. The following table summarizes these ongoing projects and provides their status and costs.

Figure 22: Current RWQCP Capital Work In-Progress (based on March 2024 Partners Meeting)

Project	Status	Planned Expense (million $)	Potential Expense (million $)
Primary Sedimentation Tanks Rehabilitation and Equipment Room Electrical Upgrade	Construction	$17.4	$19.4
12kV Electrical Loop Upgrades	Phase 1 in Construction, Phase 2 Construction Bidding	$12.5	$12.5
New Outfall Pipeline	90% Redesign	$17.8	$17.8
Secondary Treatment Upgrades	Construction	$193	$193
Advanced Water Purification System	100% Design, Architectural Review Board Approval	$63.6	$63.6
Headworks Facility Replacement	Advanced Planning	$55.3	$120-150 (estimated based on headworks project costs in the Bay Area)
Joint Interceptor Sewer Rehabilitation	Contract Awarded	$8.9	$8.9
Staff Buildings	Advanced Planning/Planning	$48.6	$50.4
Long Range Facility Plan Update	Contract Negotiations	TBD (est. $1 - $1.5)	TBD
Valley Water Purified Drinking Water Regional Plant at Former Los Altos Treatment Plant	On hold for two years for lack of funding due to higher priority Anderson Dam seismic retrofit expenses	N/A – Funded by Valley Water	N/A
	Subtotal	$418.1 – 418.6	$485 - 515

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. There is uncertainty in the cost estimate for the Headworks Facility Replacement; the RWQCP budget includes a planned expense estimate of $55.3 million, however the cost could grow to between $120 million and $150 million based upon headworks project costs in the Bay Area. Additionally, the RWQCP 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.

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 was completed in May 2024, earlier than anticipated, to allow Caltrans to start their street improvement/paving project on El Camino Real within Palo Alto. SSR 31 replaced approximately 11,000 linear feet of wastewater main, sewer laterals, and manholes on El Camino Real and Page Mill Road.

WC-15002 – Sewer Master Plan Study

- The Master Plan Study will evaluate the City's existing wastewater collection system, flows, and flow patterns to determine the adequacy of the system's hydraulic capacity to meet current and anticipated future wastewater flow demands. The project kicked off in December 2023 and is anticipated to be completed in March 2025.

WC-20000 - SSR 32 (Sanitary Sewer Replacement 32)

- The WMR 32 project is currently in the design phase and will replace sewer mains, laterals, and manholes on Middlefield Road and Webster Street between Seale and Oregon Ave. The anticipated project construction start date is in FY'26.

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 August 2024. Palo Alto's monthly sewer bill is about 20% lower than the comparison group average. Menlo Park in this table refers to the West Bay Sanitary District.

Figure 23: Residential Wastewater Bill Comparison ($/month)

Palo Alto	Menlo Park	Redwood City	Mountain View	Los Altos	Santa Clara	Hayward
$55.93	$114.25	$97.74	$54.60	$59.23	$52.37	$41.29

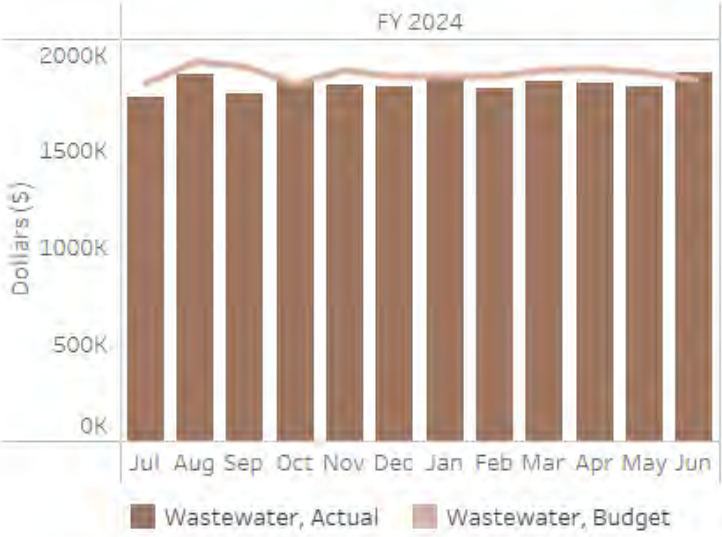
4.4 Financial Health

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

4.4.1 Sales Forecasts vs. Actuals

Wastewater sales revenues through FY 2024 was 2.9% lower than forecasted in the FY 2024 Financial Plan. The decrease in sales can be attributed to reduced water usage, particularly in the commercial sector, following a period of drought.

Figure 24: Wastewater Sales Revenue ($), up to FY 2024-Q4



	Budget	Actual	Variance	Variance %
Jul	1,847,724	1,777,262	-70,462	-3.8%
Aug	1,957,683	1,891,706	-65,977	-3.4%
Sep	1,932,809	1,791,130	-141,679	-7.3%
Oct	1,843,945	1,854,099	10,154	0.6%
Nov	1,913,185	1,837,743	-75,442	-3.9%
Dec	1,880,776	1,832,387	-48,389	-2.6%
Jan	1,884,264	1,867,656	-16,608	-0.9%
Feb	1,882,870	1,817,089	-65,781	-3.5%
Mar	1,915,564	1,857,130	-58,434	-3.1%
Apr	1,919,483	1,848,606	-70,877	-3.7%
May	1,904,248	1,826,797	-77,451	-4.1%
Jun	1,865,138	1,897,261	32,123	1.7%

4.4.2 Financial Position

The Wastewater Collection Operations Reserve dropped below guideline range and below zero to negative $0.7 million at the end of FY 2023. There were several reasons for this including costs higher than forecasted and revenues lower than forecasted. Additionally, Palo Alto began Sanitary Sewer Replacement project 31 with an increased budget and earlier start date in FY 2023 instead of FY 2024. Completing this sewer replacement earlier than previously anticipated was necessary in order to coordinate with Caltrans to limit or avoid digging into newly-paved street on El Camino Real. In June 2024, Council approved the FY 2025 Wastewater Collection Financial Plan[14] that included a 15% rate increase in FY 2025 and a short-term loan up to $3 million from the Fiber Optics Fund Reserve for FY 2024 to cover the potential shortfall of cash in the Wastewater Collection Utility. The Wastewater Collection utility will repay any such loan in FY 2026 (or sooner) at a rate equal to the City's portfolio rate plus 0.25%. Staff estimates with the proposed revenues and expense estimates the Wastewater Collection Utility will be able to cover rising costs, restore the Operations Reserve to within the guideline range by the end of FY 2026, and accelerate the rate of main replacement by FY 2028. Final FY 2024 reserve balances will not be available until Fall 2024.

[14] Staff Report 2404-2842, Attachment A, Exhibit 1: https://www.cityofpaloalto.org/files/assets/public/v/2/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/2024-rates/wastewater-financial-plan-fy25.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

Below are highlights and status updates of the Fiber-to-the-Premises (FTTP) Project:

- Staff is reviewing the final design of the fiber hut and backup generator. The fiber hut is a pre-cast concrete building (11' x 20') which will house the networking equipment including electrical system, cable entry, HVAC, lighting, fire suppression system, alarms, and racks. After the design is finalized, it will take approximately 90-120 days for construction and delivery.
- Electric pole-make ready work such as pole replacements and hanging messenger wire is in progress and on track to be completed by Q1-2025. Fiber cable may be strung and lashed after electric pole-make ready work is completed.
- City is evaluating the RFP responses for the operating support system and business support system (OSS/BSS) software. OSS supports infrastructure and network management by monitoring operations and provisioning service. BSS supports customer-facing activities such as billing, scheduling, and customer experience.
- CPAU has filled the role of Outside Plant Manager to oversee planning, construction, and inspection of the FTTP infrastructure and new fiber backbones. This position will oversee field technicians and coordinate design changes, construction, and installation.

5.2 Capital Improvement Plan Status

The following capital projects are currently in progress:

- **FO-16000 – Fiber Optic System Rebuild**
  - The new fiber backbone will be built in segments in alignment with the phased FTTP. CPAU does not have resources to construct an entire new fiber backbone along with FTTP. In addition to aligning with FTTP, CPAU will install new aerial ducts or substructure (conduit and boxes) and fiber backbone cables to increase capacity in areas that are at or near capacity to meet customer connection requests.

- **FO-24000 – Fiber-to-the-Premises**
  - The pilot area has been identified, which is bounded by Embarcadero Road, Louis Road, Colorado Avenue, Greer Road and West Bayshore Road, to determine the best approach at integrating FTTP and grid modernization. Some criteria that will be used to analyze alignment include impact costs, reductions to community disruptions, internal staffing, and project timelines. Construction of the FTTP pilot is scheduled to be completed by March 2025.

5.3 Reliability

There were no unplanned fiber outages or events to report in Q4 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 were $3.8M and $0.2M or 5% above the revenue forecast. Fiber expenses were $4.7M and $0.3M or 6% below forecast due to vacancy savings. The Fiber Fund added four new positions in FY 2024 to support FTTP. CPAU recently filled the Outside Plant Manager role and is recruiting for the Product Services and Marketing Manager. The Assistant Director for Fiber and Senior Network Architect positions are currently on hold as staff and consultants are collectively performing the work that staff in those roles would perform at this time. As the pilot progresses, the City will reassess whether these positions will need to be filled in FY 2025 or FY 2026.

5.4.2 Financial Position

The ending FY 2024 Fiber Optic Utility Rate Stabilization Reserve is $8 million and an additional $25.5 million of CIP commitments and reappropriations. In addition, the Fiber Fund loaned the Wastewater Collection Fund $3 million in FY 2024. The Wastewater Collection utility will repay the short-term loan in FY 2026 (or sooner) at a rate equal to the City's portfolio rate plus 0.25%.

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

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. Workshops are held in the Spring and Fall every year. During FY 2024, the City held 7 water efficiency workshops on turf conversion, native plants, and laundry graywater systems.

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

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 and lower their energy and water usage and evaluate the need for electric panel upgrade to accommodate future electrification projects. In addition to phone and email-based advising service, the Home Efficiency Genie program also offers both in-home and virtual efficiency assessments of energy equipment and the building envelope (attic, windows, walls), and evaluation of the electric panel to plan for future electrification upgrades. During FY 2024, the Genie performed 44 comprehensive in-home assessments, and performed 6 virtual assessments.

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 FY 2024, 30 customers participated in the REAP program. Additionally, 7 REAP customers received a heat pump water heater at no cost, and 27 additional REAP customers completed a site assessment and are awaiting a HPWH installation.

Water Conservation Programs for Residents and Businesses

CPAU partners with Valley Water to offer a robust portfolio of water conservation programs and rebates[15] 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. FY 2024 rebate data is not yet available; the City receives program results once a year from Valley Water in October.

The WaterSmart customer portal, an online water management tool, launched in November 2022. Through this program, home water reports are sent to around 11,000 single-family customers on a monthly basis. A control group of around 4,000 single-family customers currently do not get the reports. The average open rate of home water report emails is 74%. As of August 6, 2024, 24% of all single-family customers have accessed the portal which provides information about their water consumption and personalized water conservation recommendations. Preliminary results from the efficiency study show that sending home water reports results in water-savings of 2.1%. To date, the City has saved 13.2 MG through the WaterSmart program. 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.

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. As of January 15th 2024, the program is closed for registration. The Bay Area SunShares program will launch for the next cycle in the Fall of 2024, and CPAU is participating in the evaluation committee for the first time and will participate as an outreach partner for the ninth time.

Commercial & Industrial Energy Efficiency Program (CIEEP)

As of June 30, 2024, Veolia Sustainable Buildings West Inc., (formally Enovity Inc.) has 22 managed projects for the prior 12-month rolling period (July 2023 – June 2024). During this period, 3 projects were completed. Total savings were 526,055 kWh and 64,000 therms. Additionally, 10 projects are currently in the installation phase. When completed, these projects are forecasted to realize savings of 887,710 kWh and 36,407 therms. There are nine projects currently in the assessment stage, expected to identify potential energy conservation measures and generate additional savings. Since August 2021, the CIEEP program has saved 2,256,891 kWh deriving from completed 14 projects. Staff expects this program to continue generating energy efficiency and reductions in greenhouse gas emissions.

Key Account Representatives continue to proactively engage customers through email correspondence, phone calls, site visits, tabling events, and face-to-face meetings. In fiscal year 2024, the Utility Program Services (UPS) Commercial team hosted two Facility Manager Meetings, with a combination of webinars and in-person meetings. Both events garnered significant interest with 39 attendees for the November 2023 online webinar and 28 in-person attendees for the April 2024 event. The meetings served as a professional platform to promote CPAU's commercial energy efficiency programs, while educating the audiences on a variety of topics, including utility rates, water conservation legislation, AMI meters, dark fiber services, and electrification case studies. These informational meetings served as a connector to industry leaders and promotion of the City's commercial resources, business rebates, and pilot incentive programs.

In addition, the Commercial Team facilitated customer outreach by tabling at sites like VMware, Hewlett Packard, SAP, and Stanford Research Park. These opportunities provide a platform for staff to engage with sustainability advocates and showcase the City's energy efficiency and electrification programs. They also encourage additional interaction with

[15] Rebates https://valleywater.dropletportal.com/overview/

customers, which aids in the development of potential partnerships. Staff continues to employ account support strategies to enable corporate sustainability initiatives.

The Key Account program is focused on re-engaging major customers who have not traditionally participated in the City's energy efficiency or electrification programs. Staff efforts are centered on building deeper relationships by expanding interactions beyond facility managers and include corporate sustainability teams and property management companies. Recent new successes include engagement with Rivian Inc., Woven by Toyota, and Heathineers by Siemens. These customers have shown interest in rebates and energy audits. The CIEEP program's total value is trending behind schedule due to higher commercial vacancies. Many employers have remained fully remote or have a limited in office/hybrid schedules. This has led to a pause in facility reinvestments and upgrades. Despite the recent announcement of Tesla layoffs in June 2024, impacting 486 Palo Alto-based jobs, the company is actively upgrading and expanding its local operations. The Hanover Substation upgrade project signifies an upward trend in their commodity usage, providing increased electrical capacity for Tesla's engineering headquarters at the Hewlett Packard commercial campus. Other commercial customers that continue to expand their footprint, include Stanford Health Care, CPI, and Google. Additionally, VMware completed its merger with Broadcom in March 2024, leading to role consolidations and office space adjustments. This consolidation provides Broadcom with flexibility to either secure tenants for their available commercial space or pursue a sale. Potential new tenants or owners would likely necessitate retro commissioning of existing equipment and upgrading other areas to align with their operational needs.

As customers repurpose space, CPAU Staff continues to advise against installing new gas equipment. Staff encourages customers to participate in CIEEP for free consulting, aiming to boost efficiency and electrification. However, major corporations often face lengthy cost and return on investment evaluations when transitioning from gas to electric equipment.

The team has also reinvigorated its partnership with the Palo Alto Unified School District and is collaborating closely on a large-scale effort to electrify all of its 17 sites over the next few years. Facilitated by CPAU programs, EV chargers have already been installed at four locations, and a Heat Pump HVAC system has been successfully installed at Greene Middle School. Currently, Hoover Elementary School is undergoing demolition, with plans to rebuild, as the City's first all-electric campus. The goal is to complete construction in time for reopening in fall 2025.

Figure 25: Energy Efficiency Program Energy Savings – Completed FY 2024 in Yellow

Customer	Type of Project	Customer Facility Address	Project Status	Project Expected Completion Date	Project kWh Savings at Installation	Project Therm Savings at Installation	Project Utility Cost Savings at Installation	Project Cost at Installation	Project Incentive at Installation
Alexandria Real Estate	LED Lighting	3165 Porter St	Project Complete	01/10/22	54,070	0	$9,408.18	$44,673.30	$5,407.00
Stanford Health Care	LED Lighting	801 Welch	Project Complete	01/26/22	42,457	0	$7,345.00	$44,492.00	$4,245.70
Stanford School of Medicine	Chiller RCx - Retro commissioning	855 California	Project Complete	03/13/22	48,600	0	$8,200.00	$4,577.00	$2,288.50
Stanford School of Medicine	LED Lighting	1050 Arastradero	Project Complete	03/21/22	38,211	0	$6,037.34	$37,100.00	$3,821.10
Stanford Haltch Care	LED Lighting	1189 Welch	Project Complete	05/01/22	178,844	0	$32,191.92	$94,959.00	$17,884.40
Stanfor School of Medicine	Chiller Replacement	3375 Hillview	Project Complete	10/31/22	395,400	0	$68,404.00	$1,177,351.00	$59,310.00
Simon Properties	LED Lighting	660 Stanford Shopping Center	Project Complete	10/31/22	178,732	0	$32,707.96	$45,086.21	$17,873.20
Stanford School of Medicine	Chiller RCx - Retro commissioning	855 California	Project Complete	12/30/22	22,754	0	$3,846.00	$4,910.00	$2,275.40
Stanford School of Medicine	Economizer	1050 Arastradero	Project Complete	01/31/23	51,450	3,350	$12,317.00	$48,944.00	$8,495.00
Stanford School of Medicine	Chilled Water Valve	1050 Arastradero A	Project Complete	05/31/23	33,500	1,700	$7,418.00	$24,734.00	$5,050.00
Lucile Packard Children's Hospital - Stanford	LED Lighting	725 Welch Rd	Project Complete	06/30/23	686,818	0	$96,155.00	$241,065.00	$68,681.80
Stanford Health Care	Building Energy Mangement Controls	875 Blake Wilbur	Project Complete	07/31/23	264,700	64,000	$164,549.00	$473,065.00	$90,470.00
The Cabana Hotel Palo Alto	Electrification HVAC	4290 El Camino Real	Project Complete	08/01/23	167,222	0	$4,186.00	$498,284.00	$41,805.50
The Cabana Hotel Palo Alto	Heat Pump Chiller	4290 El Camino Real	Project Complete	08/01/23	94,133	0	$17,885.00	$225,330.00	$14,119.95

Figure 27: Energy Efficiency Program Energy Savings – Awaiting Assessments or Install

Customer	Type of Project	Customer Facility Address	Project Status	Project kWh Savings at Commitment	Project Therm Savings at Commitment	Project Utility Cost Savings at Commitment	Project Cost at Commitment	Project Incentive at Commitment
Lucile Packard Children's Hospital - Stanford	Main Ventilation Reduction	725 Welch Rd	Working on DI Report	0	0	$0.00	$0.00	$0.00
Hewlett Packard	LED Lighting	1501 Page Mill	Working on IV Report	149,428	-1,019	$24,176.00	$227,740.00	$13,923.70
Channing House	LED Lighting	850 Webster Street	Awaiting Installation	76,226	-649	$15,931.00	$138,539.00	$6,973.60
Google	Google	800 Maude Ave Mountain View	Working on assessment	0	0	$0.00	$0.00	$0.00
Jewish Community Center	Building Automation System	3921 Fabian Way	Awaiting Installation	84,596	4,155	$27,180.00	$17,310.00	$8,655.00
The Sheraton Hotel	Laundry Operations Energy System	625 El Camino Real	Working on assessment	14,000	18,000	$61,082.00	$35,474.00	$17,737.00
The Westin Hotel	Laundry Operations Energy System	675 El Camino Real	DI Report Approved	0	0	$0.00	$0.00	$0.00
Hudson Pacific Properties	Retro Commissioning	3176 Porter	Working on assessment	0	0	$0.00	$0.00	$0.00
Stanford School of Medicine	Retro Commissioning	3145 Porter	Working on assessment	127,200	9,520	$45,433.00	$24,896.00	$12,448.00
Stanford Health Care	Chiller Replacement	900 Blake Wibur	Awaiting Installation	34,200	0	$5,917.00	$300,000.00	$5,130.00
Stanford Health Care	Chiller Heat Pump Upgrades	300 Pasteur Drive	DI Report Approved	65,900	0	$11,203.00	$30,000.00	$6,590.00
Stanford Health Care	Dishwasher Electrification	500 Pasteur Drive	Awaiting Installation	133,460	0	-$7,360.00	$300,000.00	$33,365.00
Stanford Health Care	RCx - Retro commissioning	500 Pasteur Drive	Working on assessment	0	0	$0.00	$0.00	$0.00
Stanford School of Medicine	RCx - Retro commissioning	3145 Porter Drive	Working on assessment	202,700	6,400	$56,381.00	$25,000.00	$12,500.00
Rivian Inc.	Rivian - Retro commissioning	607 Hansen, 850 Hansen, 900 Hansen	Working on assessment	0	0	$0.00	$0.00	$0.00
Stanford Health Care	RCx - Retro commissioning	211 Quarry Road	Working on assessment	0	0	$0.00	$0.00	$0.00
Stanford Health Care	RCx - Retro commissioning	213 Quarry Road	Working on assessment	0	0	$0.00	$0.00	$0.00
Stanford Health Care	Air Handling Unit Replacement	900 Blake Wilbur	Working on assessment	0	0	$0.00	$0.00	$0.00
Stanford Health Care	LED Lighting	900 Blake Wilbur	Working on assessment	0	0	$0.00	$0.00	$0.00

Business Energy Advisor

This last year was the most successful since the inception of the Business Energy Advisor (BEA) program for small to medium sized businesses, which was launched in June 2022. Over the last 12 months, 49 site assessments have been completed. Staff have tried a variety of new outreach and marketing strategies to drive participation, which have proven to be successful. From January through May 2024, staff ran a limited-time boosted incentive campaign and increased efficiency rebates by 20% for customers who complete projects by the end of August 2024. Spurred by this initiative, we more than doubled the number of completed site assessments (36) in the first half of 2024, compared to the 13 assessments completed in the second half of 2023. The number of installations also increased significantly from years past. Outlined in Figure 28 are the efficiency projects that have been completed through this program and the total rebate amounts we have paid customers.

Figure 28: Business Energy Advisor - Completed Projects and Rebates Paid

Customer	Project Type	Rebate Amount	kWh Savings
Unitarian Universalist Church of Palo Alto	LED Lighting	$568.78	10,342
MidPen Community Media Center	LED Lighting	$65	2,085
The Sobrato Foundation	LED Lighting	$43.20	654
Unitarian Universalist Church of Palo Alto	LED Lighting	$481.01	9,714
Unitarian Universalist Church of Palo Alto	Fridge/Freezer Replacement	$281	355
Calmar Laser	LED Lighting	$319.29	15,983
Dinah's Garden Hotel	HVAC Replacement	$26,154	26,418
United Methodist Church	LED Lighting	249.43	9,028
Total	N/A	$28,161.71	74,579

Staff has continued aggressive marketing efforts including bill inserts, direct emails, e-newsletters, call campaigns, flyers, and in-person outreach. Over the past year, the BEA team has consistently engaged in in-person outreach, visiting businesses a minimum of one-day per week. Their dedication and effort have resulted in visiting almost 300 businesses between January through June 2024. Additionally, the team experimented with social media ads through Meta platforms, which resulted in 1,118 clicks on our program webpage. However, we concluded that most customers learned of our programs through other channels rather than social media ads. Moving forward, we will continue to prioritize outreach efforts, especially through in-person visits, webinars, direct email and call campaigns.

In late April, staff hosted its first Commercial Energy Efficiency Webinar attracting 21 participants. The majority of customers represented small to medium businesses in Palo Alto, but staff also saw attendance from some of our Key Accounts, including two large property management companies. The presentations, led by industry experts and engineers from CLEAResult, discussed cutting-edge strategies for making commercial buildings more energy-efficient, particularly through HVAC and lighting advancements. In July 2024, staff hosted the second commercial webinar focusing on HVAC efficiency, electrification, and heat pumps. This webinar was well attended with 25 participants. We have received great feedback from the community regarding commercial webinars and plan to continue offering this service to our businesses throughout the next year to educate them on energy efficiency and electrification.

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. The program also offers an on-bill financing option with 0% interest to lower the upfront cost to customers. The Home Efficiency Genie team at CLEAResult has been serving as the program concierge, while Synergy is the installer that provides the project cost estimate and completes the installation. The City has also run traditional and digital marketing campaigns to drive program leads. As of August 14, 2024, the program has completed the installation of 312 HPWH units ; this includes 12 units installed through the Residential Energy Assistance Program at no cost to income-qualified households. 80 projects have applied for on-bill financing. With the current pace of new signups, the City currently is on track to do around 200 installations per year, equivalent to about 20% of the water heaters replaced each year.

On April 15, 2024, City Council approved new pricing for the program after the statewide HPWH incentives through the TECH Clean program came to an end. This new pricing sets the baseline installation cost for a 65 gallon heat pump water heater at $2,300. This is the cost for a standard installation, however, most homes will require some additional work like installing a space saver breaker, penetrating an exterior wall to install electrical conduit, or installing a condensate pump. The new pricing also includes up to $1000 of subsidy for this type of site preparation work . Several postcard outreach campaigns to Palo Alto residents in April and July have brought in over 100 new customers signing up and we are confident that strong participation in the program will continue.

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 HPWH rebate if the equipment meets the program criteria and has been permitted. The recent City Council approved new pricing for the Full Service HPWH Program also included an increase of the rebate from $2,300 to a graduated rebated of 55% of total project cost up to $3,500. During FY 2024, CPAU processed 51 HPWH rebates. By comparison, the number of HPWH rebates processed in FY 2023 and FY 2022 were 42 and 21.

We are in the process of expanding our HPWH program to include an Emergency Water Heater Replacement Pilot to support the swift replacement of failed gas water heaters with heat pumps. After completing a formal RFP in Spring 2023, we selected and signed a contract with Larratt Bros Plumbing to meet our goal to restore hot water within 48 hours. In cases where it might take longer than 48 hours to install a heat pump water heater, the contractor will provide a loaner

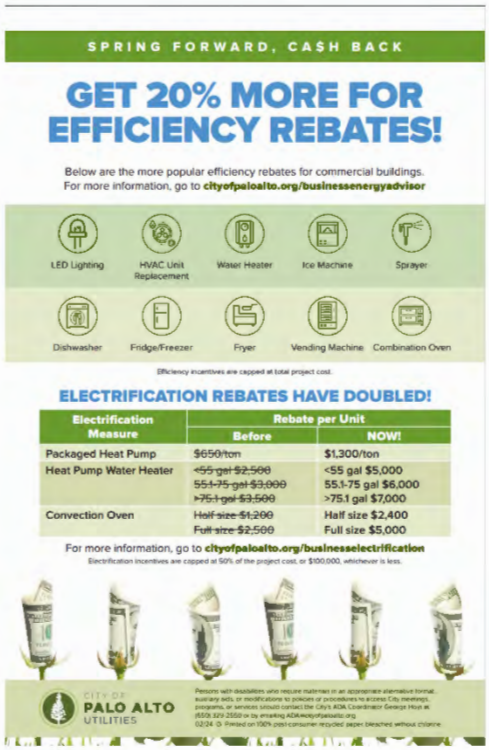
gas water heater as a temporary solution. Because most households wait until their water heater fails to replace it, this pilot program will fill a major gap in our current service. We expect to launch this program in Q1 FY 2025.

In addition, we completed a formal RFP on June 13th for an electrification expert to support home electrification providing assistance to customers constructing new homes, and potentially also supporting customers who opt to full electrify their homes. The expert will also provide assistance to HPWH Program customers that have been disqualified from the program due to challenging site constraints. In addition to expert guidance, this pilot program will create Home Electrification Plan templates that can benefit homeowners beyond the initial pilot. We are currently in contract negotiations with a vendor selected through the RFP process. The pilot is slated to begin before the end of the year.

Business Electrification Technical Assistance Program (BE TAP)

The Business Electrification Technical Assistance program (BETAP) launched in August 2022, providing free electrification assessments and technical assistance to implement building electrification projects to businesses. Over this last year we saw the best participation rates since the program's inception, completing 44 electrification assessments. Additionally, we had our first completed electrification project at a church that removed their natural gas water heater and installed an electric water heater. They received a $1,077.22 custom rebate, and their project achieved 2,154 net kWh in savings. The net kWh savings is the annual gas savings in therms converted to kWh minus the annual net increase in electric use for the new equipment installed.

From January through May 2024 we offered businesses our first ever increased incentive campaign, "Spring Savings, Cash Back," to see if additional financial assistance with projects would boost interest in the program and motivate existing program participants to complete installations of electrification projects. For a limited time, the program doubled the amount of our existing prescribed and custom electrification rebates for projects completed by August 30, 2024. This campaign directly affected the significant increase in assessments we completed the first half of 2024, and it has helped move customers along on their projects. Although we did not see any completed electrification projects between January and June 2024, we have seven projects in progress that will be completed in the coming months.



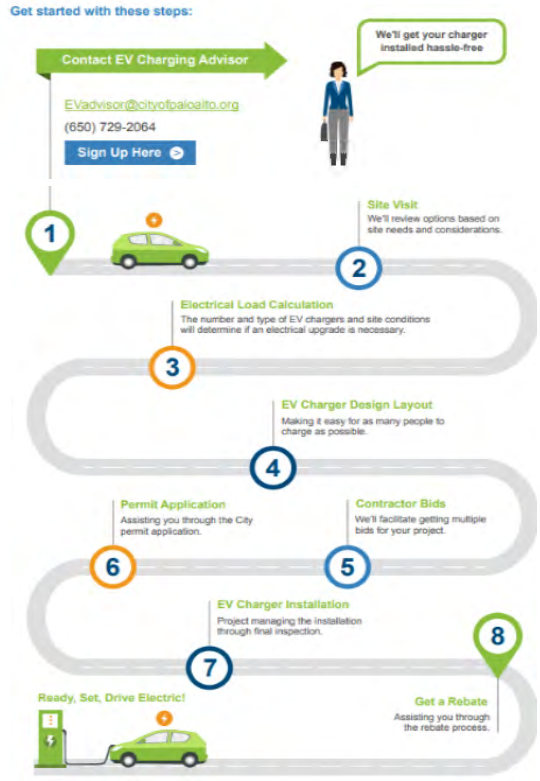
There are many reasons we are seeing longer-than-usual project timelines to complete commercial electrification installations. Some challenges include customers receiving unexpectedly high bids, challenging City permitting requirements, and insufficient rebate incentives to cover higher than expected project costs. Over the next year staff will work to address these concerns with a limited-time boosted incentive campaign for the replacement of rooftop gas packs to heat pump HVAC systems. The intent will be to collect detailed information from each participating customer to help staff better understand the costs and barriers to transitioning from gas equipment. Staff is also looking into potential financing options for commercial customers.

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. Of the 11,000 multifamily households in Palo Alto, 4% currently have access to EV charging. The goal is to reach 10% of these households with EV charger installations by the end of 2024. CPAU's current programs provide technical assistance, incentives, and customer education and engagement to support electric vehicle adoption and on-site charging infrastructure, especially for residents of multifamily properties. In addition to the current program offerings as detailed below, CPAU is beginning to explore efforts to support EV fast charging mobility hubs and curbside charging stations that would benefit multifamily residents who do not have access to EV charging on-site.

EV Technical Assistance Program (EVTAP)

The Electric Vehicle Technical Assistance Program (EVTAP) was launched in 2019 with the goal of offering technical assistance to multifamily properties, nonprofits, schools, and small medium businesses to support the installation of electric vehicle charging stations. Implemented by CLEAResult, EVTAP is a high touch program that includes a site visit and assessment, technical evaluation, engineering review, site design, hardware selection support, cost estimates, contractor bid requests, building permit submission, incentive application assistance, and installation project management. Below is a diagram of the EVTAP process:



To date, CLEAResult has prepared and presented Charging Evaluation Reports ("CER") to a total of 101 sites. Fifteen of these sites have already completed EV charging installations (5 multifamily properties, 2 mixed-use properties, 2 nonprofits, 2 faith-based organizations, and 4 schools) totaling 113 charging ports, and an additional 34 sites remain active (bidding, vendor selection, permitting, and installation phases). In order to support existing EVTAP customers to complete their projects, CPAU extended its contract with CLEAResult with the goal of having a total of 30 sites operational by the end of April 2027. Based on the current project pipeline, CPAU estimates that at least 6 EVTAP sites will complete installed by the end of 2024, leading to the installation of an additional 104 charging ports.

EV Charger Rebate Program

The EV Charger Rebate Program was launched in 2017 to incentivize the installation of EV chargers at nonprofits, schools, and multifamily properties. Current incentive amounts are $4,000 per Level 1 charging port and $8,000 per Level 2 charging port to a maximum of $80,000. Since the launch of this program, CPAU has facilitated the installation of 323 new EV charging ports/connectors across 12 multifamily properties (representing 453 residential units) and 19 non-profits (including 8 schools and 5 medical facilities). The average cost of each port has been $9,100 and projects have averaged 14 months to complete. An additional 19 projects totaling 408 additional charging ports are currently within the installation process, including 15 multifamily sites (representing 1,021 residential units). Staff predicts that a minimum of 30 multifamily properties will complete installations within the next three years.

California Electric Vehicle Infrastructure Project (CALeVIP)

The City of Palo Alto participated in the California Energy Commission (CEC) run California Electric Vehicle Infrastructure Project (CALeVIP), providing $1 million to match the $1 million in funding from the CEC to facilitate and incentivize the installation of EV chargers at commercial sites. During FY24, a total of $1.63M (out of $2M) was reserved by 10 site owners through CALeVIP, five of which were completed, resulting in an additional 72 Level 2 EV charging ports in Palo Alto. Program is scheduled to have all funds-reserved projects completed by April 2025 with program close out and remaining funds returned in September 2025.

EV Awareness and Outreach

CPAU's EV education and outreach efforts are designed to raise awareness about electric modes of transportation. Utilizing the Support Services Program offered by the Northern California Power Agency (NCPA) and funding from the Low Carbon Fuel Standard (LCFS) Program, CPAU contracted with Acterra[16], EVucation[17] and Cool the Earth[18] to offer 25 EV educational events, such as in-person workshop classes, EV expos, webinars, and limited-time EV and eBike Discount Campaigns. The webinars, workshops and EV expos attracted approximately 2,750 attendees and participants of the EV Discount Campaigns were able to purchase and save up to $15,500 on a new EV or PHEV and pay below market price on used EVs through the Pre-owned EV Discount Campaign. .

Qmerit

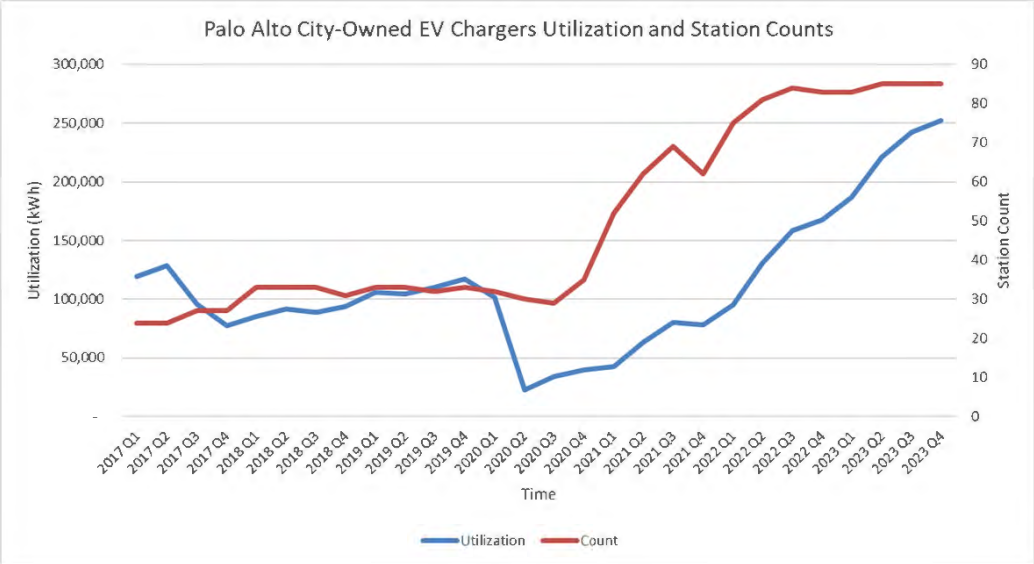
Qmerit is an online tool for Palo Alto homeowners to receive free online estimates from local, vetted contractors for EV charger installations. Qmerit also assists with raising customer awareness of embracing grid-friendly options, such as Level 1 and low-voltage Level 2 charging options. Utilizing NCPA's Support Services Program and LCFS funding, CPAU is contracted with D+R International to provide reliable installers through the Qmerit[19] platform. During FY24, 98 project estimate requests were submitted, of which 11 projects were completed. CPAU anticipates an increase in program interest

[16] Acterra https://acterra.org/
[17] EVucation https://www.evucation.com/
[18] Cool the Earth https://cooltheearth.org/
[19] Qmerit: https://qmerit.com/utility/cityofpaloalto/

and participation with growing EV adoption and will increase outreach efforts of this program for interested EV owners of single-family homes.

City-Owned EV Chargers

As of the end of FY24, there are 131 city-owned EV charging ports. Of those, 10 are dedicated to staff and City vehicles, and 121 are accessible to the public. The chart below displays the increase in utilization (blue line) of the publicly-accessible EV charging stations by quarter from 2017 through the end of 2023. While there was a dip in utilization of the EV charging stations during the beginning of the COVID epidemic, utilization has been steadily increasing each quarter since mid-2020. As more EV chargers have been added to the City (red line), utilization has increased accordingly. Note: one station may have only one port or may have dual ports.



Electric Service Connection Fee Incentive

Many older properties in Palo Alto, especially multifamily buildings, have limited electric capacity to accommodate EV chargers and building electrification. The Electric Service Connection Fee Incentive helps to defray the cost of utility distribution system upgrades, triggered by EV applications, by providing $10,000 per EV charging port, up to a maximum of $100,000. Currently staff are working with the Kingsley Park HOA to complete their EV charger installation, which involves a transformer upgrade. This will be the first site to receive an upgrade, and it is anticipated that the chargers will come online in early fall 2024. While this project has taken a few years to complete, it represents a milestone for CPAU and has created opportunities for Utilities Engineering, Underground Services, and Urban Forestry to partner together to design a joint schematic for the EV chargers and improve customer service for the applicant. CPAU estimates that an additional 12-15 sites in the current EV project pipeline will require new transformers and could benefit from the Electric Service Connection Fee Incentive.

6.2 Innovation and Pilot Programs

CPAU's Program for Emerging Technologies, or PET, (www.cityofpaloalto.org/UTLInnovation) provides the opportunity for local businesses and organizations to submit proposals for innovative and impactful products to CPAU for review as a prospective partner. The goal is to find and nurture creative products and services that will improve customer value, save natural resources, or reduce carbon emissions. From the program's inception in June 2012 through today, the program has received a total of 109 applications. The figure below in 6.2.2 summarizes the status of all applications through FY 2024.

6.2.1 Academic Collaborations

CPAU staff is working with Lihan Huang, a Stanford Graduate Fellow for the summer to do a complete rebuild of the electric front office models to capture hourly generation, revenue, and cost. Lihan did a phenomenal job working with the needs of the group and handling a tremendous amount of data. She may be able to present her work at a UAC meeting in the fall.

Staff is also collaborating with staff at the hydroelectric project WAPA for estimating and forecasting hourly marginal carbon emissions in the ISO, which may be useful in future in-house analysis as well.

6.2.2 Completed Projects

In FY 2024 CPAU received two applications but declined both since they either did not fit with Utilities priorities at this time or the parameters of the PET program. Some related ideas are being explored as potentially funded pilot projects.

Figure 26: Status to date of all applications to the Program for Emerging Technologies

Deadline	Total Received	Under Review	Declined/Closed	Active	Completed
FY 2013	13	0	11	0	2
FY 2014	15	0	11	0	4
FY 2015	15	0	11	0	4
FY 2016	14	0	9	0	5
FY 2017	10	0	7	0	3
FY 2018	10	0	9	0	1
FY 2019	9	0	5	0	4
FY 2020	8	0	3	0	5
FY 2021	2	0	1	0	1
FY 2022	8	0	8	0	0
FY 2023	3	0	3	0	0
FY 2024	2	0	2	0	0
TOTAL	109	0	80	0	29

7 Communications

This section summarizes communications highlights, updates on major campaigns and noteworthy events. Copies of ads bill inserts, and brochures are available online at www.cityofpaloalto.org/UTLbillinsert

Smart Energy Provider Award: In July 2024, CPAU was awarded the Smart Energy Provider (SEP) designation from the American Public Power Association (APPA). The SEP designation recognizes public power utilities for demonstrating leading practices in four key disciplines: smart energy program structure; energy efficiency and distributed energy programs; environmental and sustainability initiatives; and the customer experience. CPAU will be honored and presented with the award the at APPA annual Customer Connections conference in October 2024.

System Operational Achievement Recognition (SOAR) Award: In April 2024, CPAU won an award from the American Public Gas Association (APGA) for excellence in operating our city's natural gas utility. APGA presented CPAU with the prestigious System Operational Achievement Recognition (SOAR) award, which was highlighted at the APGA annual conference in July 2024. Out of approximately 750 APGA members, CPAU was selected for SOAR level Silver by its peers on the APGA Operations and Safety Committee. The selection was based on demonstrated excellence in the four areas of system integrity, system improvement, employee safety, and workforce development.

Residential Electric and Water Customer Satisfaction Surveys: In fall 2023, CPAU participated as a member of the California Municipal Utilities Association (CMUA) in customer satisfaction surveys for residential electric and water utility customers. CMUA's contractor, GreatBlue Research, completed a statewide survey of municipal and investor-owned utilities customers as a method of benchmarking trends of customer satisfaction and program awareness across the state. CPAU opted to also participate in an "oversample" survey of Palo Alto residents so we can gain greater insight into some specific areas of interest for Palo Alto residents. CPAU received significantly higher ratings than municipal and investor-owned utilities in northern California and the State of California for providing consistent and reliable service to customers, being committed to green, renewable, or carbon free energy, and restoring power in a reasonable amount of time after an outage. When asked how frequently the City of Palo Alto Utilities meets their expectations, over four-fifths of customers reported their expectations are met "all" or "most of the time," ranking higher than other utilities in the State. Staff presented the key study findings and considerations to the UAC in February 2024 and provided an informational report to City Council in May 2024.

Customer Notifications for Enhanced Outage Communication: CPAU's new power Outage Management System now provides mobile text messaging and phone call notifications to customers about power outages and d status updates. The online power outage map now also shows neighborhood boundaries of where outages occur. We encourage utility customers to log into their MyCPAU account[20] or contact Customer Service directly to ensure we have current contact information on file to effectively communicate in the event of an unplanned or planned utilities service disruption. Find information on outages and notifications at www.cityofpaloalto.org/outages

Advanced Metering Infrastructure (AMI) Project: CPAU continued its deployment of Advanced Metering Infrastructure (AMI) throughout 2023 and into 2024 and reached the 50 percent installation milestone in July 2024. Full deployment of AMI for residential customers is estimated to be complete by the end of 2024. Commercial AMI meters are also being installed in phases for testing assurance and data validation. CPAU is communicating directly with customers who will

[20] MyCPAU Account https://mycpau.cityofpaloalto.org/portal/

receive the meters to share resources and help with any questions or concerns, and developed a video about AMI to provide an overview of the benefits to customers and the utility. www.cityofpaloalto.org/ami

Program and Event Support: CPAU communications staff provide ongoing annual, monthly, and daily support for outreach to residential and non-residential customers about programs for regular operations, maintenance, and capital improvement projects, sustainability, energy and water efficiency, solar, electric vehicles and eBikes, beneficial electrification, events and workshops, and more. Comprehensive communication campaigns include website, utility bill inserts, email newsletters, social media, videos print and digital advertisements, community outreach events, media relations and public correspondence.

8 Legislative, Regulatory and Industry Activity

8.1 State Legislative Activity

During FY 2024, many relevant bills were introduced or chaptered by the California Legislature. Despite the August 31st deadline to pass bills being only a few weeks away at the time of this writing, a number of impactful bills are going through the legislative process and are listed below. CPAU worked with several outside groups, including the Northern California Power Agency (NCPA) and the California Municipal Utilities Association (CMUA), to actively support or oppose bills.

Chaptered Bills

- AB 541 (Wood) | *California Safe Drinking Water Act: wildfire aftermath: benzene testing*. Requires public water systems that have experienced wildfire events to test for benzene and take specified actions if it is detected.
- AB 755 (Papan) | *Water: public entity: water usage demand analysis*. Requires a city or urban water supplier to conduct a water usage demand analysis, prior to or as part of a cost-of-service-analysis, that identifies the costs of water service for the highest users and the average annual volume of water delivered to high water users. This information must be made publicly available in the cost-of-service analysis.
- AB 1373 (Garcia) | *Energy*. Requires the California Energy Commission (CEC) to assess a capacity payment on each local publicly owned utility that failed to meet its minimum planning reserve margin for each month that resources procured through the Electricity Supply Strategic Reliability Reserve Program (ESSRRP) are used.
- AB 1572 (Friedman) | *Potable water: nonfunctional turf*. Prohibits the use of potable water to irrigate nonfunctional turf located on commercial, industrial, and institutional properties. Requires public water systems to revise their ordinances and inform their customers by January 1, 2027.
- AB 1594 (Garcia) | *Medium- and heavy-duty zero-emission vehicles: public agency utilities*. Provides to public agency utilities exemptions to the Advanced Clean Fleets regulation to ensure continued reliable service.
- SB 659 (Ashby) | *California Water Supply Solutions Act of 2023*. Requires future updates of the California Water Plan to provide actionable recommendations to increase groundwater recharge in both the near and long term.
- SB 745 (Cortese) | *The Drought-Resistance Buildings Act*. Requires the Department of General Services to research and propose updates to the California Building Standards Code to reduce potable water usage and consider water reuse standards in new buildings.
- SB 867 (Allen) | *Safe Drinking Water, Wildfire Prevention, Drought Preparedness, and Clean Air Bond Act of 2024*. Puts a $10 billion water, wildfire, resilience, biodiversity, agriculture, and clean air bond on the ballot for the November 5, 2024 election.

Active Bills

- AB 990 (Grayson) | *Water quality: waste discharge requirements: infill housing projects*. Requires the San Francisco Bay regional water board to update the California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) in consultation with the Association of Bay Area Governments.
- AB 1834 (Garcia) | *Resource adequacy: Electricity Supply Strategic Reliability Reserve Program*. Requires the CEC to consider mitigating factors when determining capacity payments.
- AB 2037 (Papan) | *Weights and measures: electric vehicle chargers*. Authorizes county sealers to test and verify as correct any electric vehicle charger operated by a public agency or local publicly owned electric utility. Exempts electric vehicle chargers that are tested every six months to specified requirements.
- AB 2427 (McCarty) | *Electric vehicle charging stations: permitting: curbside charging*. Requires local agencies to develop a comprehensive permitting checklist for electric vehicle charging stations within the public right-of-way. The City of Palo Alto would have to comply by January 1, 2029.
- AB 2557 (Ortega) | *Local agencies: contracts for special services and temporary help: performance reports*. Requires local agencies to post online contracts for special services and temporary help and also requires the board of supervisors to give reasonable written notice to the affected employee representative before beginning the procurement process for the contract.

- AB 2561 (McKinnor) | *Local public employees: vacant positions*. Requires public agencies with high vacancy rates of 15% for more than 180 days to meet with the appropriate union, at the request of the union, to come up with strategies to fill the vacancies.
- AB 2729 (Patterson) | *Development projects: permits and other entitlements: fees and charges*. Would limit the utility service fees authorized to be collected at the time of application for utility service to capacity charge connections.
- SB 366 (Caballero) | *The California Water Plan: long-term supply targets.* A CMUA-sponsored bill that revises the California Water Plan to establish a stakeholder advisory committee to coordinate with various California water agencies in the development of a long-term water supply plan.
- SB 1210 (Skinner) | *New housing construction: electrical, gas, sewer, and water service: service connection information*. Requires a utility to post online the estimate fee schedule and timeframes for completion for typical service connections for new housing constructions.
- SB 1251 (Stern) | *Mosquito abatement inspections*. Requires an electrical utility to enter a vector control agreement with a vector control district, upon their request, to allow access to electrical vaults for mosquito abatement.
- SB 1255 (Durazo) | *Public water systems: needs analysis: water rate assistance program*. Requires water suppliers to provide water rate assistance to eligible users and provide an opportunity to other users to voluntary contribute to the rate assistance program.

8.2 State Regulatory Activity

Much of the relevant state regulatory activity in FY24 has focused on accelerating emissions reductions or improved emissions reporting. Both the Cap and Trade and Low Carbon Fuel Standard programs are undergoing major overhauls to hit mandated emissions reduction targets while the Power Content Label program will be moving to hourly, rather than annual, reporting. Landmark water conservation regulation was also established in the *Conservation as a California Way of Life* framework. CPAU has been actively involved in these proceedings, and others, and has weighed-in when prudent.

8.2.1 California Air Resources Board (CARB)

Cap and Trade

As a result of SB 32 and AB 1279 setting stricter emission-reduction targets of 40% by 2030 and 85% by 2045, both relative to 1990 emission levels, CARB initiated rulemaking to accelerate emissions reduction under Cap and Trade. One proposed, and likely, method to achieve Cap and Trade goals is to significantly reduce free allowances given to gas utilities, including CPAU. Additionally, more stringent RPS requirements and updated electricity consumption forecasts will reduce CPAU's electric utility free allowances. Depending on how allowance market prices are impacted by the changes, CPAU's auction revenue, the proceeds of which go towards emission-reducing programs like the Heat Pump Water Heater program, may be impacted. CPAU has worked with the Gas Utility Group (GUG) to provide comments regarding CARB's proposed methodology for updating the gas allowance allocation. CPAU will continue to closely follow Cap and Trade developments.

Low Carbon Fuel Standard (LCFS)

Similar to Cap and Trade, CARB is in the midst of rulemaking to update the LCFS to accelerate emissions reduction to meet state goals. The key updates for CPAU are the proposed reductions in the carbon intensity benchmarks and the addition of an automatic acceleration mechanism, which will trigger additional benchmark reductions if too many credits are generated. While these changes will reduce the number of credits generated by CPAU, they should also increase the credit price, which has dropped significantly in recent years. Thus, the financial impact of these changes is unknown. Proceeds from the credit sales go towards improving EV infrastructure and is CPAU's the main source funding for EV programs.

8.2.2 California Energy Commission (CEC)

SB 1158-related updates to the Power Source Disclosure program

In May 2024, the CEC provided express terms that lay out significant updates to the Power Source Disclosure (PSD) program. These changes include factoring in transmission and distribution losses by displaying loss-adjusted load and reporting of hourly data. Reporting hourly data will be an administrative burden but is not required until June 1, 2028. Regulatory language is not final and CPAU staff will continue to participate in rulemaking.

AB 1373 and Electricity Supply Strategic Reliability Reserve Program (ESSRRP) capacity payments

In May 2024, the CEC held a workshop to discuss how capacity payments would be assessed on publicly owned utilities (POUs) in the case resources are procured by the ESSRRP to cover electricity shortages in extreme events. POUs would only have to pay if they are found to be capacity deficient in the month that resources are procured. Several questions about how payments will be calculated so CPAU staff will follow and engage in all developments.

8.2.3 California Public Utilities Commission

General Order (GO) 174 update

In July 2024, the CPUC adopted changes to GO 174, which establishes and regulates the Substation Inspection Program. These changes expanded the scope of the order to include transmission-level substations, which were previously excluded because they are subject to robust audits from various agencies. CPAU's transmission-level substations will be subject to audits and inspections by the CPUC's Safety Enforcement Division.

8.2.4 State Water Board

Conservation as a California Way of Life

In July 2024, the State Water Board finalized regulations that established permanent water efficiency goals that become stricter over time, known as *Conservation as a California Way of Life*. Applying to urban water retailers, the regulation combines statutory mandates from AB 1668, SB 606, and SB 1157, which require calculation of an urban water retailer's water use objective based on residential indoor use, water loss, residential outdoor use, and commercial, industrial, and institutional (CII) landscapes as well as factoring in population, climate, and agricultural activity. CPAU staff are working to ensure effective compliance with the regulation.

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[21]).

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 Q4 of FY 2024.

Figure 27: Gas Deals

Delivery Month	Deal Type	Total Energy (MMBtu)	Price ($/MMBtu)
May'24-Oct'24	Purchase	856,100	Malin Bidweek + Adder
May'24-Oct'24	Purchase	243,484	2.30

[21] Staff Report #12240 https://www.cityofpaloalto.org/files/assets/public/v/3/agendas-minutes-reports/reports/city-manager-reports-cmrs/year-archive/2021/06-21-21-id-12240.pdf

May'24-Oct'24	Sale	243,484	3.15

Figure 288: Electric Energy Deals

Delivery Month	Deal Type	Total Energy (MWh)	Price ($/MWh)
Jun'24-Jul'24	Sale	32,640	37.85
Aug'24	Sale	4,320	67.25
Oct'24	Purchase	7,800	53.00
Nov'24-Jan'25	Purchase	55,225	83.95

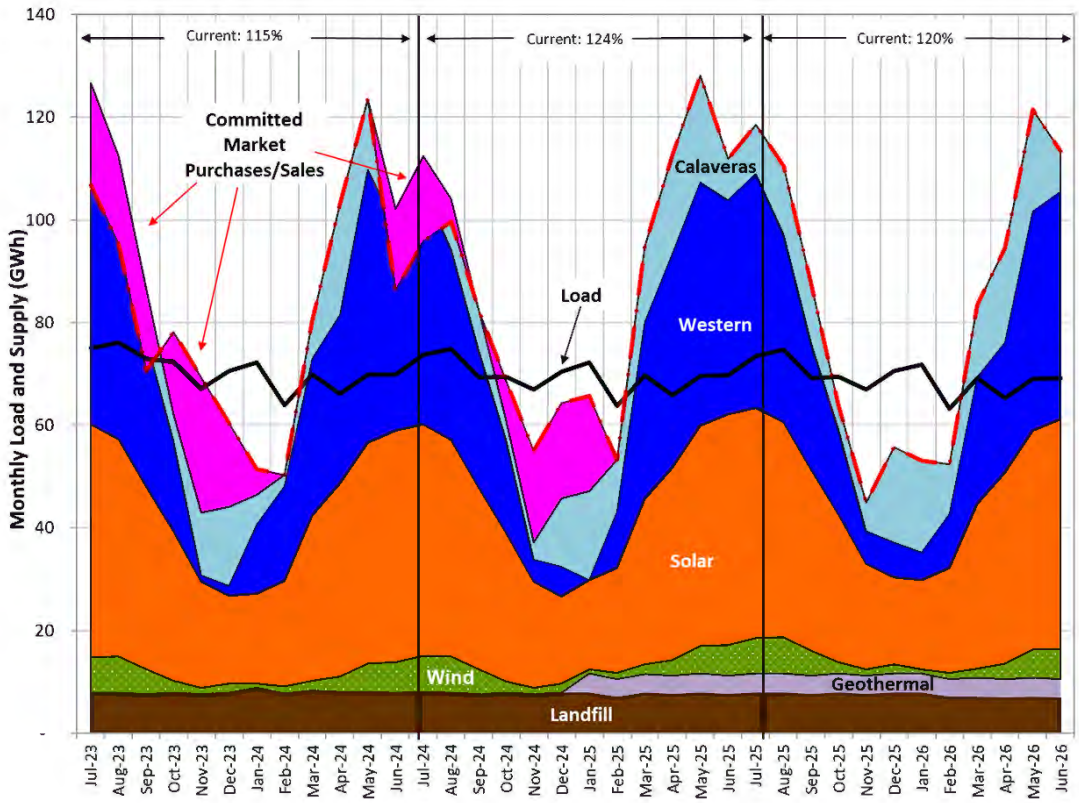
Figure 299: Electric Resource Adequacy Deals

Delivery Month	Deal Type	Avg RA (MW-mo)	Price ($/kW-mo)
Aug'24	Sale	9.5	14.00
Aug'24	Sale	13	41.00

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 2025 and FY 2026 in the coming months.

Figure 30: 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 year-end FY 2024, the Utilities Department has 37 vacant positions out of 259 authorized positions or a 14% 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 49 in Q4 2023 or a 24% decrease.

Figure 31: Utilities Vacancies and Recruitments by Division, as of Year-End FY 2024

As of June 30, 2024

Division	Authorized FTEs	Vacant FTEs	Active Recruitments	Vacancy %
Administration	20.5	1	1	5%
Customer Service[1]	23	3	0	13%
Fiber & S/CAP[2]	6	6	3	100%
Resource Management	25.5	0	0	0%
Electric Operations	69	16	13	23%
Electric Engineering	21	4	4	19%
WGW Operations	70	5	5	7%
WGW Engineering	24	2	2	8%
Total	**259**	**37**	**28**	**14%**

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

[2] 2 of 4 vacant fiber positions for FTTP will be recruited in 2025/2026

11 Appendix C: 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.

11.1 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.

11.1.1 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. Both the in-home and virtual versions continue to help residents evaluate their homes for home electrification upgrades based on their existing electric panel and provide actionable next steps.

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 free upgrades including building envelope improvements, lighting upgrades, replacement of gas water heater with heat pump water heater, replacement of gas furnace with air source heat pumps, and high-efficiency toilets. These upgrades are installed by CPAU's vendor Synergy.

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[22] ranging from landscape conversion and irrigation controller to rainwater capture projects for residents and businesses.

The WaterSmart customer portal, an online water management tool, provides customers with information about water consumption and personalized water conservation recommendations. Through WaterSmart home water reports are sent to single-family customers on a monthly basis.

Commercial Energy Efficiency and Water Conservation Programs

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.

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,

[22] Rebates https://www.cityofpaloalto.org/waystosave

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.

The Business Energy Advisor program offers a free consultation and on-site assessments from CPAU's vendor, CLEAResult, who provides custom recommendations for businesses to help them lower utility costs with more efficient equipment. Rebates are provided to customers who complete recommended energy efficiency or water conservation projects. This program is available to small and medium businesses under 50,000 square feet.

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.

11.1.2 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, by providing a prescreened contractor to install HPWH in 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 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. CLEAResult provides ongoing technical assistance, guiding customers through their projects to completion. The City then pays the customer electrification rebates through the Business Customer Rebates program.

11.1.3 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 15% 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:** Based on data from the 2022 American Community Survey, CPAU estimates that 35% of Palo Alto's 28,000 households earn below 400% FPL and therefore require the support of equity programs to help transition off of fossil fuel vehicles. There are approximately 28,000 households in Palo Alto, approximately 11,000 of which are in multifamily properties. Most middle-income and low to moderate-income residents in Palo Alto live in MF housing. 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 Level 1 and Level 2 chargers, as well as "make-ready" EV infrastructure, in multi-family buildings. Size electrical infrastructure to enable the building owner to add more EV charging ports in the future. Encourage sites to consider either the installation of Level 1 or low-power Level 2 chargers when appropriate as a grid-friendly strategy to increase EV charging options for as many EVs as possible, reducing the need for costly electric service upgrades as well as preserving electric service capacity for future building electrification efforts.

EV Technical Assistance Program (EVTAP)

- **Goal**: Facilitate the installation of 180-360 ports @ 60-90 sites (By 2027)
- 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 Level 2 port / $4,000 per Level 1 port for up to 10 ports ($80,000 maximum incentive).

California Electric Vehicle Infrastructure Project (CALeVIP)

- **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.

Qmerit

Goal: Assist residential customers in receiving receive free online estimates from local, vetted contractors for EV charger installations.

City-Owned EV Chargers

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

Electrical Service Connection Fee Incentive 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. Offers up ~~to $100K for MF &~~ non-profits

($10K per EV charging port) and up to $10K for Single Family Homes for any in front of the meter customer costs related to transformer upgrades.

11.1.4 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 302: Potential Emissions Reduction Funding Sources

	FY 2023 Year-End	Projected Revenues		
Funding Source	Reserves	FY2024	FY2025	FY2026
Low Carbon Fuel Standard	$6,712	$1,100	$1,120	$1,232
Gas Cap & Trade	6,731	3,163	3,327	$3,612
Public Benefits	5,673	4,779	4,655	4,584
Electric REC Exchange Revenue (Electric Cap & Trade)	2,231	1,700	1,200	1,100
TOTAL	21,346	10,742	10,302	10,528

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.

12 Appendix D: Water Utility Annual Infrastructure Maintenance and Replacement Report

Water Utility Overview – Calendar Year 2023
Executive Summary

- The City continues to meet water quality standards and regulatory requirements
- Water Main Replacement program continues as planned
- Construction of Water Main Replacement Project #28 was completed
- Construction of Water Main Replacement Project #29 began in November 2023
- Advanced Metering Infrastructure (AMI) program on-going as planned

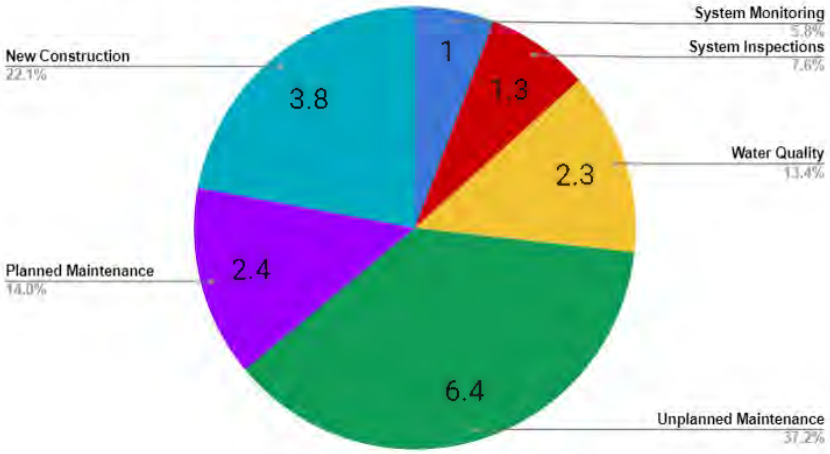
Infrastructure Overview

Key infrastructure replacement efforts in the next five years include:

- Regular mains, services, hydrants, and valve replacement
- Repair and seismic retrofit of Dahl and Park Reservoirs

System Operations and Maintenance

Figure 1: FTE Breakdown by Maintenance Category



There are 17.2 Total FTE's working on Water System O&M.

- Water Quality (2.3 FTE):
  - ***Monitoring:** Weekly, monthly, quarterly, annual water quality sampling
  - ***System Flushing:** Regular seasonal flushing of dead end mains in the system to prevent sediment build-up and disinfection
  - **Backflow Prevention (BFP) Program:** Prevents water from flowing from private water services back into the

Water Utility Goals

What are our goals and objectives?

- Protect drinking water quality
- Minimize system failures
- Prevent property damage caused by main breaks
- Protect the health and safety of staff and the community
- Maintain adequate storage for fire flow and unexpected disruption of water supply
- Meet or exceed Industry Best Management Practices for maximizing asset life and minimizing maintenance cost
- Meet or exceed regulatory requirements

How do we achieve those goals?

- Perform routine monitoring and inspections and respond with timely repairs
- Replace or repair assets as they approach the end of their useful life
- Perform hydraulic modeling analysis and test system performance
- Train and implement new techniques, tools, and procedures to increase productivity

public water system and protects the public water system from contamination

- ***System Monitoring (1 FTE):** Remote system controls and device of pumps, tanks, and valving. Control of water flow and distribution throughout the water network
- **System Inspections (1.3 FTE):** Periodic field inspections of pump stations and other key system components
- **Planned Maintenance (6.4 FTE):** Test and maintain distribution system equipment required for operations such as station mechanical equipment, valves, and meters, and non- emergency repair and replacement of degraded or damaged assets (e.g. hydrants, valves, mains, and services).
- ***Unplanned Maintenance (2.4 FTE):** Emergency response and infrastructure repairs and replacements requiring immediate attention.
- **New Construction (3.8 FTE):** Installation of new water services, valves, and meters for construction projects.

**Priority programs critical to daily operation* Maintenance Status:

- Critical maintenance programs running smoothly
- BFP inspection program meets state requirements, needs evaluations as growth continues.
- AMI program being implemented in the field

Table 1: Status of Drinking Water System Operation and Maintenance Programs

System Operation or Maintenance Program	Status Green = good Yellow = room for improvement	Comments
Water quality monitoring		City has a regular testing program to meet all regulatory requirements. This includes tests of disinfection effectiveness, water quality, and water physical characteristics.
System flushing		Flushing is performed to prevent stagnation of water in rarely used outlets like hydrants and blowoff valves. This flushing is done on a regular seasonal schedule. City is maintaining flushing maintenance practices.
Backflow prevention		Backflow Prevention Devices (BFDs) protect water quality by preventing water in a customer's system from flowing back into the City system. The City owns about 400 BFDs which are tested annually. Private BFD owners are required to test annually and submit results to the City. The City then reports this data to the State Water Resources Board. The City continues to work with customers to improve compliance and reporting rates have increased this year. This program continues to grow as more water services require backflow prevention, and the City has approved two new positions starting in FY25 to support this program.
System monitoring		The City maintains 24-hour SCADA system monitoring. Sufficient staff have the experience, training, and certifications required to handle this function and ensure uninterrupted oversight in the event of an emergency.

Valve Exercise		Valves are being operated on a multi-year cycle and broken valves are repaired as they are discovered. Currently, valve exercising records are marked and maintained on physical utility grid map sheets, and records are submitted and digitally recorded in the office when all valves on a particular grid have been exercised. WGW Operations is working to improve ESRI interfaces to facilitate digital collection of data in the field. This will allow for real- time data and remove the current lags that can occur in data entry.
Meter Maintenance		Multiple one-time sampling projects have shown that most meters are in good shape. There are many meters due for replacement, and the mass replacement of older, small water meters with new advanced metering infrastructure (AMI) is in preparation. Meter exchanges for AMI began in 2023. Meter testing was performed by a third-party contractor.
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 water leaks or other system emergencies at any hour of the day or night.

Table 2: Condition of Drinking Water System Assets

Asset Class	Quantity	Maintenance	Asset Condition
Water Receiving Stations (Turnouts)	5	Meter testing (every 2 years) Annual Maintenance (calibrate pressure transducer and analog gauges, exercise isolation valves and PRV's, clean out cover)	Most receiving stations currently require only minor and routine maintenance and are in good condition overall. Some minor improvement projects may be required in the next few years. California Ave turnout is scheduled for pipe replacement and rehabilitation in CY24. Page Mill Turnout valve restraint work completed in CY23, which has allowed the completion of some annual maintenance items that have been deferred for two years, due to safety concerns.
Booster Stations / Pressure Reducing Stations	7 / 6	Annual maintenance (calibrate upstream / downstream pressure transducer, analog gauges, check pressure switches, exercise isolation valves and PRV's, cleaning). Mayfield and El Camino PS have VFD's which are maintained by Tesco. Weekly monitoring	Most booster stations and pressure reduction stations require only minor and routine maintenance and are in good condition overall. Minor improvement projects may be required in the next few years.

Reservoirs	7	Annual maintenance (climb tank, take physical reading of water level, check altitude valve, check screens, calibrate tank pressure transducer, analog gauges)	Dahl and Park Reservoirs are scheduled for repair and seismic retrofit in CY 2027-2028.
		Water quality monitoring	
Emergency Wells	8	Annual maintenance, inspection, and testing of wells by Tesco, third party contractor. Routine inspection and water quality monitoring and monthly maintenance of systems performed by staff.	City wells were rehabilitated in 2013, but some maintenance is needed. Services for a pump rebuild at El Camino Park Well was solicited in CY2023.
Water Valves	~6,500 valves	Operate every valve at least once every five years (1200 valves per year), repair / replace as needed Operate 120 critical valves in foothills annually	Valves are replaced on failure, or proactively when water mains in the area are replaced.
Water Mains and Services	~230 miles of main, ~20,000 services	Repair leaks as identified Monitor water quality	Water Main Replacement program continues as planned, prioritizing leaky pipes and seismically vulnerable pipes. Asbestos-Cement Pipe testing program is underway to help update replacement program as needed.
Water Meters	~20,000 small meters, 380 large meters	Sample test small meters, test / repair large meters annually	Replacement of oldest small water meters continues, informed by small meter testing. Large meter testing began in CY2023. Which helped estimate meter accuracy. AMI meter upgrade project is currently under way in 2022 to replace many older small water meters.
Fire Hydrants	~2000 public hydrants	Maintenance	Hydrants are replaced upon failure.

ATTACHMENTS:
Attachment A: Commissioner Questions

APPROVED By:
Dean Batchelor, Director of Utilities
Staff: Tim Denterlein, Resource Planner

Fiber

Question: FO-24000. Fiber-to-the-Premises. Provide more details about the point of the pilot – what are we testing for? What are the success criteria?

Response: The FTTP pilot serves as a testbed to assess aspects of the fiber-optic network, including technical performance, customer satisfaction, operational efficiency, community disruption and cost-effectiveness. The success criteria ensure that the network can meet expectations in terms of speed, reliability, scalability, and financial feasibility, setting the foundation for a larger-scale deployment. Some key metrics is subscription/take rate, amount per passing, internet speed, churn rate, and cost/efficiency savings with grid mod alignment.

Question: Support System and OSS/BSS Software RFP:
Vendor details and existing contracts.
Timeline for reviewing new RFPs for remaining areas.
Response:

- RFP for OSS/BSS closed on October 23, 2024
- Staff is reviewing the 7proposals
- Contract award will be in Jan/Feb 2025

Question: Outside Plant Manager: Role and responsibilities.
Response:

- Oversee all aspects of outside plant construction (aerial, underground, mainline, distribution, drops.)
- Oversee planning, construction, and inspection of fiber infrastructure.
- Manage and supervise Field Service Technicians and contractors.
- Prepare long-term plans, forecasts, and budgets.

Question: These questions pertain to Palo Alto's new FTTP utility and the fiber hut final design efforts referenced on page 30 of the 2024 Q4 Annual Report. It would be useful to have a session to speak to other issues involved in our FTTP pilot, for example, marketing, customer service, construction to homes, billing, etc.

Response: CPAU will schedule a FTTP discussion with the UAC in January 2025; staff will provide an update on construction timeline, marketing campaign, pricing and offerings and staffing.

Question: Please provide a detailed explanation of the decision to prioritize hiring an outside plant manager over a network architect. What factors influenced this choice, and how will the absence of a dedicated network architect impact the overall planning and execution of the fiber

pilot? How does Staff envision the coordination between the outside plant manager and the team responsible for network architecture in the interim?

Response: This decision better aligned staffing resources with the timing of major project milestones as design and construction precedes network deployment. Additionally, the City's CIO Darren Numoto is also the interim Assistant Director of Fiber on this project and has been closely consulting on staffing plans. Darren advised if we had to prioritize, then network deployment may be temporarily covered between ITD (IT dept) and ITD vendor/partner, ePlus until the business reaches a certain volume of subscribers.

The outside plant manager will be responsible of overseeing fiber infrastructure planning, construction, and inspection. They would coordinate with network deployment activities which includes, but is not necessarily limited to: design, build and maintenance of the inside plant network; optical line terminals, routers, switches, firewalls; domain name service, radius; American Registry of Internet Numbers, IP addresses; Carrier Grade Network Address Translations.

Question: What is the fiber optic system rebuild? FO-16000 Fiber backbone expansion/rebuild.

Response: The original intent of the fiber optic system rebuild project was to rebuild portions of the fiber network to improve capacity, which will facilitate licensing of dark fiber to companies that provide telecommunication services to residents and businesses in Palo Alto. The project will install new aerial duct or substructures (conduit and boxes) and additional fiber backbone cables to increase capacity for sections of the network that are at or near capacity to meet customer requests for service connections. Since Council approved the fiber expansion plan in December 2022, FO-16000 has been repurposed to build a new fiber backbone. The new backbone will provide additional capacity as we increase the fiber count from 144 to 432. The new backbone will connect new City facilities and support dark fiber, FTTP, and future growth.

Question: Can you explain in more detail what is meant by this statement on page 30 of the Annual Report: "CPAU does not have resources to construct an entire new fiber backbone along with FTTP."

Response: CPAU does not have the internal or external resources to work simultaneously on grid modernization, FTTP, and the new fiber backbone. Activities include engineering design, construction management, inspections, and procurement of materials and construction services. For the pilot, CPAU is prioritizing grid mod and FTTP to identify synergies such as shared construction and costs and minimization of community disruption.

Electric

Question: Section 1.4. Figures are presented with no commentary. In terms of outages, 2023 and 2024 are much worse than the previous two years (FY20 and FY21). A sentence or two of context would be useful – is this a trend or a blip?

Response: The increase in the number of power outages for FY24 was a blip, related in part to a change to our OMS system, and the program used to track outages. We experienced some difficulty reconciling the two databases resulting in inaccurate impact measure results

Question: Why did electrical interruptions increase substantially in FY23 and FY24?

Response: The increase was due to an unusual weather condition. After many dry seasons we were hit with multiple storms (atmospheric river) which included very strong winds that swept through the bay area during that time.

Question: Regarding the mismatch in timing between CPAU's carbon free electricity generation and CPAU's load, what is CPAU's plan/actions re the possibility that the state might at some future time extend SB 1158 beyond reporting to insist that these match 24x7?

Response: It is fairly unlikely that 24x7 hourly matching requirement would be implemented, as this would increase costs for all by discouraging overall optimization of resource across the California ISO and soon the Expanded Day Ahead Market across the Western US. The whole market is designed to allow diversification and sharing of resources.

CPAU's current portfolio could be operated to match ~95% of our electricity usage in a year, but that would mean we use our valuable hydro resources to cover very low value hours in the middle of the day, which will increase electricity energy supply costs by approximately 20% or roughly $15M for year 2026. This would also cause the highest emission peaker plants to run more in the morning and evening peaks because we are keeping our carbon-free* hydroelectricity for ourselves.

*large hydroelectricity is considered carbon-free by the State of California.

Question: I'm curious which renewable energy procurement projects we recommended NCPA to pursue - any with BESS?
The highest value projects have been disaggregated solar and storage - Solar in a load pocket with high value and batteries in lower load areas with big swings between midday and evening prices. This yields the best return on investment by charging during the day and discharging at night.

Response: The primary reason that solar and storage projects were often paired together was to make the storage portion of the project eligible for the federal Investment Tax Credit. But since the Inflation Reduction Act was passed, standalone storage is now eligible to receive the

ITC too. Today, disaggregated solar and storage projects are more valuable due to the locational factors noted above, as well as the fact that when a battery is charged directly from a paired solar project, you lose a portion of the solar RECs associated with the battery's energy losses.

Water

Question: Water Infrastructure: What materials are being used to replace water mains?

Response: The City typically uses high-density polyethylene (HDPE) pipe to replace both water mains and for new water services. On occasion, the City may use polyvinyl chloride (PVC) pipe where different chemical permeability is desired or steel/ductile iron pipe for mains with high water pressure.

Question: One Water Plan: Recommendation for a follow-up session with UAC before council review.

Response: Yes, the item is scheduled for the January UAC meeting.

Question: Tier Two Plan Updates: Current negotiation details. (Packet page 135; pg 20 of the document)

Response: Negotiations are nearly complete. This item will be discussed in February.

Question: Pg 22. Figure 17. Include benchmarks against some local agencies that are not BAWSCA members – Menlo Park or San Carlos. BAWSCA members have the same wholesale cost of water – but customers are also likely to make comparisons against non-BAWSCA members.

Response: Menlo Park is a BAWSCA member. San Carlos and parts of Menlo Park are served by CalWater, BAWSCA member. Staff will consider comparing to additional agencies.

Question: WaterSmart Email and Portal: Inclusion of cost information, neighbor comparisons, and potential savings through reduction. (Packet page 148) Regarding the WaterSmart email and portal, does it provide information on the cost of water usage, comparisons with neighborhood averages, and insights on how reductions in usage could translate to monthly savings? (Packet page 148). If not, what steps can we take to provide this information to our customers?

Response: Inclusion of cost information: Staff is working on adding bill total data to the portal.

Neighbor comparisons: In the report & portal customers are compared to other Palo Alto households with similar yard size and occupants. This is shown as the customer's water score.

Potential savings through reduction: The portal and the reports show both the estimated gallons and dollar amounts saved by customers taking various water-saving actions.

Question: BAWSCA Long-term Reliable Water Supply Strategy 2025: Pg 20. First paragraph. When will the planning document from BAWSCA be available?

Response: The estimated project completion date is early 2027

Wastewater

Question: Headworks Replacement: Explanation for the discrepancy in estimates and (PP. 142) What's the cause of the giant cost increase in the wastewater headworks from $55M to $120M+? The headworks replacement has a potential expense of $120-150M estimated versus $55.3M planned. (Packet page 142). What are the specific reasons for this discrepancy?

Response: The headworks project involves replacement or rehabilitation of the parts of the facility that pump raw sewage to the main treatment works. Headworks is currently in pre-design, and the plant will get a better cost estimate when design begins. Based upon other headworks projects in the Bay Area, we expect the cost to be well over $100 million. Once there is a better idea of the cost, the treatment plant will need to work on a funding plan analysis and work with the plant partners. The plant will consider a variety of funding options potentially partial funding through WIFIA (Water Infrastructure Finance and Innovation Act), partial State Revolving Fund loan, and possibly some bond financing. Palo Alto's share will be partially offset by funding from Valley Water through an agreement regarding the State Water Project tax.

Question: Future Expense Increases: Table of projected expense increases and implications for rates, especially toward 2034. According to the chart on Packet page 141 (report page 26), we are going to see a rise in estimated expenses as we head into 2034. Can we see a table of what these expected rises will mean for rates?

Response: The wastewater utility has been planning for the increase in treatment costs for several years. However, costs are coming in higher than projected every year. Last year, the rate increase projections were 9% each year in FY 2026 and FY 2027, then 8% in FY 2028 and 7% in FY 2029. Staff will be returning with preliminary rate projections for FY 2026 on December 4th.

Gas

Question: 2.4. Reliability. "…caused by excavation by outside parties…". I didn't quite get this

– who is an "outside party". Is it a contractor or other excavator? Is the implication that

outside parties are less careful than local parties?

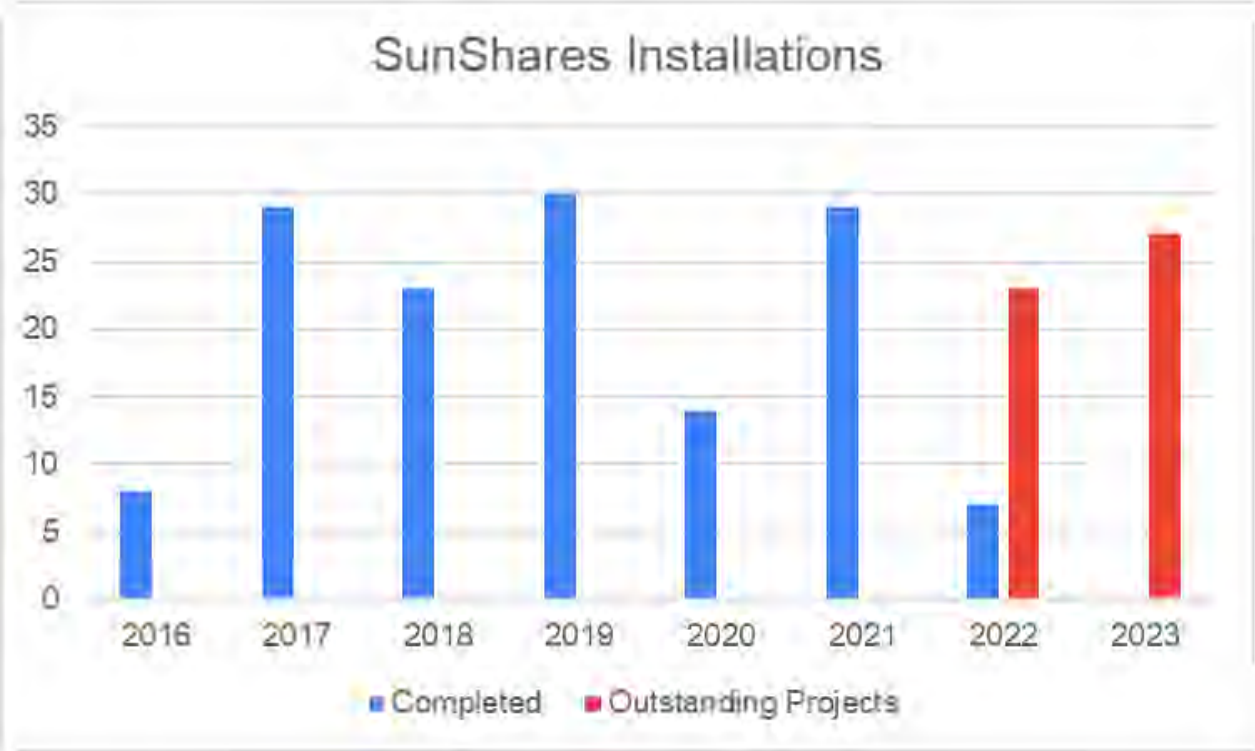
Commissioner Questions and Comments – Annual Report

Response: An "Outside Party" would be all Non-City Contractors or Residents who damage the City's infrastructure during excavation. The primary cause of this damage is these parties failing to contact USA North 811, as California Law requires, to mark all city-owned infrastructure properly before excavation begins. City of Palo Alto personnel and contractors abide by this requirement, resulting in fewer damages.

Customer Programs

Question: For Bay Area sun shares program, how many households have participated in this program? This section has no metrics

Response: Below is a chart showing the number of completed SunShares installations for Palo Alto through 2022 and participants with outstanding installations for 2022 and 2023. Data is not yet available for projects completed in 2023.



	2016	2017	2018	2019	2020	2021	2022	2023
Completed	8	29	23	30	14	29	7	
Outstanding Projects							23	27

Commissioner Questions and Comments – Annual Report

Question: For the chart page 35 in project status what are DI report and IV report? I am curious what the various project status classifications are to understand sales pipeline.

Response: DI report is referring to a detailed investigation report, which estimates expected costs, energy savings, etc. before a project is completed.

IV report is referring to an installation verification report where the installation is confirmed, the completed project savings are measured, and the final project costs are included.

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: December 4, 2024
Staff Report: 2407-3231

TITLE
Discussion on the Time of Use Electric Rates

RECOMMENDATION
Staff is providing the Utilities Advisory Commission an update on the time of use electric rates. This is a presentation only and no action is requested.

ATTACHMENTS
Attachment A: Presentation

AUTHOR/TITLE:
Dean Batchelor, Director of Utilities
Staff: Micah Babbitt, Senior Resource Planner

CITY OF PALO ALTO

Time of Use Electric Rates

Presenter: Micah Babbitt, Senior Resource Planner

December 4, 2024

www.cityofpaloalto.org

Overview

1. What are time of use electric rates and its history in Palo Alto

2. Work in progress to enable time of use rates

3. Roll Out Plan

4. Existing TOU rates and Residential Rate Design

5. Communication, Customer Service, and Industry Best Practices

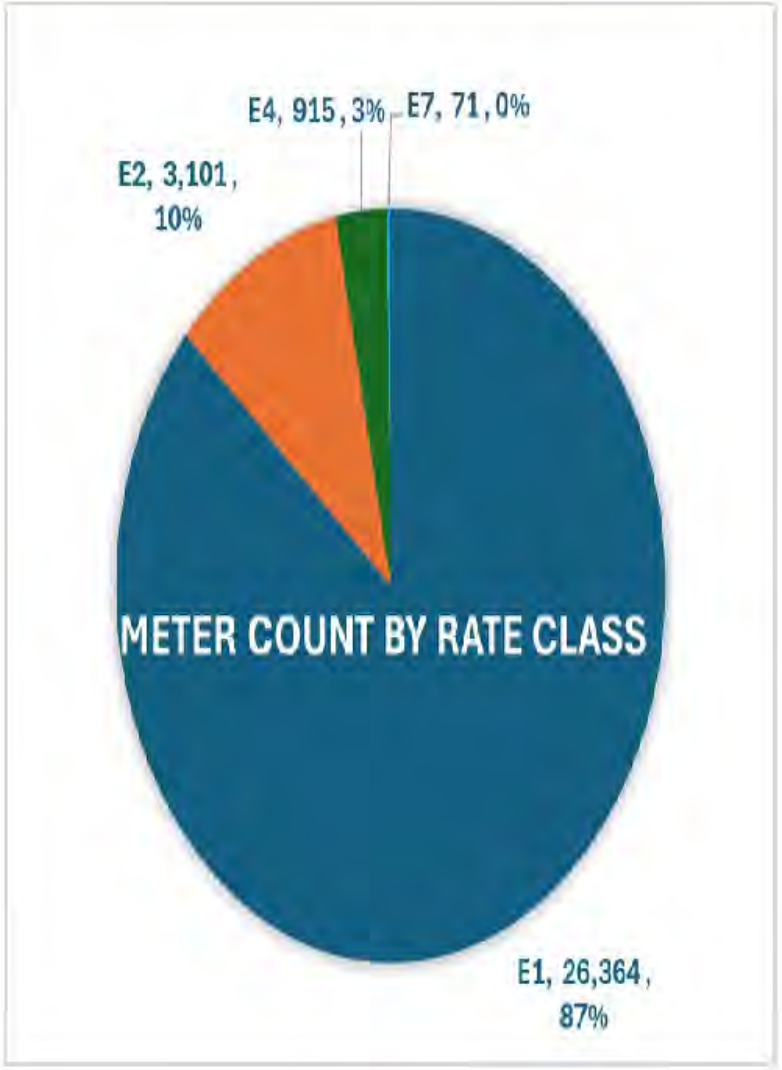
What are Time of Use Rates?

Pricing structure for electricity that varies depending on the time of day

- Energy is cheaper during off-peak times (like late at night) when demand is lower, and more expensive during peak times (like early evening) when demand is higher
- May encourage people to use electricity during cheaper times
- Can help reduce demand on electrical grid during peak times and lead to lower energy bills if customers shift usage to off-peak hours

Time of Use (TOU) Electric Rates History in Palo Alto

- Residential Customers - E1
  - Smart Grid/TOU Rate Pilot from 2013 through 2018
  - Limited to 150 meters
- Multifamily and Small Business Customers - E2
  - No TOU Rates
- Medium/Large Commercial Customers - E4
  - Available 20+ years/requires special meters
  - 0 customers enrolled
- Very Large Commercial (Industrial) Customers - E7
  - Available 20+ years/requires special meters
  - 1 customer enrolled



Smart Grid Pilot/TOU Pilot 2013 – 2017 Lessons Learned

- Gained practical experience in AMI technology options, vendors, residential TOU and billing, customer feedback
- Customers like being able to see and access data
- Small shift of usage into off peak hours observed for some customers

Components Needed for Full TOU Deployment

1. Advanced Metering Infrastructure installed

2. MyCPAU and Billing System upgrades complete

3. Design and Council adoption of new Time of Use Rates in accordance with Rate Design Policy Guidelines

Advanced Metering Infrastructure Project

Meter Install Target Completion

- Residential 90% by December 2024
- Remaining 10% obstructed or problem meters by December 2025
- Commercial by May 2025
  - Pending 4000 meters to be delivered in March 2025

MyCPAU and Billing System Project Status

Phase I (Target Completion December 2024)

- Enhance MyCPAU to import hourly usage data
- Enable "early adoption" Time of Use customers in all rate classes to access detailed usage data

Phase II (Target Completion June 2025)

- Enhance MyCPAU to support Time of Use for all non-solar customers
- Enhance MyCPAU to support customers with solar energy systems (Net Energy Metered)

Preliminary Time of Use Electric Rates Plan

FY 2025

- Large commercial customer rates (E4 and E7) updated with new time periods, include a peak demand charge, and a customer charge

FY 2026

- Residential customers (E1) able to opt in to TOU rates (May exclude NEM solar customers)
- Draft Rate Schedules included in Financial Plan to UAC in March 2025

FY 2027

- TOU implemented for all Residential (E1) customers
- Multifamily and Small/Medium Business (E2) customers able to opt in to TOU rates

DRAFT E1 (Residential) Time of Use Periods

	Energy Share, % Annual
Summer: May 1 - Oct 31	
Peak (4 pm -9 pm every day)	10.3%
Off Peak (9pm - 4 PM every day)	33.2%
Winter: November 1 - April 30	
Peak (4 pm -9 pm every day)	11.9%
Off Peak (9pm - 4 PM every day)	44.6%

- Draft TOU periods similar to proposed time periods for non-residential
- Residential schedule simplified to include only peak and off-peak periods

Initial Outreach and Customer Service Plan

- Website updates
  - Explanation of opt-in for “Early Adopters”
  - Longer-term plan
  - Web-accessible opt-in form
  - Resources for additional information re TOU
- Bill inserts
- Resources to call center
- Stakeholder engagement
  - FY 2026 Financial Plan review
  - Simple bill comparison for various residential customer usage profiles

Industry Best Practices & Lessons Learned

- Fort Collins: Rate equity within residential class
- SMUD: Helped achieve carbon reduction
- Allows Customers to manage flexible loads as needed

Utilities Advisory Commission
Staff Report

From: Alan Kurotori, Utilities Chief Operating Officer
Lead Department: Utilities

Meeting Date: December 4, 2024
Report #: 2411-3825

TITLE
Review and Discuss Preliminary Fiscal Year 2026 Utilities Financial Forecast and Rate Projections

This report will be a late packet report published on November 27, 2024

Utilities Advisory Commission
Staff Report

From: Dean Batchelor, Director Utilities
Lead Department: Utilities

Meeting Date: December 4, 2024
Staff Report: 2407-3235

TITLE

Discussion and Update on the Fiscal Year 2026 Preliminary Utilities Financial Forecast and Rate Projections

RECOMMENDATION

This item is for discussion, and no action is requested. These preliminary calculations reflect an initial estimate for review and feedback by the Finance Committee and Utilities Advisory Commission (UAC) on key assumptions for the Electric, Gas, Water and Wastewater Collection Utilities to inform recommended FY 2026 financial forecasts and proposed rate changes for each utility.

EXECUTIVE SUMMARY

The City of Palo Alto Utilities provides electricity, water, wastewater, natural gas, and fiber optics. The City's Public Works Department also provides refuse collection and processing for recycling, compost and garbage, wastewater treatment and stormwater management services. Customers benefit from the continued safe, reliable, environmentally sustainable, and cost-effective operations of each of these utilities. FY 2026 preliminary calculations model necessary rate increases to support upkeep, infrastructure replacements, and replenishment of reserves to allow the City to continue to provide high quality utility services to the community.

Preliminary forecasts reflect a need for an overall 9% or $36.40 monthly rate increase in FY 2026 for the median residential utility bill, encompassing six services (electric, gas, refuse, sewer, stormwater, water). Table 1 shows the preliminary five-year rate projections necessary to restore reserves to within guideline ranges within the five-year planning period, maintain operations given inflationary cost increases, and enable ongoing capital work necessary to provide safe, reliable, and environmentally sustainable utilities while balancing affordability. The City of Palo Alto Utilities is engaged in some infrastructure projects including modernizing the electric grid, improving resiliency, replacing water mains and reservoirs to continue to provide pristine drinking water to residents and businesses and pay toward the rebuild of the wastewater treatment plant that provides a critical service to the community 24 hours a day, 365 days per year.

BACKGROUND

Annually, the Utilities Department prepares recommended rates forecasts and financial plans for the UAC and Finance Committee review and ultimately City Council adoption in June. Rate adjustments are recommended to maintain each utility's financial health. Recognizing staffing transitions, initial estimates, and feedback from the rate review process, staff has prepared a preliminary forecast for review and early feedback to better inform the official recommended forecasts expected in Spring 2025 for implementation in July 2025. The rate changes shown in this report are preliminary estimates; actual rate changes will be based on updated financial data and the cost-of-service methodologies and studies for each utility, and may differ by customer class and for individual customers depending on consumption patterns. A cost-of-service study for the Gas Utility is expected to be completed in early 2025 and will be factored into proposals for FY 2026. Cost of service studies for the Electric, Wastewater and Water Utilities were completed in 2024, 2021 and 2019 respectively.

Over the past few years, utility reserve funds were drawn down due to a variety of factors. The Electric and Gas Utilities were impacted by the energy price spikes in the winter of 2022 – 2023. The Water Utility was impacted by reductions in water use during the drought in 2021 – 2023 and the subsequent recovering period as well as cool and wet weather patterns which persisted locally in 2023. The Wastewater Collection Utility experienced increased wastewater treatment costs due to a higher flow share compared to the prior year forecast and other operating cost increases. For all Utilities throughout the pandemic, the City of Palo Alto kept rate increases at minimal levels in order to alleviate the burden of utility cost hikes on residents and businesses already grappling with the pandemic's economic effects. A series of rate adjustments are necessary to restore reserves to within guidelines ranges with the 5-year planning period.

ANALYSIS

Staff seeks input from the UAC prior to finalizing the Utilities Financial Forecasts and developing recommendations for rate changes that would be effective July 1, 2025. The proposed rate adjustment recommendations, along with each utility's Financial Forecasts, are currently scheduled to be presented to theUAC in Spring 2025. Staff's preliminary system average rate adjustment recommendations are:

Table 1: Preliminary Projected Residential Rate Changes

	FY 2025	FY 2026 (Projected)	FY 2027	FY 2028	FY 2029	FY 2030
Electric Utility [1]	*$7.00 9%*	*$4.60 5%*	*$4.80 5%*	*$5.10 5%*	*$5.30 5%*	*$5.60 5%*
Gas Utility [2]	*$7.80 13%*	*$4.10 6%*	*$4.30 6%*	*$4.70 6%*	*$5.10 6%*	*$5.00 6%*
Wastewater	*$7.30 15%*	*$10.10 18%*	*$9.90 15%*	*$11.40 15%*	*$6.10 7%*	*$6.50 7%*
Water Utility	*$9.80 9%*	*$16.20 14%*	*$18.20 14%*	*$15.40 10%*	*$14.80 9%*	*$15.40 9%*
Refuse	*$0.00 0%*	*$0.00 0%*	*$1.50 3%*	*$1.50 3%*	*$1.60 3%*	*$1.60 3%*
Stormwater [3]	*$0.40 3%*	*$0.40 3%*	*$0.50 3%*	*$0.50 3%*	*$0.50 3%*	*$0.50 3%*
Monthly Bill Change [4]	***$34.50 9%***	***$36.60 9%***	***$40.60 9%***	***$39.80 8%***	***$34.70 7%***	***$36.00 7%***

1. FY 2025 incorporates results of cost-of-service analysis

2. *Gas rate in FY 2026 based on General Fund transfer of 18% of gross revenues in FY 2024; changes shown with commodity rates held constant; actual gas commodity rates vary monthly*
3. *Stormwater fees increase by CPI index annually per approved 2017 ballot measure (2.6% in FY 2025)*
4. *Based on projected FY 2025 monthly residential bill of $402*

Electric

The preliminary electric forecast maintains the same annual 5% rate increase presented in last year's FY 2025 financial plan. Net electric supply purchase costs are anticipated to be in line with the FY 2025 Financial Plan; revenues from surplus system Resource Adequacy and Renewable Energy Certificates further reduce supply costs. On the expense side, transmission costs continue to rise, and capital spending and distribution system maintenance spending is rising due to grid modernization, fiber-related investments and an upgrade to the Hanover Substation which will benefit all electric rate payers. Staff expects some of these costs to be offset with debt service through a bond issuance in FY 2026.

On balance, the net effect of these various one-time costs and revenues is expected to be positive, enabling the utility to refill reserves to target levels; the Hydroelectric Rate Stabilization Reserve was repaid in FY 2024 and had a balance of $17.4 million at the end of FY 2024. Replenishing this reserve reduces the risk that, in the event of a significant degradation in hydro conditions, the City will need to use the Hydro Rate Adjuster to recover higher supply costs. In FY 2025, the forecasts anticipate the Electric Special Projects Reserve will also be repaid $7.5 million, bringing the balance from $22.6 million to $30.1 million. This will fully repay the monies borrowed for the supply fund to cover higher costs during the pandemic, the drought, and high winter energy prices during 2022-2023.

In the longer term (FY 2027 through FY 2030), projected increases in electric costs related to stricter resource adequacy requirements, increasing transmission costs, and capital investment and operational cost increases are expected to result in system average rate increases of 5% per year. Due to the positive net ending position in FY 2024 and CIP reappropriation, the electric utility is able to defer debt financing for grid modernization until FY 2026 and use existing balances for pay-go costs until financing is needed.

The current year (FY 2025) financial plan for the Electric Utility (approved June 17, 2024) is available at: https://www.cityofpaloalto.org/files/assets/public/v/2/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/2024-rates/electric-utility-financial-plan-fy25.pdf

Gas

Gas fund expenses are typically one-third supply-related and two-thirds distribution system-related. Supply costs are market driven, change monthly according to market conditions, and are passed through to customers. Distribution costs include distribution operations and maintenance, capital investment, and the general fund transfer.

During the pandemic, the City kept overall gas utility rate increases at 2% to 3% annually and utilized reserve funding to cover costs. In the winter of 2022-23, surging gas prices depleted the gas utility reserves, which covered the gap between actual gas costs and the Council-approved maximum gas commodity charge. Reserves need to be replenished over time to ensure funds are available for safety

and reliability needs, while managing ongoing cost inflation. In the FY 2025 financial plan, a gas rate increase of 5% was forecasted for FY 2026. However, due to FY 2024 year-end financials which resulted in lower sales revenues and higher operations and overhead costs, staff preliminary forecasts a 6% overall rate increase for the Gas Utility effective July 1, 2025.

On May 9, 2024, the Gas Utility received a recommendation letter from the U.S. Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) for the FY 2023 Natural Gas Distribution Infrastructure Safety and Modernization (NGDISM) Grant. Staff expects this grant to provide approximately $16.5 million for capital-related work that is additional to the utility's already-planned capital work over the next five-year period. The Gas Utility's transfer to the City's General Fund is a component of the City's gas rates. This transfer was first authorized by voters in 1950 and reaffirmed in November 2022 with the passage of Measure L which authorizes a transfer amount up to 18% of the gross revenues of the gas utility. The preliminary forecast assumes a transfer based on 18% of estimated gross revenues from FY 2024, to be $9.735 million in FY 2026. This transfer of 18% is in alignment with the assumptions in the FY 2025 Adopted Budget process.

The current year (FY 2025) Financial Plan for the Gas utility (approved June 17, 2024) is available at: https://www.cityofpaloalto.org/files/assets/public/v/2/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/2024-rates/gas-financial-plan-fy25.pdf

Water

The FY 2025 Financial Plan projected a distribution rate increase in FY 2026 of 17%, which is equivalent to a 9% overall system average increase. However, given lower reserves and higher expected ongoing costs going forward, preliminary forecasts reflect a 26% increase to the distribution rates, which is equivalent to a 14% overall system average increase on customer's water rates. This preliminary rate increase is necessary to pay for inflationary cost increases and continued lower water sales, while performing the necessary maintenance and replacement activities that contribute to the safe and reliable provision of high-quality water to Palo Alto residents and businesses.

Water usage and revenues declined in FY 2022 and FY 2023 as customers successfully conserved water in accordance with local, regional and state calls for water conservation. When the drought ended in FY 2024, water usage and sales revenue began to increase gradually. Some of the water conservation achieved during the drought will be permanent, and staff expects water sales will continue to gradually rebound before resuming a long-term decline. The lower revenue has been managed using $5 million from the water rate stabilization reserve in FY 2023 and FY 2024 and approximately $7 million from the water operations reserve from FY 2022 through FY 2024 to cover the utility's costs. By taking this approach of drawing down reserves, the City has only increased the distribution portion of the water rate by an average of 4% annually from FY 2021 to FY 2025. The Finance Committee has reaffirmed its support for this approach on April 23, 2024 when it voted unanimously to limit the overall system average water rate increase to 9.5% in FY 2025 while reducing reserve funds available in FY 2026 and future years.[1]

[1] Finance Committee April 23, 2024, Action Minutes
https://cityofpaloalto.primegov.com/Public/CompiledDocument?meetingTemplateId=15050&compileOutputType=1

At the end of FY 2024, the operations reserve was approximately $2 million below projected levels with a balance of $7.1 million, which is below the minimum guideline level of $8.4 million. While revenues were $2.3 million higher than forecasted (sales revenue, capacity and connection fees), operating and capital expenses were $4.4 million higher than forecasted. Many of the cost increases are ongoing and the utility will need to continue to pay them annually. The rate stabilization reserve at the end of FY 2024 has $4 million remaining and the financial forecast plans to use all of that remaining funding to cover costs in FY 2025 and 2026.

The Water Utility needs to plan for large capital projects in the five-year budget, including two reservoir replacements or rehabilitations and a large main replacement every other year. This revised proposal defers the reservoir work by two years from FY 2027 and FY 2028 to FY 2029 and FY 2030. The Water Utility has used or planned for the use of all possible reserve funds to offset costs and set rates at a level that is below the utility's actual costs throughout the pandemic and drought. However, the reserves have now reached a point where rate increases are needed to pay for distribution system costs.

In the April 12, 2024 rate notice from the City's water supplier, the San Francisco Public Utilities Commission (SFPUC), estimated no rate increase for wholesale water rates in FY 2026. Consistent with this rate notice, the preliminary forecast assumes that in FY 2026 SFPUC does not increase the wholesale water rate during FY 2026 from its current level of $5.67/CCF. Projections for FY 2027 – FY 2030 assume annual increases of 3.4% in FY 2027, 7.5% in FY 2028, and 5.4% in FY 2029 on SFPUC's wholesale rate in accordance with SFPUC's April 12, 2024 wholesale water rate notice. However, SFPUC's wholesale rate projection is subject to change and highly uncertain.

The current year (FY 2025) financial plan for the Water Utility (approved June 17, 2024) is available at: https://www.cityofpaloalto.org/files/assets/public/v/1/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/2024-rates/water-financial-plan-fy25.pdf

Wastewater Collection

Preliminary rate calculations reflect a needed 18% rate increase for FY 2026, which is equivalent to approximately $10 per residential customer per month. With this increase, Palo Alto's rate will be approximately 6% below neighboring cities, assuming that neighbor rates remain at current levels though rate increases are likely for those partners with the Regional Water Quality Control Plant. The additional funding to be generated by this rate increase is required to pay for the ongoing wastewater treatment charges, operations, and capital improvement; and deferral of some capital costs to manage the magnitude of the rate increase needed.

The Wastewater Operating Reserve level is about $1.2 million lower than expected due to treatment costs being $1.4 million higher than forecasted, driven by higher Palo Alto flow share, and higher operating expenses than initially forecasted. The Operations Reserve ended the year with negative $1 million. The utility's overall cash balance was positive $0.34 million at the end of FY 2024 due to the $3 million short-term loan that Council approved from the Fiber utility to the Wastewater Collection Utility in FY 2024. The short-term loan is expected to be paid in FY 2026.

Looking ahead, from FY 2026 to FY 2030, staff updated the operating cost projection based on the most

recent recorded costs and rates of cost increase. Relative to last year's financial forecast, this increased the total operating costs by $6.2 million or 14% over the five-year forecast. Over the five-year forecast, treatment costs are approximately $14.2 million higher due to additional minor CIP expenses and Section 115 Pension Trust expenses inadvertently excluded from the RWQCP's forecast. To address these challenges, the Wastewater Collection Utility preliminary forecast assumes deferral of the next sewer main replacement budget to FY 2028 and reflects investments in minimally necessary projects to allow the Wastewater Collection fund to recover and mitigate an even higher rate increase. This assumption would defer the more aggressive replacement cycle adopted in the FY 2024 financial plan to increase replacement from 1 miles to 2.5 miles of pipe annually starting in FY 2026.

The most recent (FY 2025) financial plan for the Wastewater Collection Utility (approved June 17, 2024) is available at:
https://www.cityofpaloalto.org/files/assets/public/v/2/agendas-minutes-reports/reports/city-manager-reports-cmrs/attachments/2024-rates/wastewater-financial-plan-fy25.pdf

FISCAL/RESOURCE IMPACT

Based on the preliminary rate increases as shown, the estimated revenue impacts in FY 2026 would be an increase of $7.8 million in the Water Fund, $4.4 million in the Wastewater Collection Fund, $3.1 million in the Gas Fund and an increase of $8 million in the Electric Fund. Utility rate increases impact the general fund because the City is a utilities customer. The impact to the general fund of these preliminary rate increases is a$0.86 million expense increase.

STAKEHOLDER ENGAGEMENT

Staff is presenting the preliminary rate information to the Finance Committee on December 3, 2024. Staff will summarize the Finance Committee feedback during the UAC meeting. An excerpt of the minutes from the Finance Committee's December 3, 2024 meeting will be located at the City's Agenda's and Minutes website.

The UAC is scheduled to review the long-term Financial Forecasts and proposed rate adjustments for the Electric, Water, Wastewater and Gas Utilities in March. The Finance Committee is tentatively scheduled to review the long-term Financial Forecasts and proposed rate adjustments in Spring 2025. In late April or early May, notification of any recommended Water and Wastewater Collection rate adjustments will be sent to customers, giving them the opportunity to protest the proposed changes as required by Article XIIID of the State Constitution (added by Proposition 218). The Financial Forecasts and proposed new rate schedules will be considered by the City Council with the FY 2026 budget, at which time the Public Hearing required by Article XIIID of the State Constitution will be held.

ENVIRONMENTAL REVIEW

The UAC's review of the preliminary financial projections does not meet the definition of a project, pursuant to Section 21065 of the California Environmental Quality Act, thus no environmental review is required.

ATTACHMENTS

Attachment A: Presentation

AUTHOR/TITLE:
Dean Batchelor, Director of Utilities
Staff: Lisa Bilir, Senior Resource Planner

CITY OF PALO ALTO

PRELIMINARY FY 2026 RATE CHANGES

Utilities Advisory Commission

December 4, 2024

Preliminary Residential System Average Rate Projections

	FY 2025	FY 2026 (Projected)	FY 2027	FY 2028	FY 2029	FY 2030
Electric Utility [1]	$7.00 9%	$4.60 5%	$4.80 5%	$5.10 5%	$5.30 5%	$5.60 5%
Gas Utility [2]	$7.80 13%	$4.10 6%	$4.30 6%	$4.70 6%	$5.10 6%	$5.00 6%
Wastewater	$7.30 15%	$10.10 18%	$9.90 15%	$11.40 15%	$6.10 7%	$6.50 7%
Water Utility	$9.80 9%	$16.20 14%	$18.20 14%	$15.40 10%	$14.80 9%	$15.40 9%
Refuse	$0.00 0%	$0.00 0%	$1.50 3%	$1.50 3%	$1.60 3%	$1.60 3%
Stormwater [3]	$0.40 3%	$0.40 3%	$0.50 3%	$0.50 3%	$0.50 3%	$0.50 3%
Monthly Bill Change [4]	**$34.50** **9%**	**$36.60** **9%**	**$40.60** **9%**	**$39.80** **8%**	**$34.70** **7%**	**$36.00** **7%**

1) *FY 2025 incorporates results of cost-of-service analysis*
2) *Gas rate in FY 2026 based on General Fund transfer of 18% of gross revenue in FY 2024; changes shown with commodity rates held constant; actual gas commodity rates vary monthly*
3) *Stormwater fees increase by CPI index annually per approved 2017 ballot measure (2.6% in FY 2025)*
4) *Based on projected FY 2025 monthly residential bill of $402*

ONGOING COST CONTAINMENT for All Utilities

- Consistent with the Utilities Strategic Plan, cost containment is being instituted as an ongoing priority and annual cycle
- Ongoing management review of personnel actions
- Regular review of performance metrics and expenditures

RECENTLY IMPLEMENTED COST CONTAINMENT

- Expanded use of bank draft to reduce credit card fees
- Scheduled larger CIP projects every other year achieving efficient project management and lower construction costs (estimated $50K per CIP project)
- Implemented mobile workforce applications, reducing administrative data entry time, freeing up staff for other work

Water Utility

- Agreement with Valley Water yielded $16 million in funding for reverse osmosis facility to improve recycled water quality and $250K to $1M/year
- BAWSCA water bond refunding in 2023 achieved lower debt service payments ($185K/year 2023-2034)

Electric Utility

- Selling surplus Resource Adequacy and Renewable Energy Credits ($20+ million/year)
- Negotiated improvements to Western hydroelectric contract ($2 million/year)
- Negotiated layoff of transmission asset generating $550k/year

Water, Gas, and Wastewater

- Established cross-functional field crew to install water, gas, and sewer services simultaneously at new construction sites, reducing hours spent in the field by minimum 20%

FUTURE POTENTIAL COST CONTAINMENT

- Implement new customer information system with reduced support costs
- Increase water and energy end use technical training for Customer Service Representatives, reducing transferred phone calls and staff time

Electric Utility

- Prepay of renewable power purchase agreements to monetize municipal tax-exempt debt
- Optimize debt issuance timing and amount for Grid Modernization to minimize debt service costs to electric customers
- Additional value from Western federally-owned transmission ($500K/year)
- Challenge transmission rates via Northern California Power Agency ($500K/year)

Water, Gas, and Wastewater

- Cluster gas main replacements to reduce mobilization costs for construction contractors ($5K-$10K for each project group)

CITY OF PALO ALTO

ELECTRIC UTILITY (Preliminary)

Preliminary Electric Rate Projection

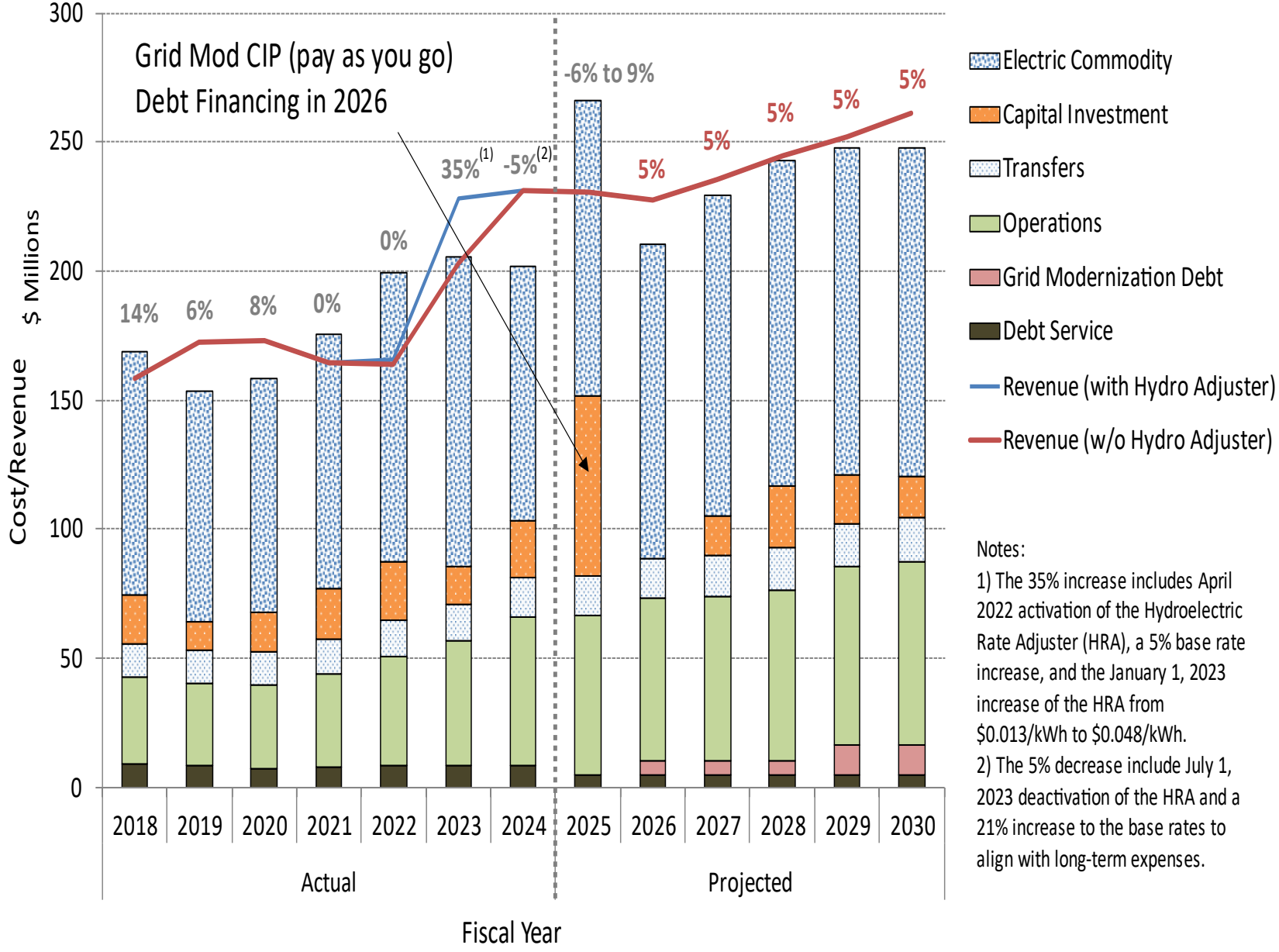
FY 2026 PRELIMINARY PROJECTION

- **5% rate increase across all customer classes in FY 2026**
- Significant investment in grid modernization, but able to delay bond issuance to FY 2026
- Reserves recovering from 2020-2022 drawdown
  - Repaid Hydroelectric Rate Stabilization in FY 2024
  - Repaying Electric Special Projects Reserves in FY 2025
- Net supply costs forecast in line with FY 2025 Financial Plan
  - Revenues from surplus system Resource Adequacy and Renewable Energy Certificates further reducing supply costs

FUTURE YEARS

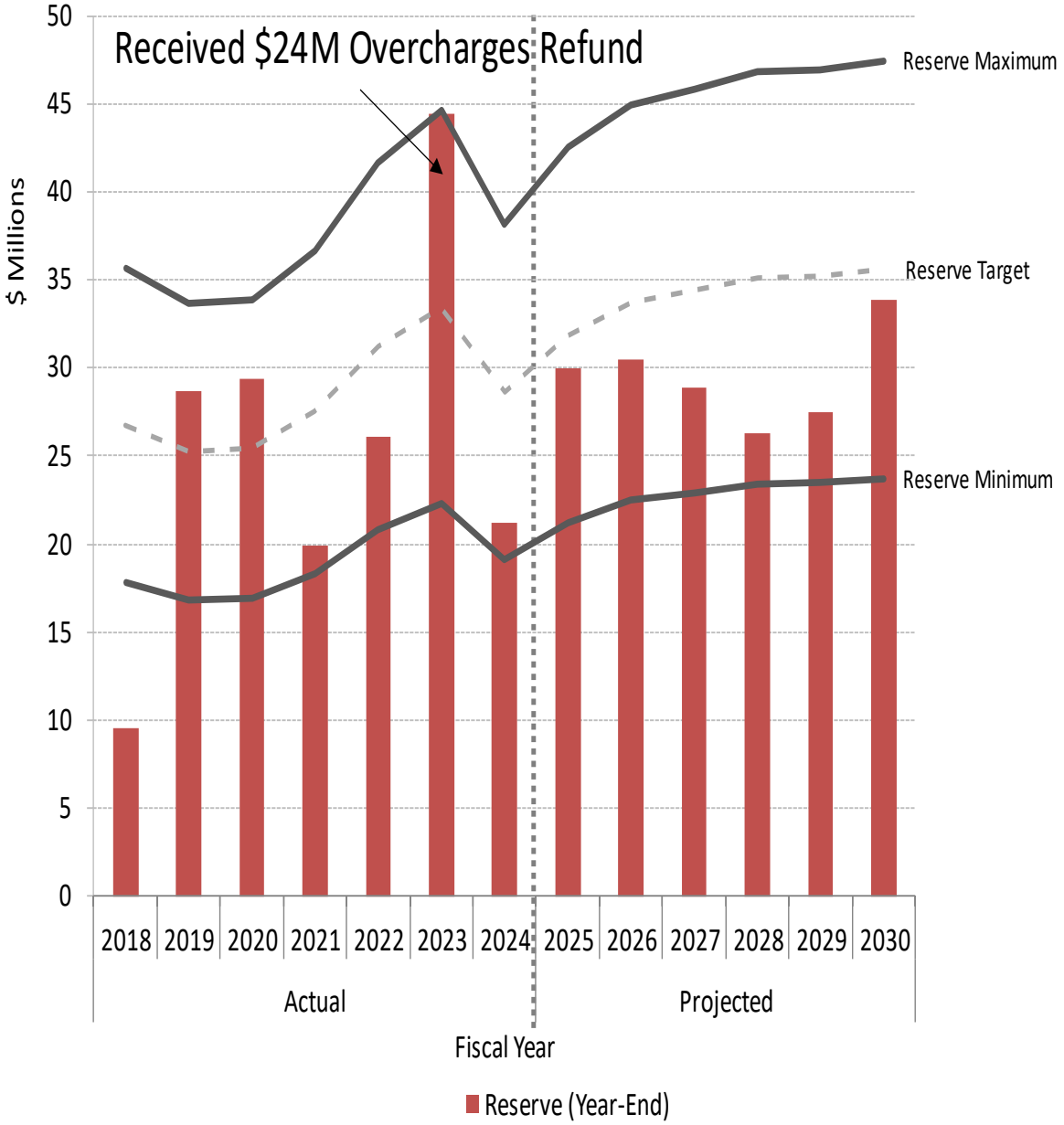
- 5% rate increase per year projected for FY 2027-FY 2030
- Issue debt for Grid Modernization in first half of FY 2026

Preliminary Electric Cost and Revenue Projections

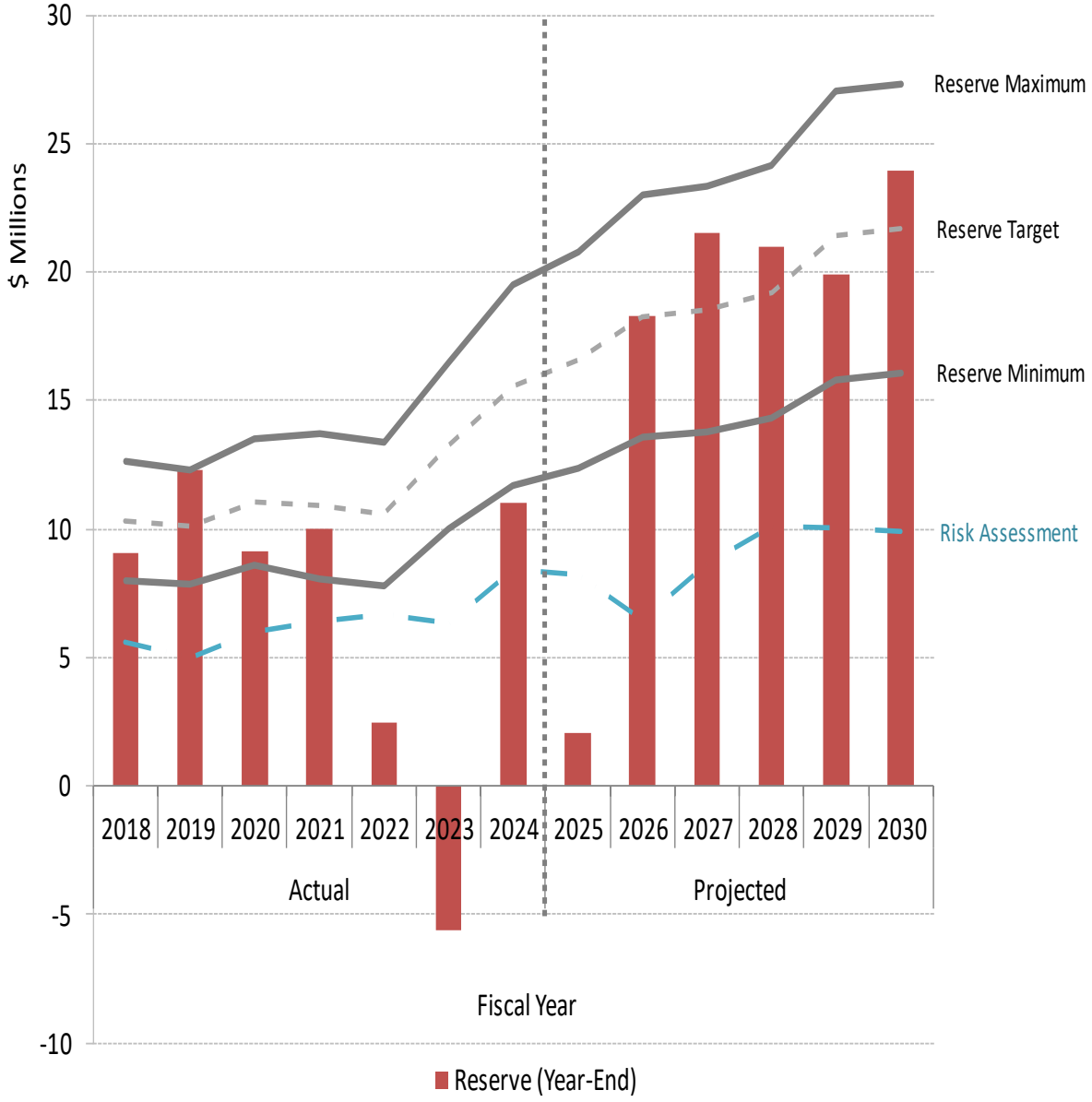


Notes:
1) The 35% increase includes April 2022 activation of the Hydroelectric Rate Adjuster (HRA), a 5% base rate increase, and the January 1, 2023 increase of the HRA from $0.013/kWh to $0.048/kWh.
2) The 5% decrease include July 1, 2023 deactivation of the HRA and a 21% increase to the base rates to align with long-term expenses.

Preliminary Electric Supply Operating Reserve Projections



Preliminary Electric Distribution Operating Reserve Projections



Maintained rates with no increases in FY2021 and FY2022, and utilized the operating reserve to cover expenses

Electric Residential Bill Comparisons

Usage (kwh)	Palo Alto	PG&E/CCAs	Santa Clara
300	66.17	110.77	51.47
(Summer Median) 365	79.46	142.37	63.03
(Winter Median) 453	96.83	186.44	78.67
650	142.75	279.63	113.70
1200	269.03	547.02	211.49

Usage (kwh)	Palo Alto	Discount to PG&E/CCAs	Discount to Santa Clara
300	66.17	40%	-29%
(Summer Median) 365	79.46	44%	-26%
(Winter Median) 453	96.83	48%	-23%
650	142.75	49%	-26%
1200	269.03	51%	-27%

*PG&E and Santa Clara Rates Effective November 2024; Palo Alto proposed rates July 2025

CITY OF PALO ALTO

GAS UTILITY (Preliminary)

Preliminary Gas Rate Projections

FY 2026 PRELIMINARY PROJECTION

- **6% overall rate increase in FY 2026,** due to 10% distribution rate increase
- 6% overall rate increases annually in FY 2027-30
- Gas General Fund Transfer in FY26 is estimated at $9.735M, calculated from 18% of FY24 gross revenue

Drivers

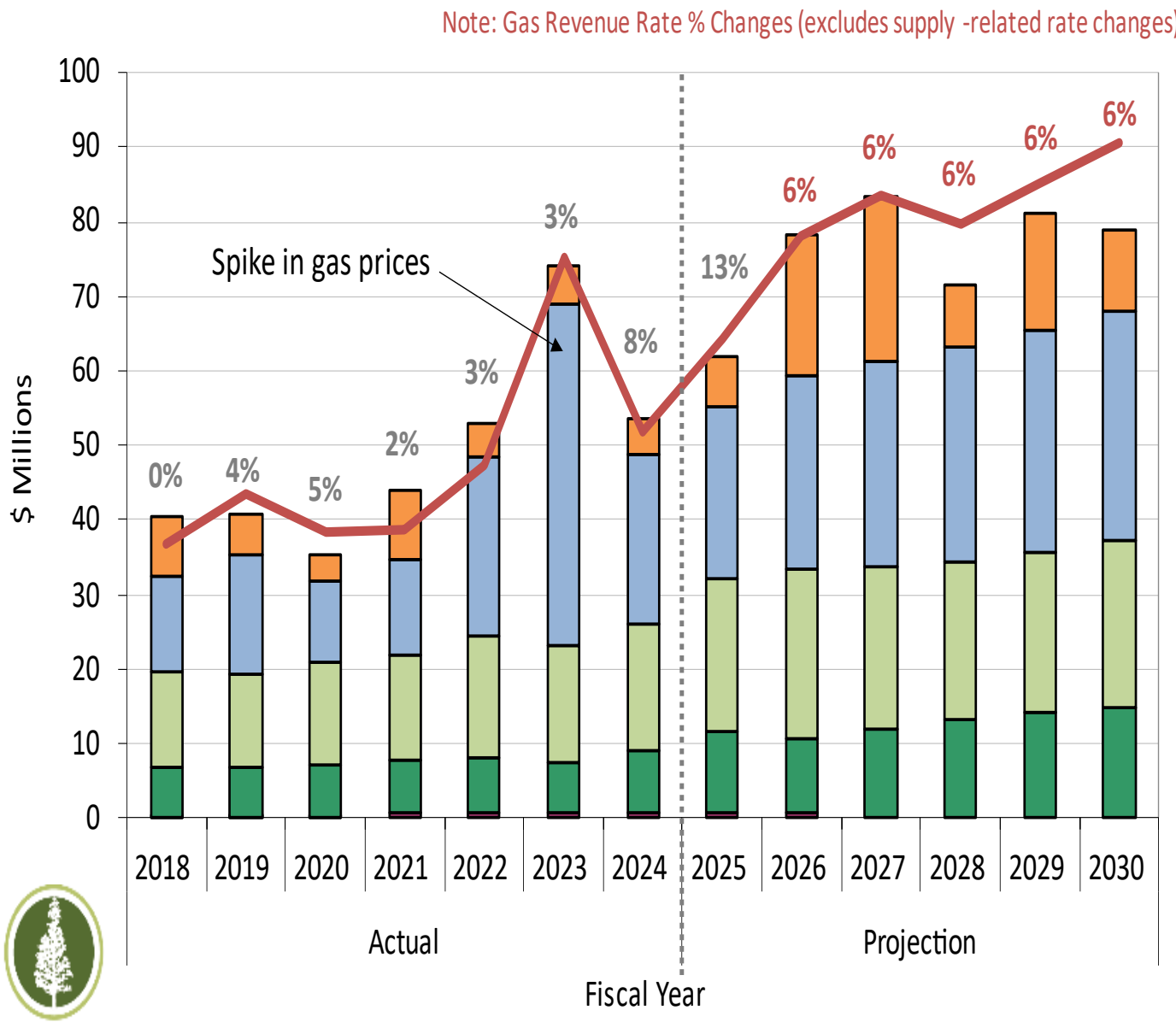
- Reserves $1.5 million lower than forecast due to lower retail sales and connection fee revenues
- Projection reflects lower sales projection, higher other operating costs

Projected Gas Overall Rate Trajectory *

Fiscal Year	2025	2026	2027	2028	2029	2030
Current Projection	13%	6%	6%	6%	6%	6%
FY 2025 Plan	13%	5%	6%	6%	5%	-

**excludes supply-related rate changes*

Preliminary Gas Cost and Revenue Projections

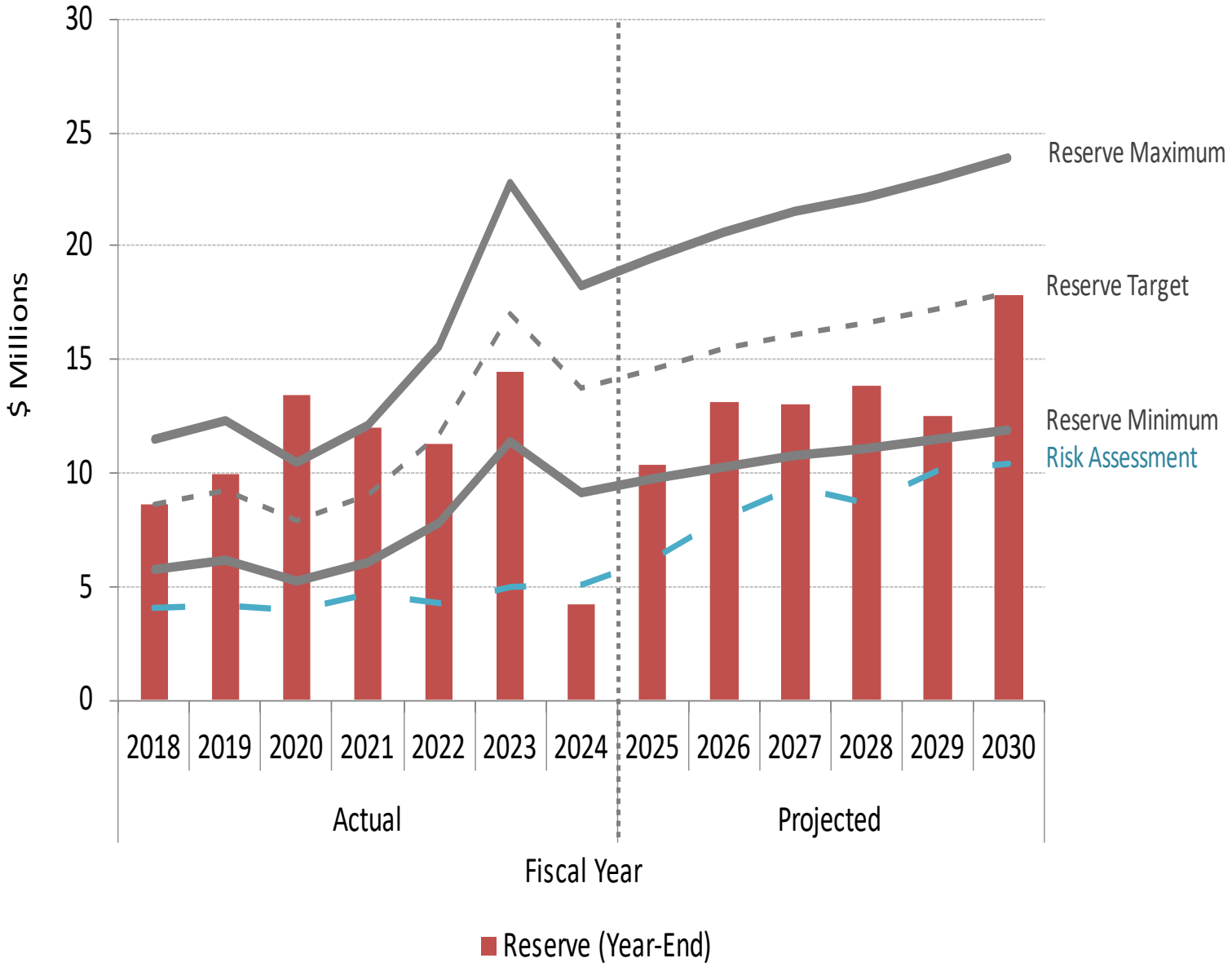


*Revenue excludes Cap-and-Trade auction sales revenue, which goes directly to the Cap-and-Trade reserve

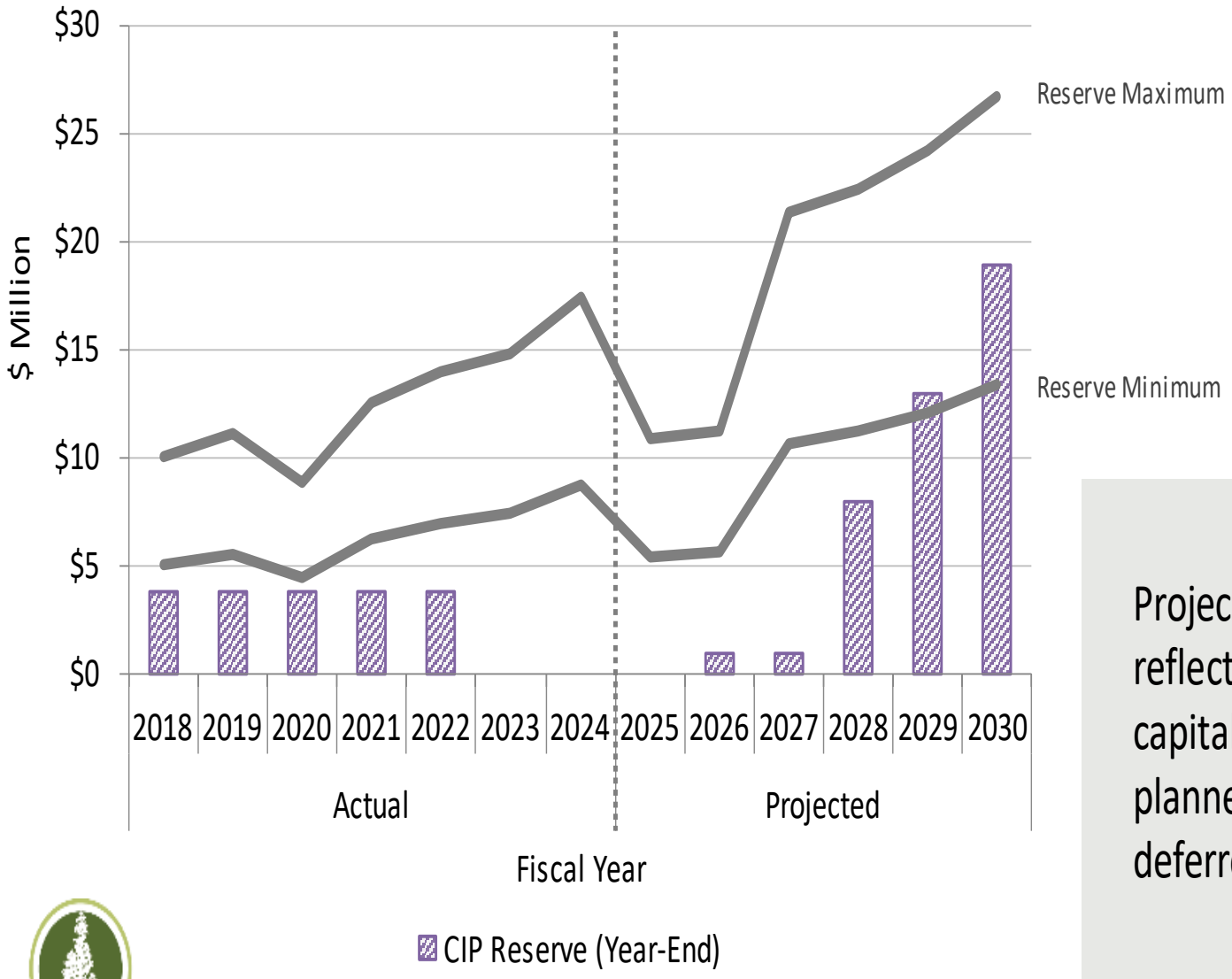
**FY25 Commitments and Reappropriations reserves balances for Operations and Capital Investment are anticipated to be utilized in FY26 and FY27

***The grant-funded $16.5M CIP project is anticipated to be under construction in FY26 and FY27

Preliminary Gas Operations Reserve Projections



Preliminary Gas CIP Reserve Projections



Projections for reserve level needs reflect the significant increase in capital investment costs and prior planned projects in FY 2025 deferred to future years

Gas Bill Comparisons *($/Mo.)*

Staff is currently conducting a Cost-of-Service Study and will provide an update in 2025

Residential

Rate	Season	Usage (Therms)	Palo Alto	PG&E	PA/PG&E (%)
G-1	Summer	10	33.46	11.58	189%
		(Median) 17	45.03	29.20	54%
		30	78.84	66.35	19%
		45	122.85	109.22	12%
	Winter	30	64.75	81.27	(20%)
		(Median) 51	98.23	143.27	(31%)
		80	169.57	228.88	(26%)
		150	370.86	435.55	(15%)
	Annual	(Median) 31	67.20	76.73	(12%)

Commercial

Rate	Usage (Therms)	Palo Alto	PG&E	PA/PG&E (%)
G-2	280	682.38	540.65	26%
G-3	20,833	39,797.58	28,333.37	40%

CITY OF PALO ALTO

WATER UTILITY (Preliminary)

Preliminary Water Rate Projections

FY 2026 PRELIMINARY PROJECTION

- **14% overall rate increase in FY 26** (26% distribution rate increase)
- Operations Reserve and CIP Reserve projected to be below minimum guideline range in FY 2026 and return within guideline range in FY 2027
- Commodity rate increase projection: 0% in FY 2026, 3.4% in FY 2027, 7.5% in FY 2028 and 5.4% in FY 2029 (SFPUC rate notice April 2024); highly uncertain and subject to change

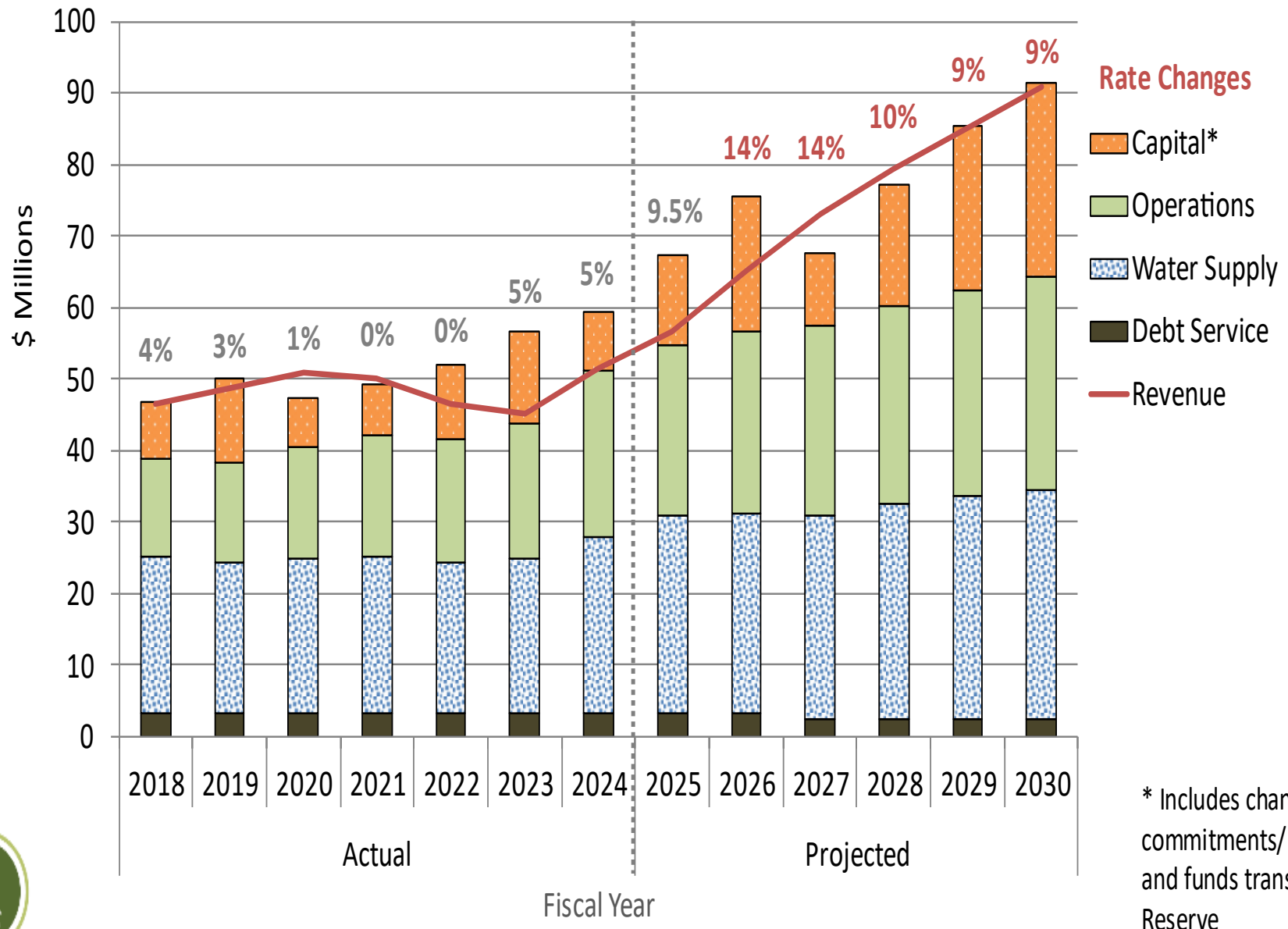
Projected Total Water Rate Trajectory

Fiscal Year	2025	2026	2027	2028	2029	2030
Current Projection	9.5%	14%	14%	10%	9%	9%
FY 2025 Plan	9.5%	9%	9%	9%	9%	-

Projected Water Distribution Rate Trajectory

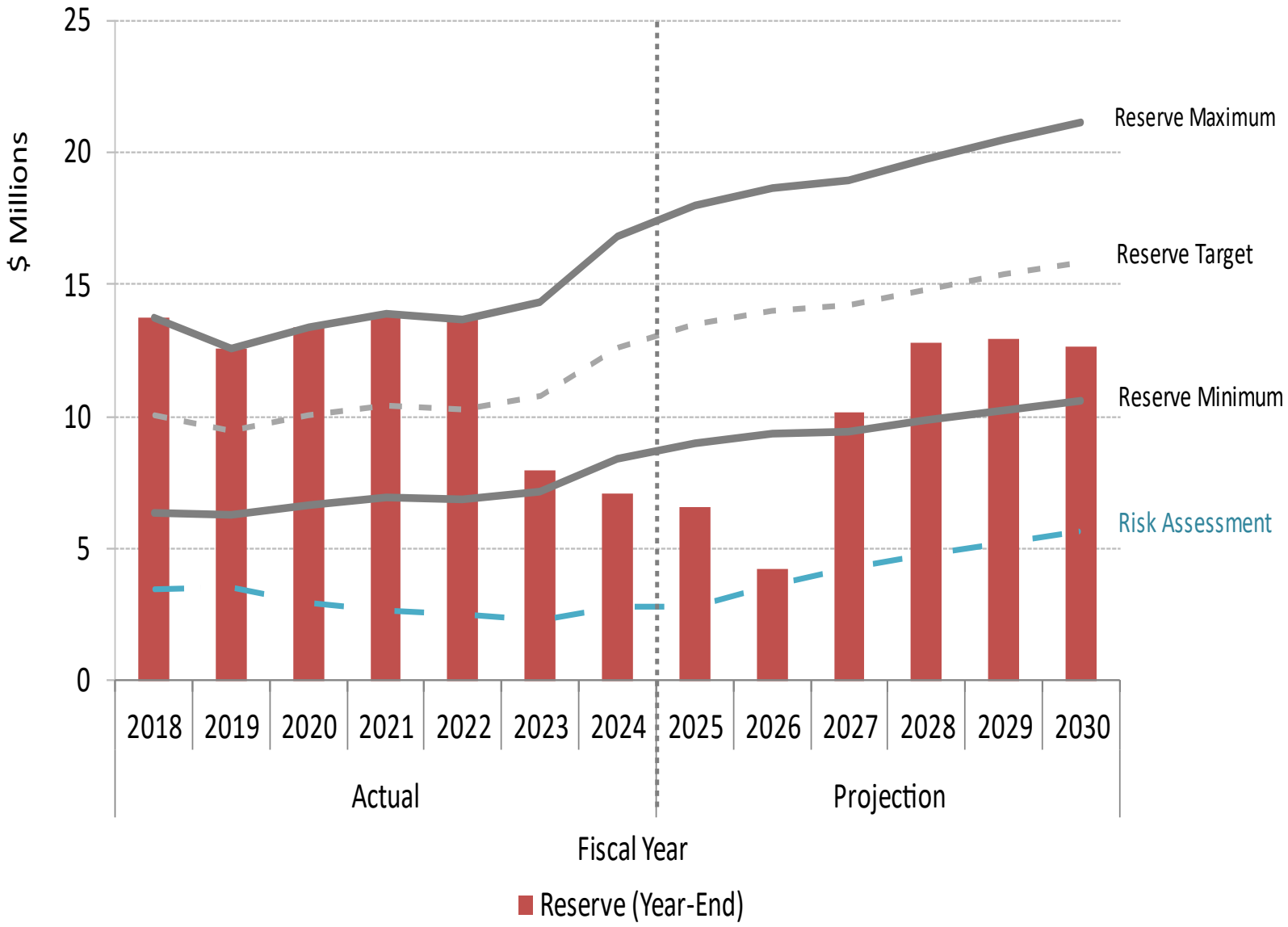
Fiscal Year	2025	2026	2027	2028	2029	2030
Current Projection	10%	26%	21%	12%	11%	11%
FY 2025 Plan	10%	17%	14%	10%	11%	-

Preliminary Water Cost and Revenue Projections

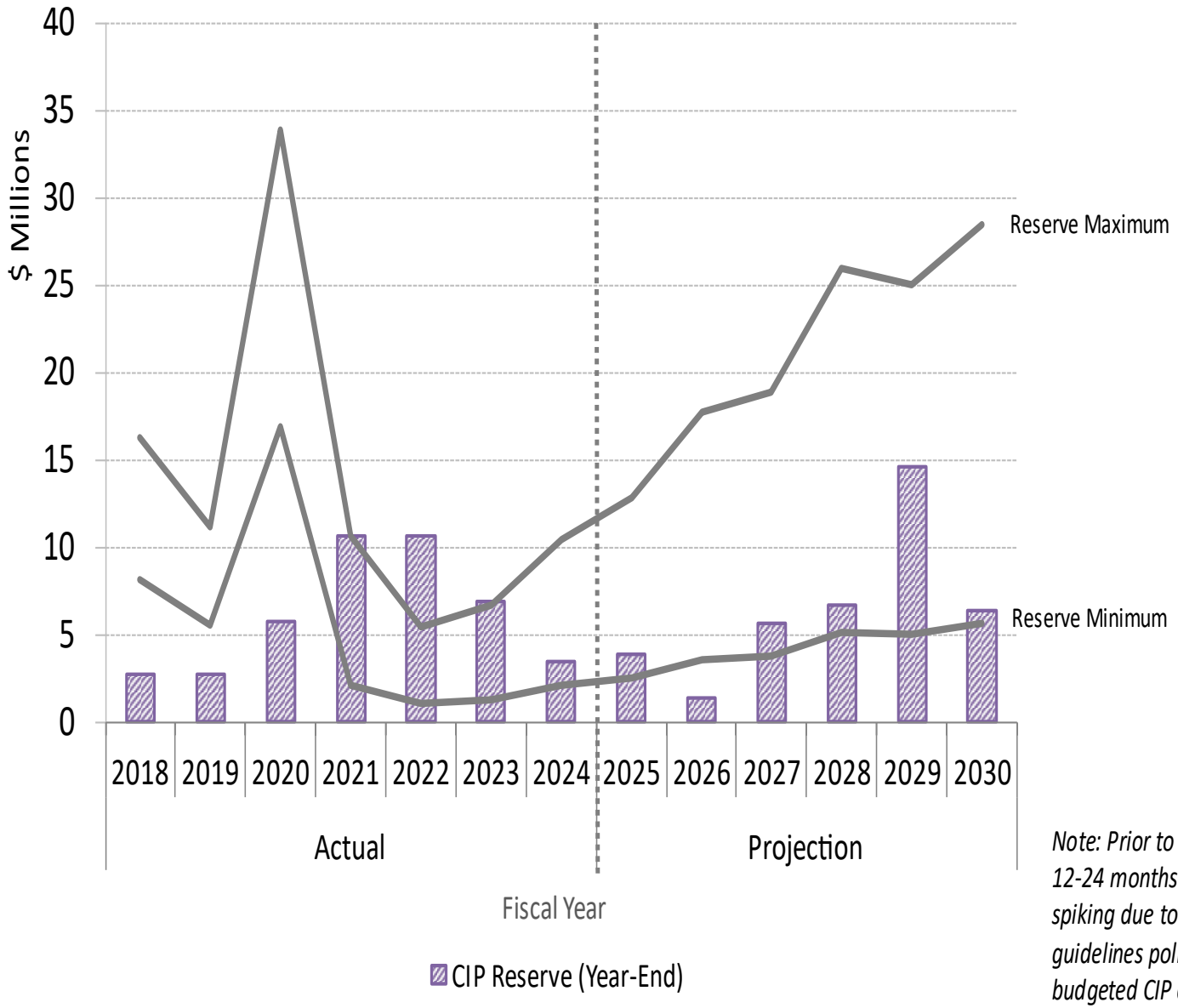


* Includes changes due to commitments/reappropriations and funds transferred to the CIP Reserve

Preliminary Water Operations Reserve Projections



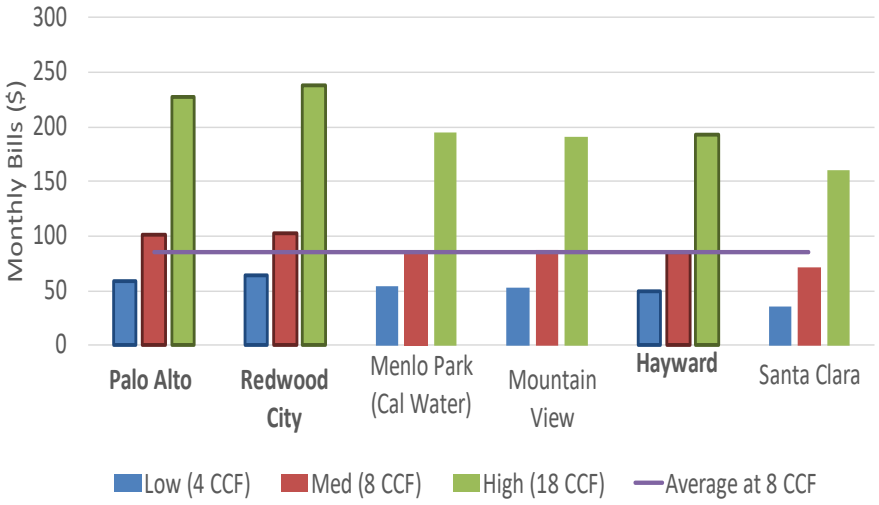
Preliminary Water CIP Reserve Projections



Note: Prior to FY21, CIP reserve guidelines were set at 12-24 months of budgeted CIP expenses, with FY20 spiking due to high CIP budgets. In FY21, the reserve guidelines policy updated to a 48-month of average budgeted CIP expenses

Water Bill Comparisons ($/Month)

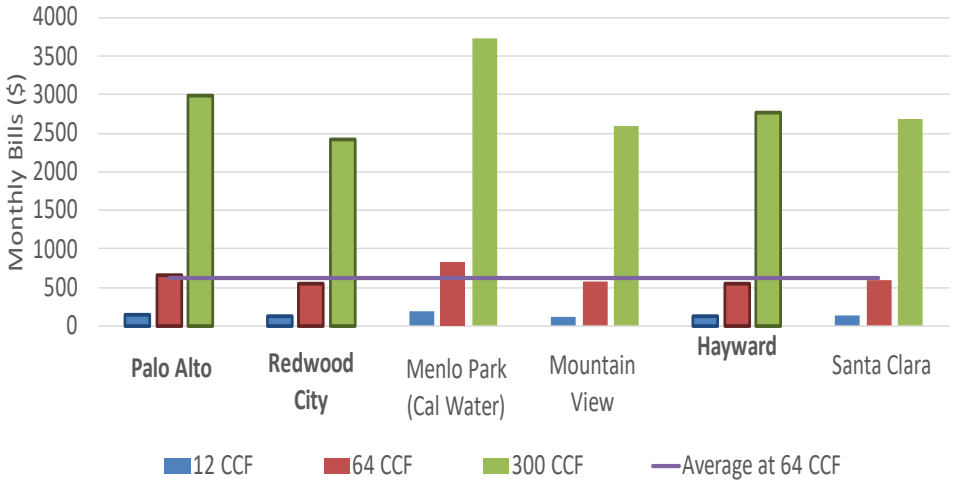
Single-Family Residential



Bold indicates 100% of Water Supply from SFPUC

Palo Alto is 18% above comparison city average

Commercial



Bold indicates 100% of Water Supply from SFPUC

Palo Alto is 6% above comparison city average

CITY OF PALO ALTO

WASTEWATER COLLECTION (Preliminary)

Preliminary Wastewater Rate Projections

FY 2026 PRELIMINARY PROJECTION

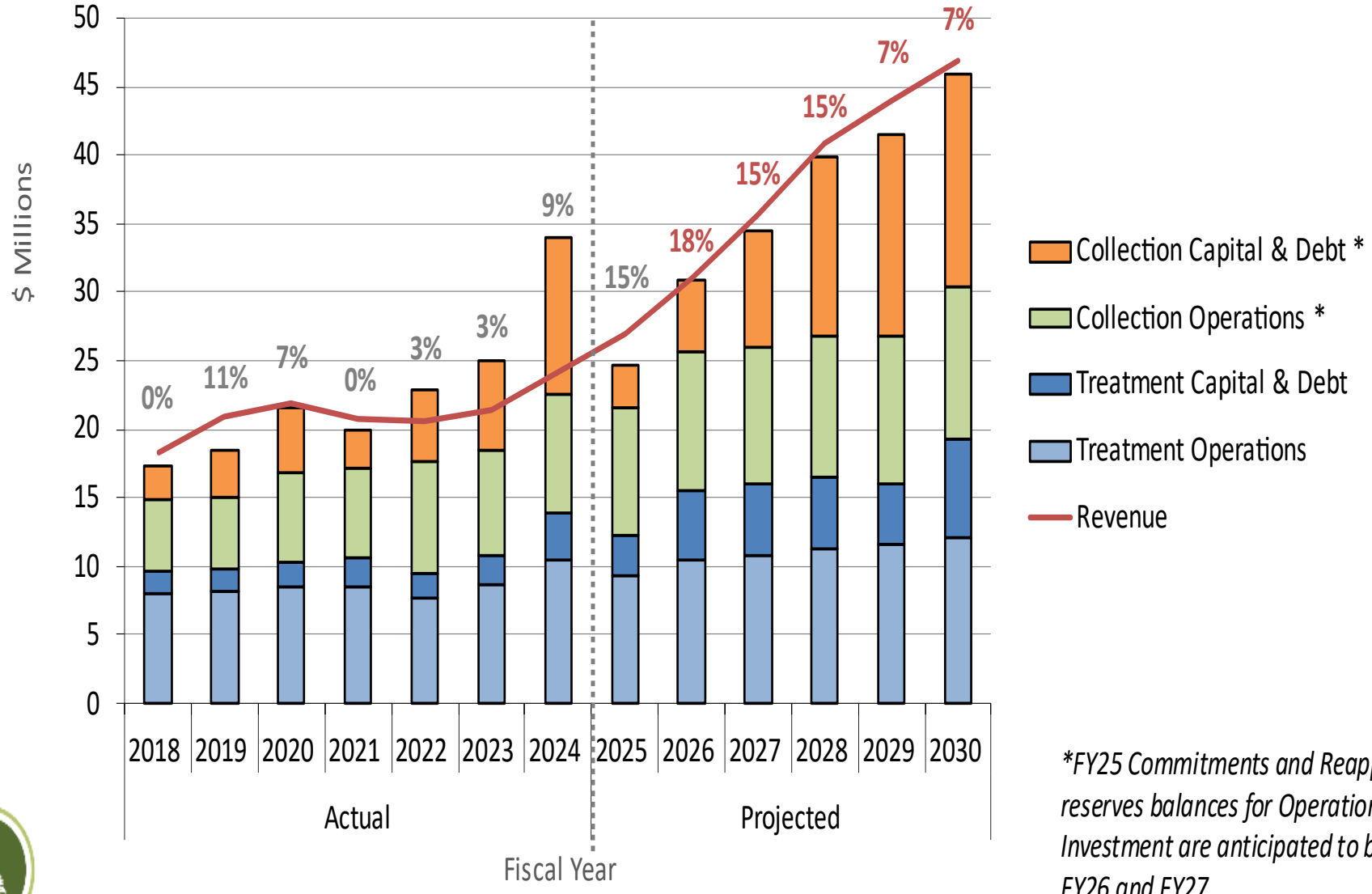
- **18% rate increase in FY 2026,** *approximately $10/month increase for residential customers*
- 15% rate increase in FY 2027 and FY 2028, 7% in FY 2029 and FY 2030

Drivers

- Treatment operational cost increases (budgets uncertain and subject to change)
- Reserves very low, operations reserve balance negative $1 million at year end, need to restore reserves to within guideline range

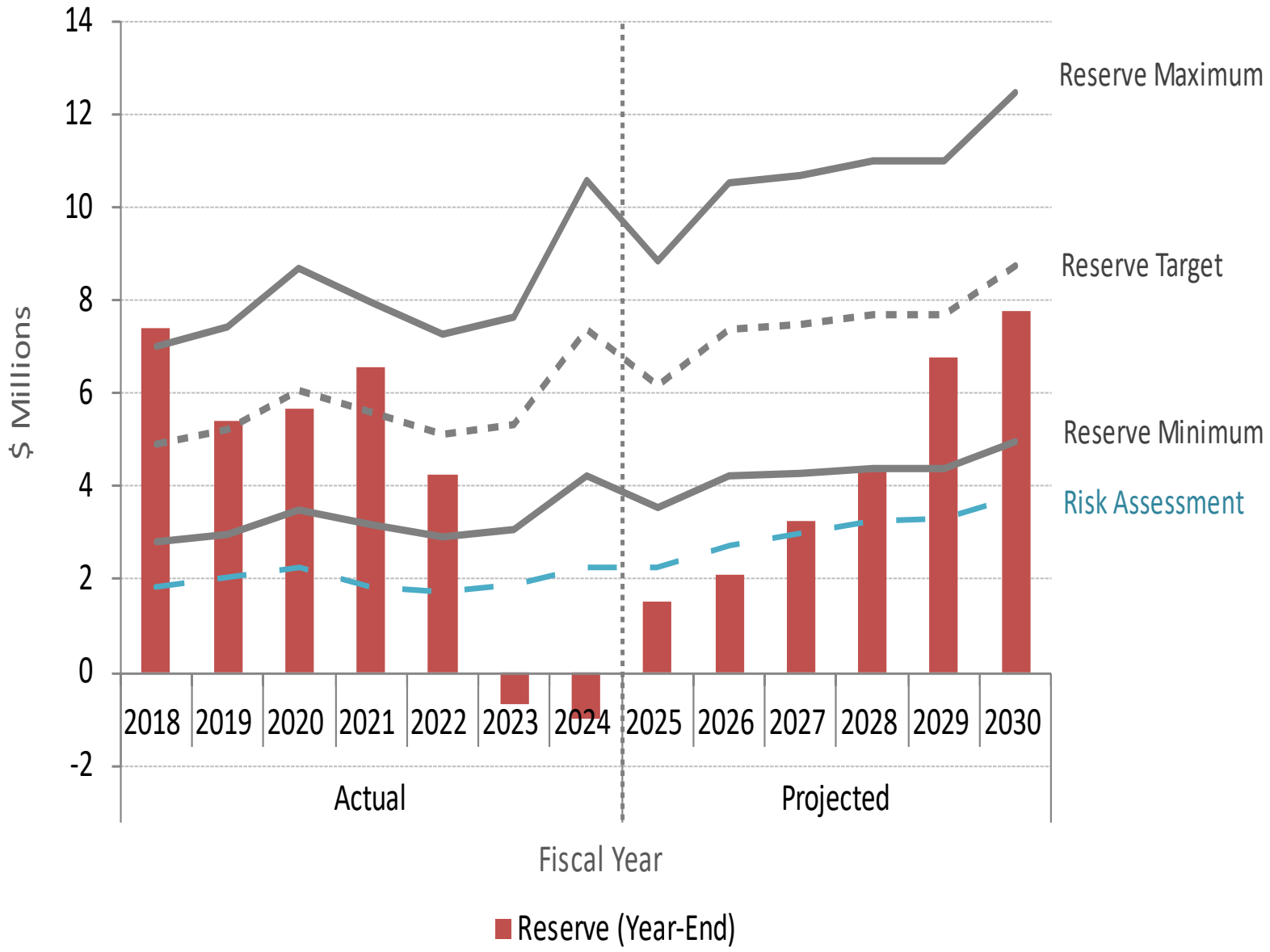
Fiscal Year	2025	2026	2027	2028	2029	2030
Current Projection	15%	18%	15%	15%	7%	7%
FY 2025 Plan	15%	9%	9%	8%	7%	-

Preliminary Wastewater Cost and Revenue Projections

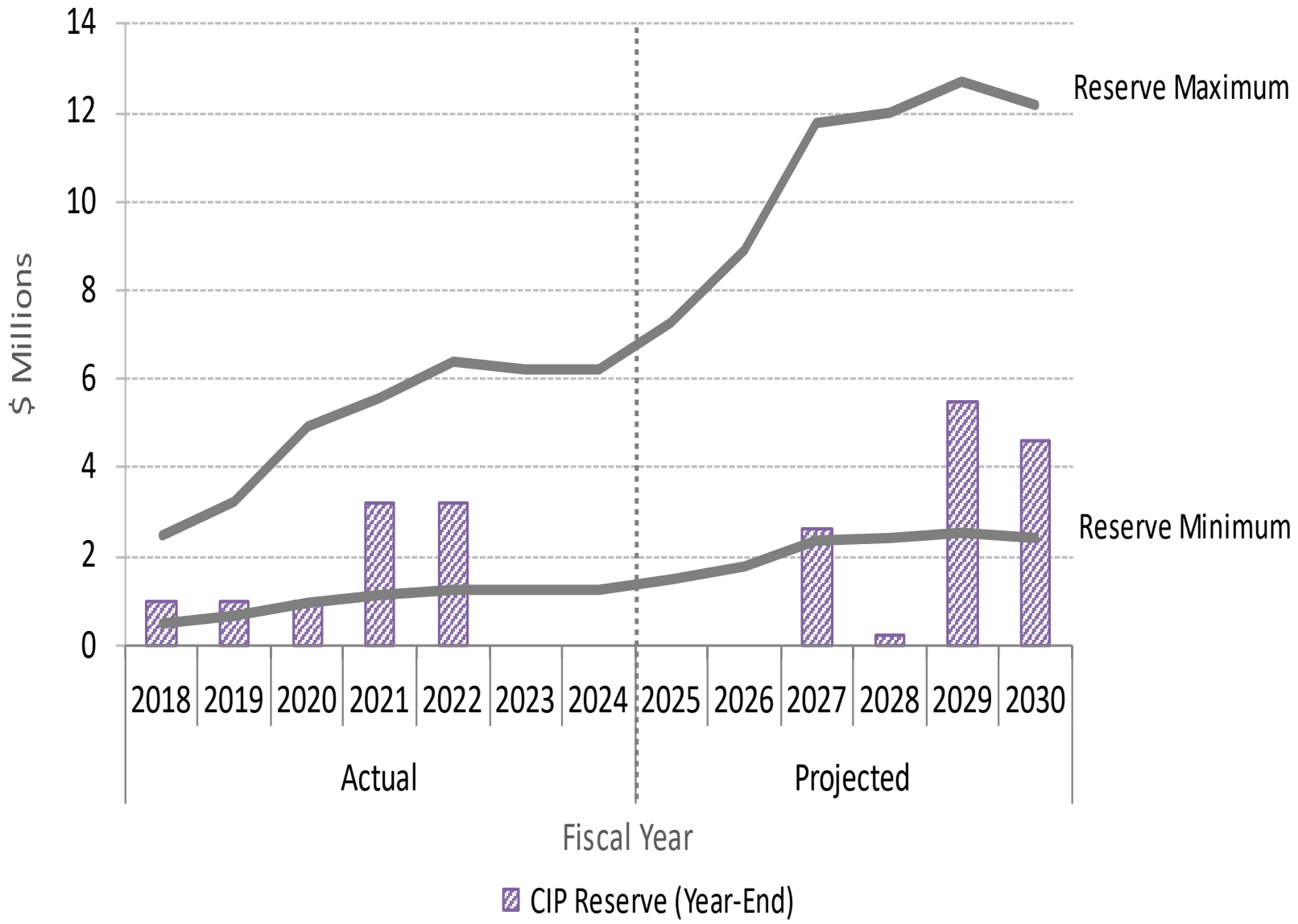


**FY25 Commitments and Reappropriations reserves balances for Operations and Capital Investment are anticipated to be utilized in FY26 and FY27*

Preliminary Wastewater Operations Reserve Projections



Preliminary Wastewater CIP Reserve Projections



CITY OF PALO ALTO

Wastewater Bill Comparisons ($/Month) *October 2024*

Residential

Palo Alto	Neighboring Community Average	Neighboring Communities					
		Menlo Park	Redwood City	Santa Clara	Mountain View	Los Altos	Hayward
55.93	70.40	114.25	97.74	52.37	54.60	59.23	44.19

Palo Alto is 21% below comparison city average

General Commercial

	Palo Alto	Neighboring Community Average	Neighboring Communities					
			Menlo Park	Redwood City	Santa Clara	Mountain View	Los Altos	Hayward
General Commercial	146.16	129.35	154.70	157.59	92.54	167.44	103.03	100.80
Restaurant	592.04	639.73	884.26	1,065.51	608.38	538.08	279.67	462.46

Palo Alto is 13% higher than comparison city average
Restaurant – Palo Alto is 7% below comparison city average

Date: December 4, 2024

FORECAST
12-MONTH ROLLING CALENDAR

	Utilities Advisory Commission	City Council
December 2024	- Annual Report for Fiscal Year 2024: Discussion - Time of Use Rates - Preliminary rates	*2023 Annual Power Source Disclosure (CCM) *Veolia Full Term Extension (CCM) * CLEAResult Consulting Contract Amendment (CCM) * Preliminary rates (FCM) * Equinix Amendment (CCM) *Transactions Under Master Renewable Energy Certificate *Authorizing City Manager Transact Electric Supply to Meet City's *Electric Load Under Master Agreement
January 2025	- One Water - Fiber Rates/Packages - FTTP Update - Grid Mod Update - AMI and Zigbee Radio Update	*PHMSA Grant *InfoSend Contract * WaterSmart Extension (CCM) * Professional Consulting Services for Electric Utility Engineering (CCM)
February 2025	- Permits - Grid Mod Update - FY25-Q1 Report - Tier 2 Water Allocation During Drought	* Tier 2 Water Allocation During Drought (FCM)
March 2025	- Water Rates - Wastewater Rates - Gas Rates - Electric Rates	* Water Rates (FCM) *Wastewater Rates (FCM) *Gas Rates (FCM) * Electric Rates (FCM) * Tier 2 Water Allocation During Drought (FCM)
April 2025	- UAC Workplan - UAC Chair and Vice Chair Selection - FY25-Q2 Report	
May 2025	- FY26 CIP and Operating Budget - Wildfire Mitigation Plan	* UTL Budget (FCM)
June 2025	- Fiber Pilot Area Subscription Update	* Rates (CCM) * UTL Budget (CCM)
July 2025	- FY25-Q3 Informational Report	
August 2025	-	
September 2025	-	
October 2025	- FY25-Q4 Annual Report	

Reoccurring Items

- Educational Update on any Type of New Technology or Terminology
- Projects with a Resiliency Component
- Quarterly Reports (Q1-3 Info Rpts)(*Q4 Discussion Summary of the year*)
    - Financial Report
    - Utilities Programs Update
        - Informational EV Charger Installation Updates
        - Informational Bucket 1 REC Sales Updates
        - Informational Fiber Updates

To be Scheduled

- SFPUC Water Drought Assessment