# City of Palo Alto (ID # 11370)

## Utilities Advisory Commission Staff Report

**Report Type: Agenda Items** **Meeting Date: 8/5/2020**

**Summary Title: Utilities Quarterly Report for Q3 FY2020**

**Title: Utilities Quarterly Informational Report for Q3 Fiscal Year 2020**

**From: City Manager**

**Lead Department: Utilities**

### Recommendation

This report is for information only. No action is required.

### Executive Summary

This is an 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, and is for the Utilities Advisory Commission's (UAC's) information. This update has been prepared to keep the UAC apprised of the major issues that are facing the water, gas, electric, wastewater collection and fiber utilities.

Items of special interest for Q3 FY 2020 include:

- **COVID Impacts:** The economic impacts of the pandemic did not begin to manifest until Q4 of FY 2020, so there are no financial impacts noted in this report. However, staff will report on COVID-19 financial impacts to the utility in future reports. This report notes anticipated impacts related to the pandemic where information is available.
- **Electric Utility:** Despite low precipitation, the electric utility is currently projected to end the fiscal year with a more favorable financial position than was originally projected in the FY 2020 Financial Plan. Thanks to later season rains, precipitation is at 63% of average for the year in the watersheds associated with the City's hydroelectric projects (up from 50% as of the Q2 Quarterly Report), but this still means that hydroelectric generation in calendar year 2020 will be lower than average. However, these effects will be felt more in FY 2021 than in FY 2020. For the current fiscal year, FY 2020, hydroelectric generation is projected to be roughly average due to the wet rainy season in early CY 2019 which translated into above average hydroelectric generation in late CY 2019. Hydroelectric generation is projected to be lower than average for FY 2021. Based on current projections, lower hydroelectric generation is expected to result in over $3 million in additional costs to the electric utility. However, reserves are adequate to absorb these additional costs, and other factors are contributing to a more favorable financial position for the electric utility than previously projected. First, electric load in FY 2020 is shaping up to be higher than forecasted in the FY 2020 Financial Plan, however load is expected to decline in Q4 due to the pandemic. Second, the

utility has found opportunities to sell surplus energy and generating capacity that were not available in previous years, and prices for these products are currently higher due to the demands of new Community Choice Aggregators. Third, there were one-time savings in maintenance and construction spending due to difficulty filling vacant positions and hiring contractors. Some of these factors may continue into future years, and others, like maintenance and construction savings, are not projected to continue. (pages 3, 24, 27)

- **Gas Utility:** Gas supply prices remain lower than last year, though market prices rose in the winter months (November through February) more than forecasted. Gas customers have experienced savings due to purchasing discounted gas from MuniGas that will reduce annual costs by about $1 million per year. This is the first full year this agreement has been in effect and customer savings through Q3 FY 2020 have been approximately $650,000. Gas customers have seen some savings in FY 2020 due to delays by the CPUC in approving PG&E's proposed increases to gas transmission rates, though these increases are expected to occur in Q3 FY 2020. The year-end financial position for the gas utility is projected to be approximately $400,000 lower than projected in the FY 2020 Financial Plan. This accounts for the impacts of the COVID-19 pandemic. While sales are expected to decrease in Q4 of 2019, consumption is generally substantially lower in these months than in the winter, minimizing the impact to the gas utility. (pages 9-11, 25, 27)
- **Water Utility:** Precipitation has been low in California in 2020, at 40% to 50% of normal in the Bay Area and 60% of normal in the watershed that feeds the Hetch Hetchy system. Reservoirs in the Hetch Hetchy system were fairly full due to strong precipitation in 2019, but while the Hetch Hetchy Reservoir is expected to fill completely this year it only represents a small portion of total storage. Storage associated with a water banking agreement the SFPUC has with Turlock and Modesto Irrigation Districts in Don Pedro Reservoir, which represents most of the water used to manage droughts, is not expected to fill. Water consumption and costs for Q1 through Q3 FY 2020 were roughly 2% higher than forecasted due to the dry weather (up from 0.7% above as of Q2). Combined with the impacts of COVID-19 shelter in place orders in Q4 of FY 2020, sales are projected to be roughly 2% below forecasts by end of year. However, revenues are still projected to be higher than the FY 2020 Financial Plan forecast due to higher than expected interest on reserves and changes in the value of the City's investments. Expenses are currently projected to be significantly lower than the FY 2020 Financial Plan forecast due to delays in various capital projects, but these funds are expected to be expended in the next fiscal year. (pages 12-14, 25, 27)
- **Wastewater Utility:** The change in financial position for the Wastewater Collection Utility is roughly in line with the FY 2020 Financial Plan – a decrease in reserves due to expenses being higher than revenues. However, the decrease in reserves is smaller than expected in the FY 2020 Financial Plan. Projected revenues for the Wastewater Collection utility are slightly higher than the FY 2020 Financial Plan forecast due to higher interest income and higher than expected sales revenues, while expenses were lower due to lower than anticipated operational costs. Minimal impacts to sales revenues are expected from the COVID-19 shelter in place orders due to the fact that this utility bills based on winter water consumption (though utility bill defaults may cause some impact in the long term). (page 25)
- **Fiber Utility:** Magellan Advisors has been hired to perform a four-phase Fiber Network Expansion assessment. Work on phase one is commencing in early 2020. A fiber network rebuild project is in progress to increase capacity in areas of the dark fiber ring that are currently at capacity. This will enable the fiber utility to meet new customer requests. The current project is a new fiber backbone from Park Boulevard to Hanson Substation in the Stanford Research Park, tentatively scheduled for completion in Q4 2021. (pages 15-16)

- **Efficiency Programs:** Many energy efficiency programs were temporarily suspended due to shelter in place orders. Programs that can be executed outdoors or on commercial properties in compliance with County health orders have been restarted, but programs that require entering residences remain suspended. In the meantime CPAU is providing tips and tricks electronically to residents and businesses on reducing energy and water use while sheltering in place or during a suspension of business. CPAU is also exploring virtual program delivery. A summary of the City's electric vehicle programs is provided, including the multi-family charger rebate and technical assistance program and the regional CALeVIP collaboration to provide rebates for workplace and public charging. A summary of the City's electrification pilot programs is also provided. (pages 16-19)
- **Communications:** A digest of major outreach efforts is provided on pages 19-20, including outreach related to the water quality, keeping sewers free of blockages, PG&E's public safety power shutoff program, and a variety of COVID-19-related utility customer communications.
- **Innovation and Pilot Programs:** A summary of the CPAU Program for Emerging Technologies is provided on pages 21-22.
- **Legislative and Regulatory:** Major legislative and regulatory items are summarized on pages 22-24. Due to the impacts of COVID-19, most utility-related bills currently being tracked are inactive. Most of the remaining active bills relate to PG&E's wildfire shutoff program (Public Safety Power Shutoff, or PSPS).

**Attachments:**

- Attachment A: Quarterly Report Q3 FY2020

# Utilities Quarterly Update

Third Quarter of
Fiscal Year 2020

August 2020

# Utilities Quarterly Update
# Table of Contents

## List of Figures



## List of Tables

# i. Electricity

## Electric Supplies

Western Area Power Administration (Western) Issues

While water year 2019 was an above-average precipitation year that resulted in above-average reservoir levels across the state, water year 2020[1] has shaped up to be a dry year, with significantly below-average precipitation levels. For Q3 of fiscal year (FY) 2020, Western delivered 64 GWh to the City (102% of long-term average levels, which is about 57% the amount that was delivered in Q3 of FY 2019. Because of the wet conditions in 2019, for FY 2020 as a whole, Western is projected to generate 391 GWh (2% above long-term average supply levels, and 2% above FY 2019 levels). However, for FY 2021, the current dry conditions are projected to reduce Western generation to 282 GWh (29% below long-term average levels).

Calaveras Hydroelectric Project Issues

NSMR storage as of May 31, 2020 was 144,841 ac-ft. The historical average storage level for NSMR for the end of May is 139,965 ac-ft. Calendar year 2020 has been dry so far. Cumulative precipitation for water year 2020 is currently at about 63% of average for this date, tracking closely with 2015 levels. Central Sierra snowpack was at 1% of April 1 average on May 31, 2020, whereas the snowpack was at 65% of April 1 average at the same time last year (May 31, 2019). However, reservoir levels are still near historical average levels due to the previous year being a wet one.

For Q3 FY 2020, the Calaveras project generated 13 GWh (61% of long-term average levels, which is about 22% the amount that was delivered in Q3 of FY 2019). In FY 2020, the project is projected to generate 102 GWh (88% of long-term average levels, and 52% of FY 2019 supply levels).

Electric Load and Resource Balance

Palo Alto's electric supply portfolio for CY 2020 saw significant surplus energy positions in some periods, largely owing to the previous year being an above-average hydro year. However, there were other periods that saw deficit positions as well. The City sold, on a forward basis, nearly 123,000 GWh of surplus energy during Q3 and Q4 of FY 2020 (Mar 2020 – Jun 2020) to manage the surplus position, while it purchased about 33 GWh in Q3 of FY 2020 (Jan 2020 – Feb 2020) to manage the deficit position. In addition, due to the availability of surplus carbon neutral supplies, as well as the feedback provided by the UAC, Palo Alto sold Bucket 1 RPS resources from Q1 and Q2 of FY 2020, that exceeded the City's load on an annual basis for CY 2019. Since these transactions were index-based (plus a REC premium), they did not impact the City's energy price exposure (and are therefore not reflected in the load-resource balance charts shown in Figure 1 and Figure 2 below). They did, however, change Palo Alto's RPS level (to 40%), but the City still exceeded the state's RPS compliance requirements (31% for CY 2019). CY 2020 is shaping up to be a significantly drier hydro year than CY 2019. Overall electric supply resources are projected to be deficit of load by 5% for CY 2020, and surplus to load by 9% for CY 2021. Figure 2 below shows the monthly load and resource balance for CY 2020.

[1] A "water year" is defined as the 12-month period from October 1 through September 30. "Water year 2020" refers to the period from October 1, 2019 through September 30, 2020.

As mentioned earlier, some of the monthly surplus/deficit positions were sold/purchased as generic energy ahead of time, while the rest were settled in the spot market through the California Independent System Operator.

**Figure 1: Electric Supply Resource Actual and Projection, 2019 to 2021 (as of June 24, 2020)**

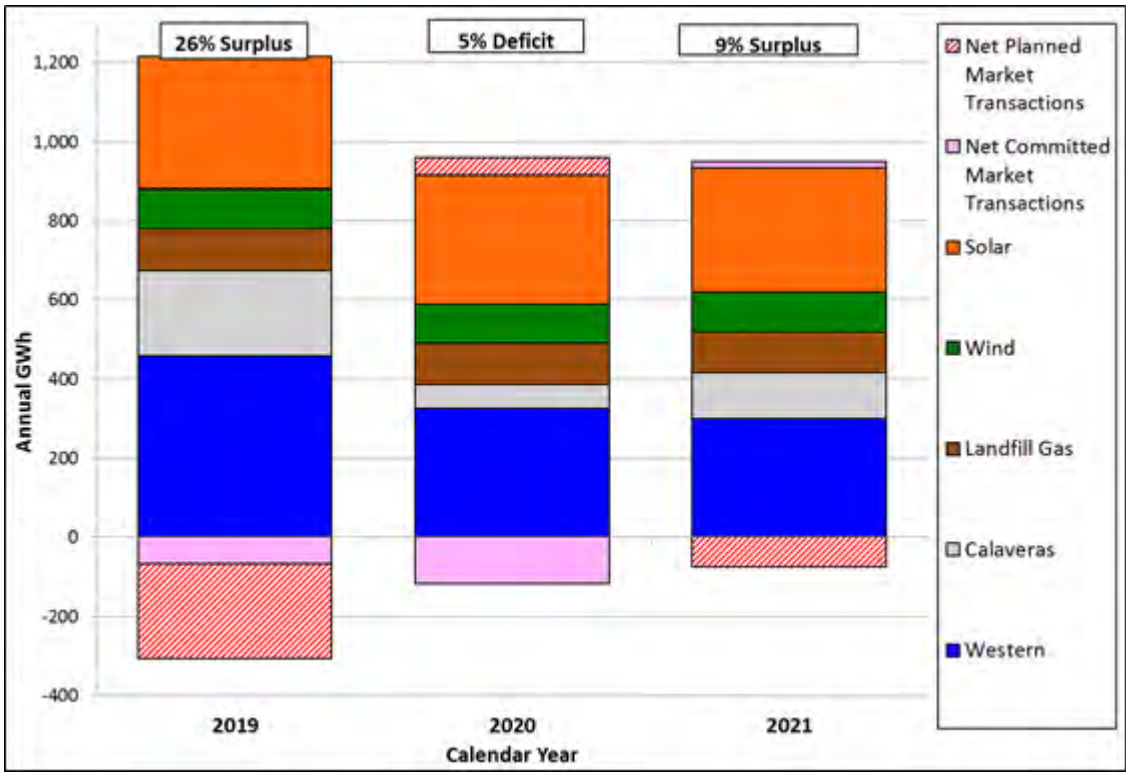
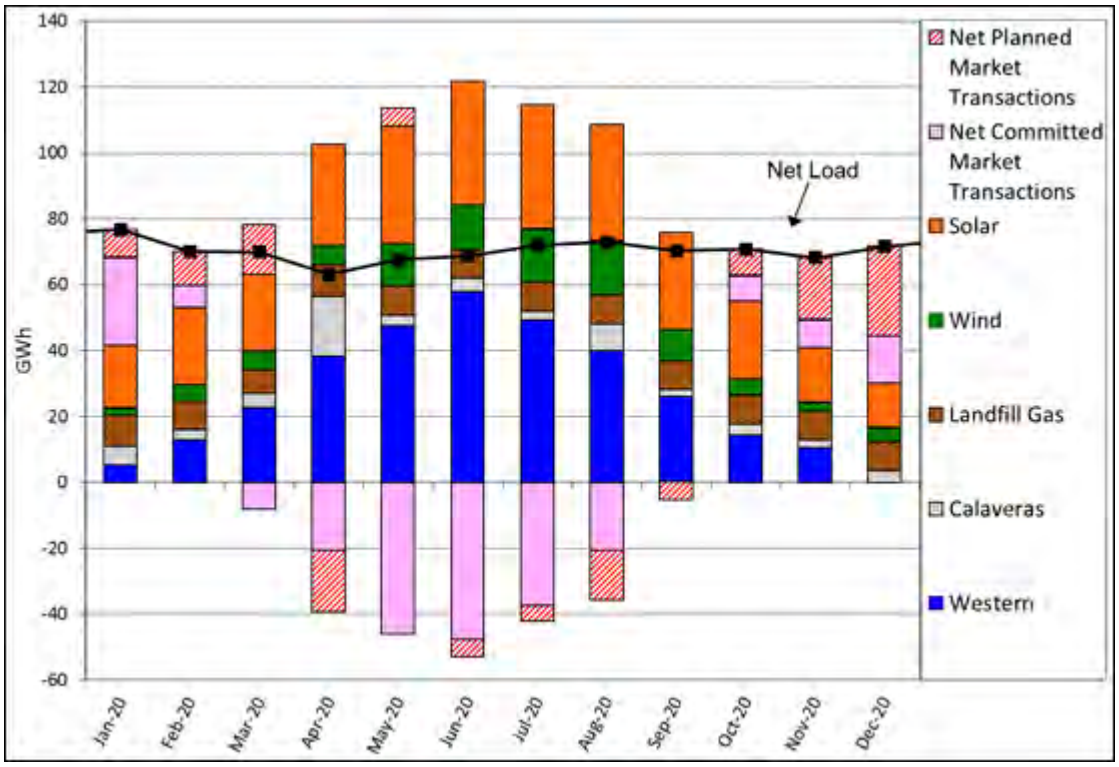


**Figure 2: CY 2020 Monthly Electric Supply Resource Projection (as of June 24, 2020)**

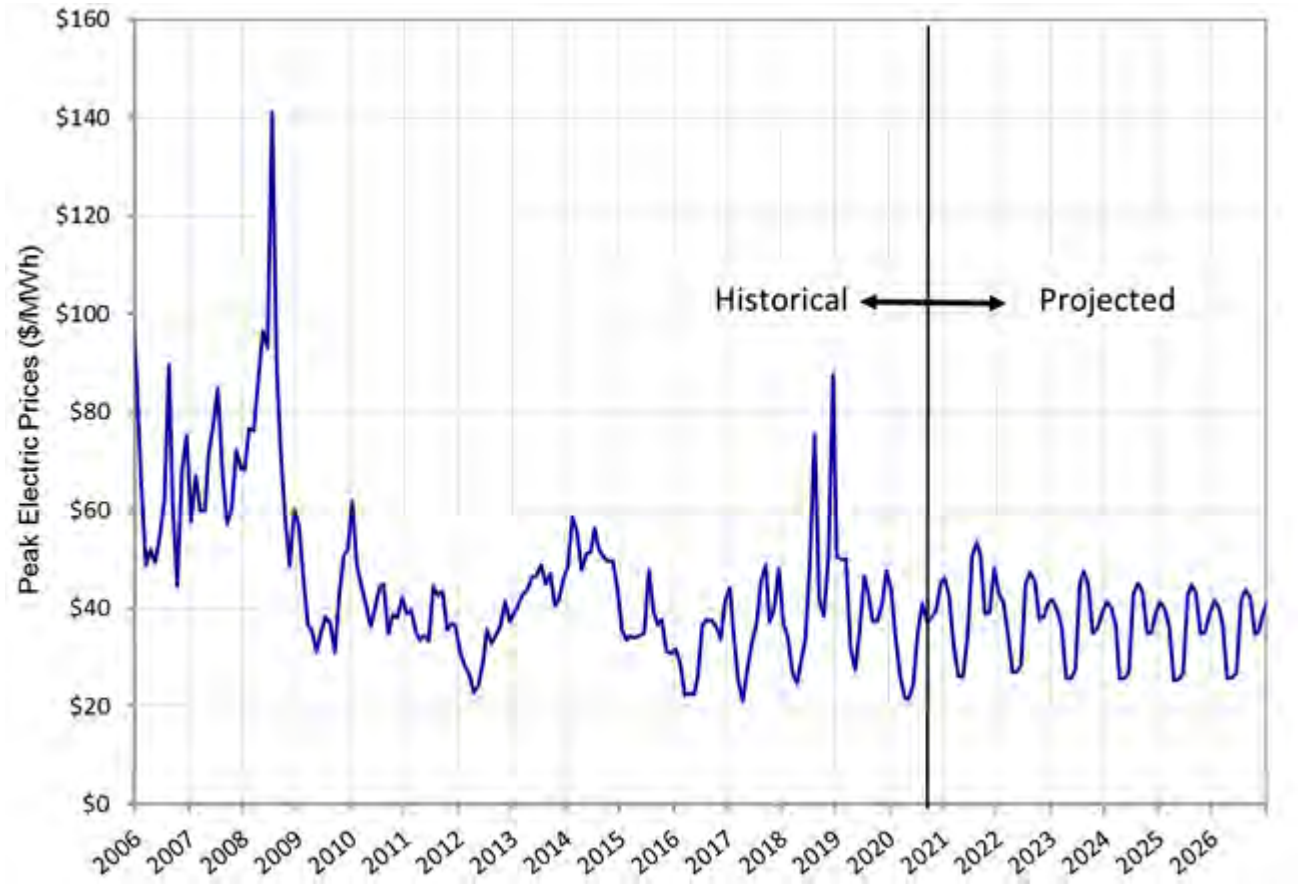



Electric Market Price History and Projections

As of June 24, 2020, the price for on-peak energy for August 2020 in Northern California was $41.43 per megawatt-hour (MWh)[1], while the prices for Sep 2020 and Oct 2020 were $37.24/MWh and $37.56/MWh, respectively. These values are approximately $4.82/MWh (or 10%) lower than they were at the time of the last quarterly report.[2] On-peak prices for calendar year strips are in the range of $37/MWh to $39/MWh for 2020 through 2022. These prices are approximately $1.12/MWh higher than they were at the time of the last quarterly report. Figure 3 below illustrates historical monthly on-peak prices and projected monthly forward prices for Northern California from 2006 through 2026.

[1] Note that $41.43 per megawatt-hour is equal to 4.143 cents per kilowatt-hour.
[2] Market prices for the previous quarterly report were from February 20, 2020.

**Figure 3: Northern California Peak Electric Prices (as of June 24, 2020)**




**Electric Budget and Portfolio Performance**

Electric Load, Generation, and Supply Cost Summary Compared to Budget Estimates

Table 1 and Figure 4 below summarize the City's electric supply sources through Q3 FY 2020. Load was about 1.4% lower than budget. Hydro generation from Calaveras and Western were 15.7% above budget forecasts, and solar generation was 34% above budget forecast. Due to higher than expected generation from Hydro, Solar, and Landfill resources, CPAU sold more power on the spot market than expected. Net market sales through Q3 FY 2020 were roughly 80 GWh, or 11.7% of load.

**Table 1: FY 2020 Electric Load and Generation Compared to Budget Projections** (as of Q3 FY 2020)

| | Year To Date | | Amounts Over(+)/Under(-) Budget | Month by Month Budget Variance |
|---|---|---|---|---|
| Load | 681 GWh | | -10 GWh | |
| **Generation Source** | **Generation Year To Date** | **% of Portfolio** | **Amounts Over(+)/Under(-) Budget** | **Month by Month Budget Variance** |
| Calaveras | 67 GWh | 10% | -1 GWh | |
| Forward Market | 32 GWh | 5% | 49 GWh | |
| Landfill | 81 GWh | 12% | 4 GWh | |
| Solar | 233 GWh | 34% | 20 GWh | |
| Spot Market | -45 GWh | -7% | -129 GWh | |
| Western | 247 GWh | 36% | 46 GWh | |
| Wind | 66 GWh | 10% | 1 GWh | |
| **Total Supply** | **681 GWh** | 100% | -10 GWh | |

**Figure 4: FY 2020 Electric Load and Resource Balance** (as of Q3 FY 2020)

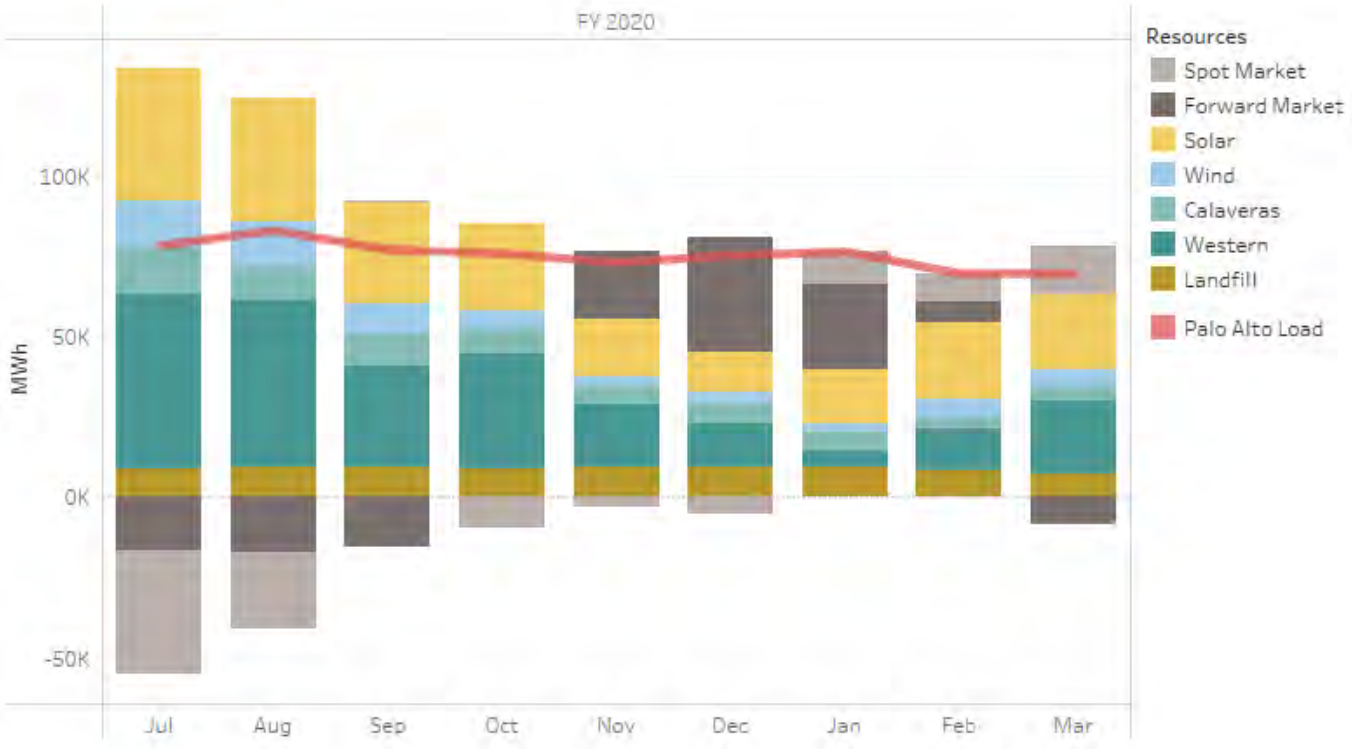


Table 2 below shows CPAU's supply cost by cost category through Q3 FY 2020. Supply costs were $1.3 million below budget, primarily due to the net effect of higher than expected transmission costs and higher market sales.

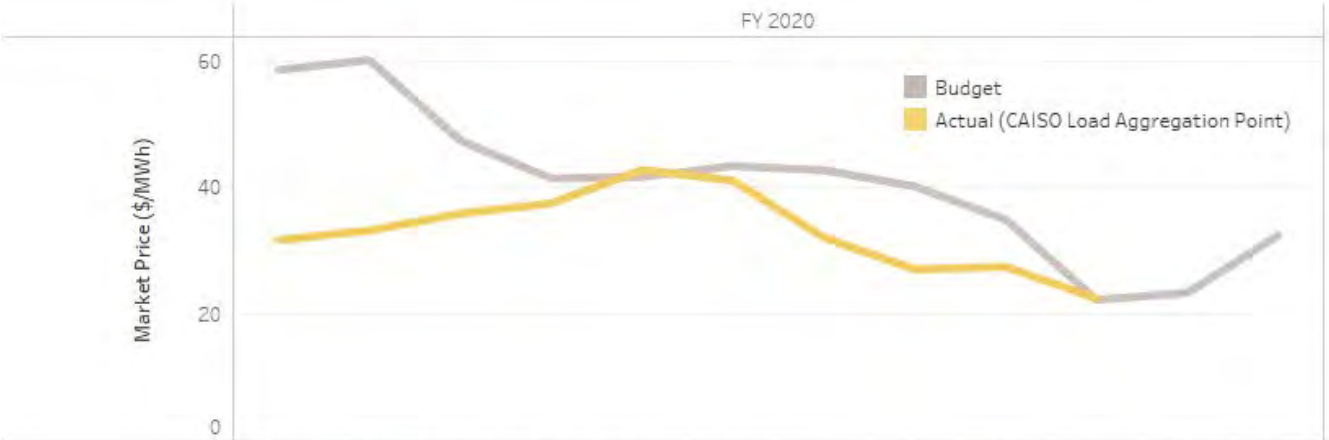
**Table 2: FY 2020 Electric Utility Supply Cost Summary** (as of Q3 FY2020)

| Supply Cost Categroy | Actuals, Year To Date | Amount Over (+) / Under (-) Budget | Month by Month Budget Variance |
|---|---|---|---|
| Calaveras Hydro | 8.8 million | - | |
| Capacity | -0.8 million | -0.8 million | |
| Market Transaction | -0.7 million | -3.4 million | |
| NCPA Services | 1.9 million | 0.1 million | |
| Renewable Source | 27.4 million | 1.9 million | |
| Transmission | 17.9 million | 2.9 million | |
| Western Hydro | 6.9 million | -2.0 million | |
| **TOTAL** | **61.5 million** | **-1.3 million** | |

Electric Market Prices

Figure 5 shows monthly market prices. Electric market prices have been lower than budgeted through Q3 FY 2020.

**Figure 5: FY 2020 Electric Market Prices**




| | Jul | Aug | Sep | Oct | Nov | Dec | Jan | Feb | Mar | Apr | May | Jun |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Budget | 58.52 | 60.09 | 47.37 | 41.44 | 41.69 | 43.37 | 42.74 | 40.18 | 34.97 | 22.32 | 23.39 | 32.47 |
| Actual (CAISO Load Aggregation Point) | 31.73 | 33.24 | 35.89 | 37.51 | 42.78 | 41.10 | 32.12 | 27.10 | 27.52 | 22.55 | | |

## ii. Natural Gas

### Gas Supply Retail Rates

The commodity portion of CPAU's retail gas rates for all customers varies every month depending on the market price of natural gas. Figure 6 below shows the actual commodity rates charged from FY 2013 through FY 2020. Gas commodity prices in FY 2020 have been relatively low, with a small price bump during the winter season. Gas commodity prices, on average, are anticipated to remain low for the foreseeable future, due to over-production and over-supply in the market.

**Figure 6: CPAU's Gas Commodity Rates—FY 2013 through Q3 FY 2020**


*These rates can also be found on the web at: http://www.cityofpaloalto.org/civicax/filebank/documents/30399.*

Muni Gas Prepay

On September 15, 2014, Council adopted Resolution #9451 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 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 has reduced about $650K in commodity costs for customers in through Q3 FY 2020.

## Gas Budget and Portfolio Performance

Supply Volumes and Costs: Budget vs. Actual

Figure 7 compares actual natural gas supply volumes and costs with the FY 2020 budget. Natural gas consumption through Q3 FY 2020 was 2% lower than the budget forecast. Costs were 21.7% lower than budget due to lower than expected gas commodity rates and PG&E transportation rates.

**Figure 7: FY 2020 Natural Gas – Budget vs. Actual**

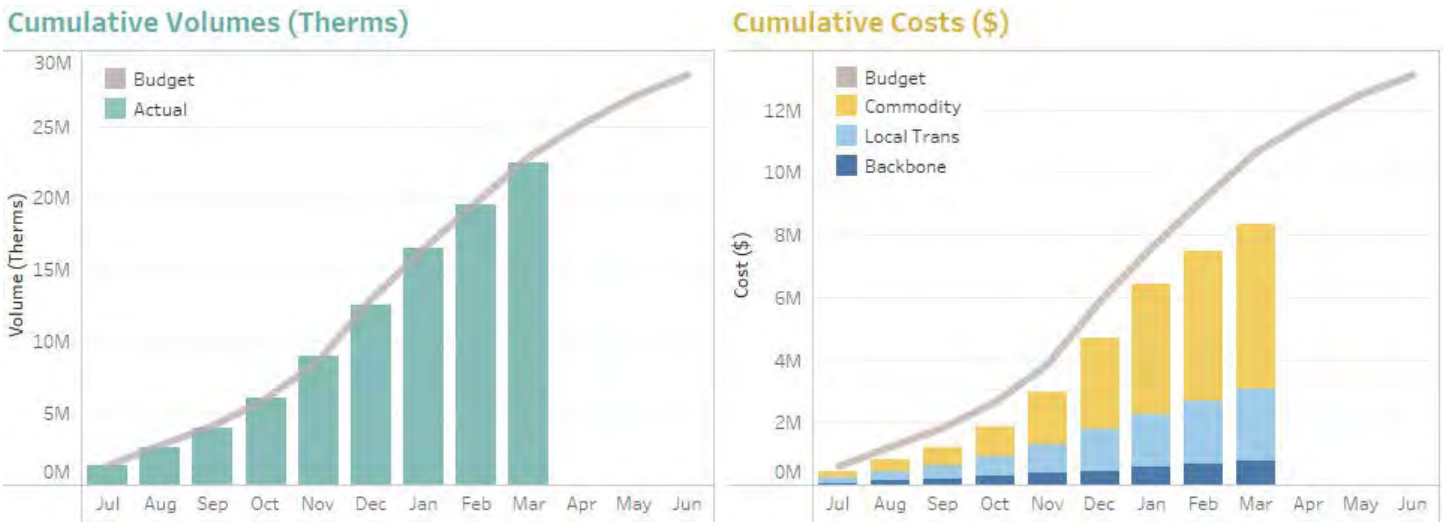
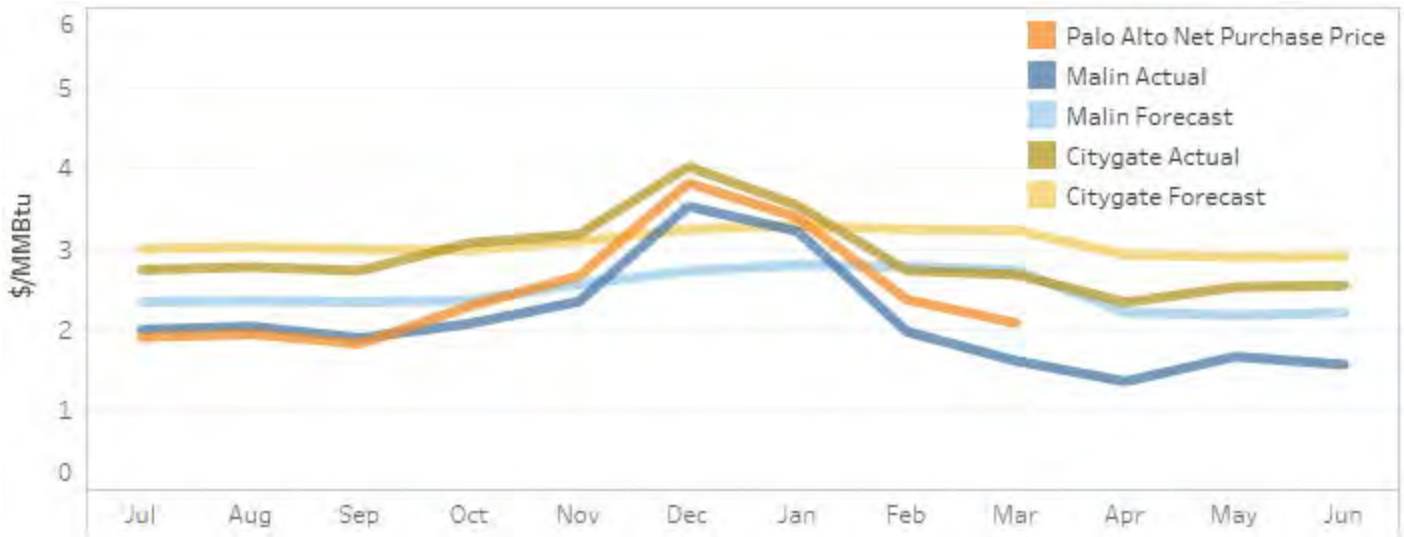



Figure 8 shows actual gas commodity prices at Malin, PG&E Citygate and Palo Alto Net Purchase Cost. Natural Gas prices experienced slightly higher volatility during the winter months but have returned to normal levels.

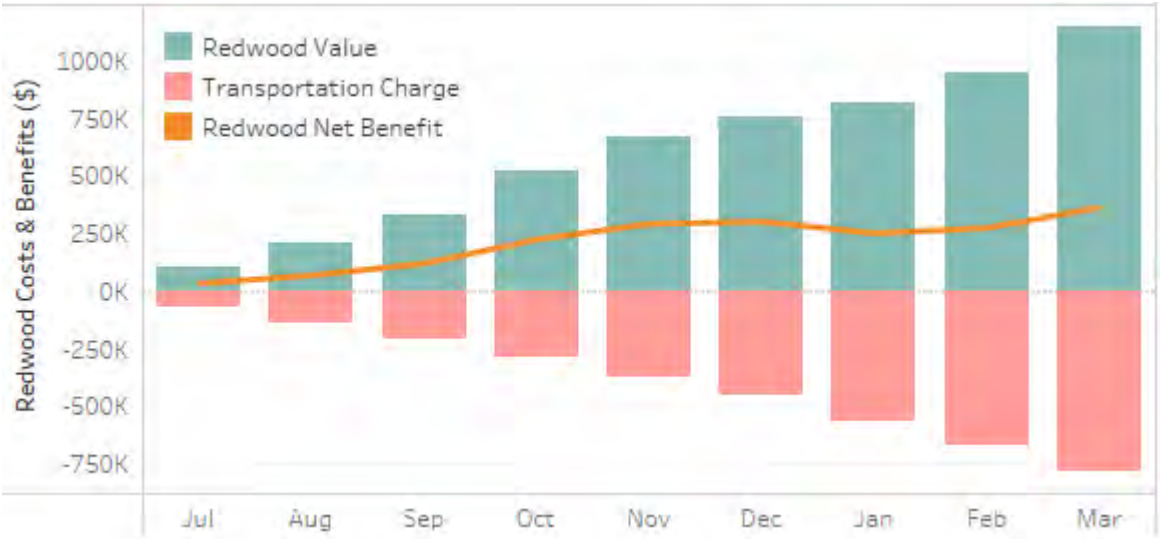
**Figure 8: FY 2020 Natural Gas Prices ($/MMBtu) – Malin, Citygate and Palo Alto Net Purchase Costs**



Value of CPAU's Share of Redwood Pipeline Capacity

Figure 9 shows the value of the Redwood gas transmission line at month-ahead market prices and the volumetric cost of using that transmission line. The Redwood pipeline allows the City to buy gas at the receipt point of Malin, Oregon and transport the gas to "PG&E Citygate", which is normally a higher priced receipt point. The City's share of the Redwood pipeline was a net benefit to the Gas Utility of $363K through Q3 FY 2020. This is the difference between the cumulative value of Redwood capacity of $1,145K (the difference of the monthly index prices at the ends of the Redwood pipeline in Malin, Oregon and PG&E Citygate) and the cumulative transportation cost of using the Redwood pipeline of $782K.

**Figure 9: FY 2020 Cumulative Redwood Pipeline Cost vs. Market Benchmarks** (through Q3 FY 2020)



# iii. Water

### Water Availability

Precipitation in March and April improved the overall water supply situation to about 60% of normal. High carryover of water in storage and conservation management will result in both Hetch Hetchy and Cherry Reservoirs filling by the end of the runoff season. Water Bank, however, which the SFPUC uses to manage droughts, is unlikely to fill. The figures below show the monthly precipitation for the regional system and SFPUC water deliveries to the peninsula as of June 8, 2020. Usage was up significantly during the dry month of February but has tracked relatively close to 2019 since mid-March.

**Figure 10: Bay Area Precipitation Index**

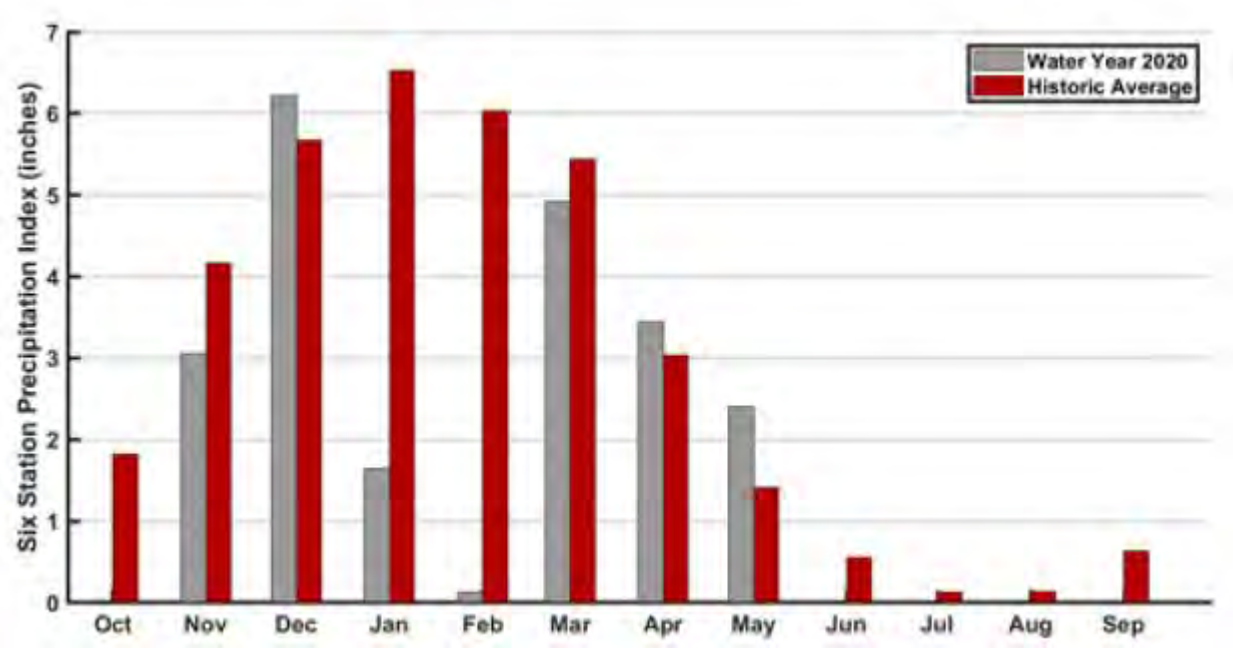


**Figure 11: Hetch Hetchy Precipitation**

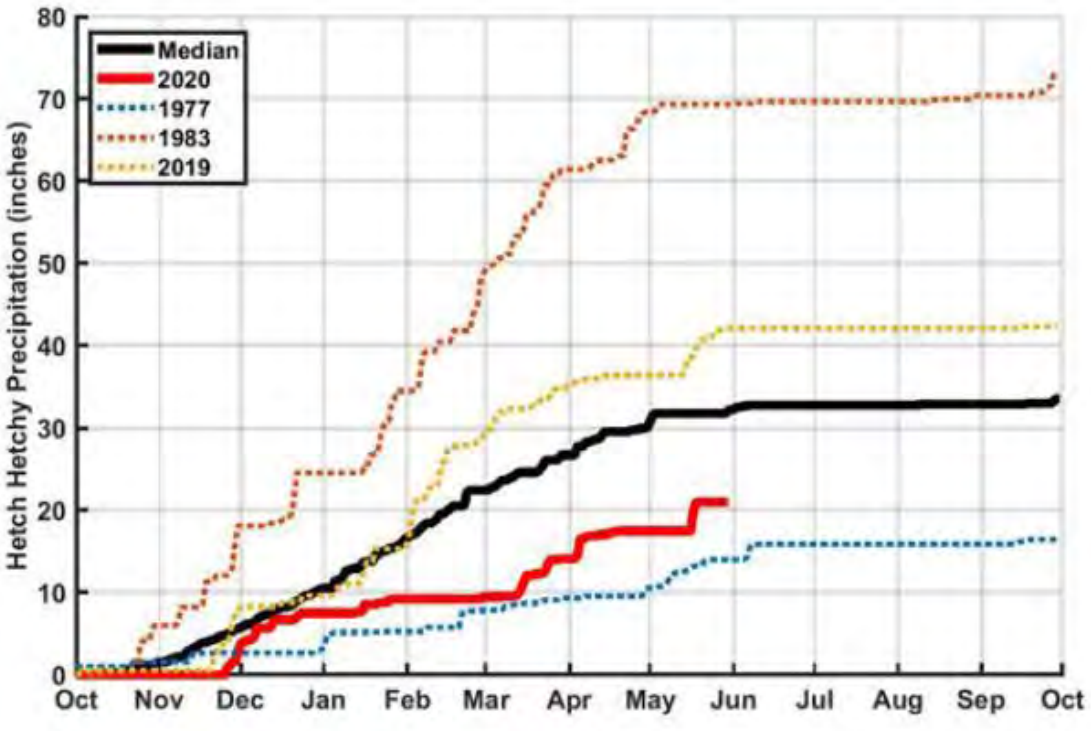
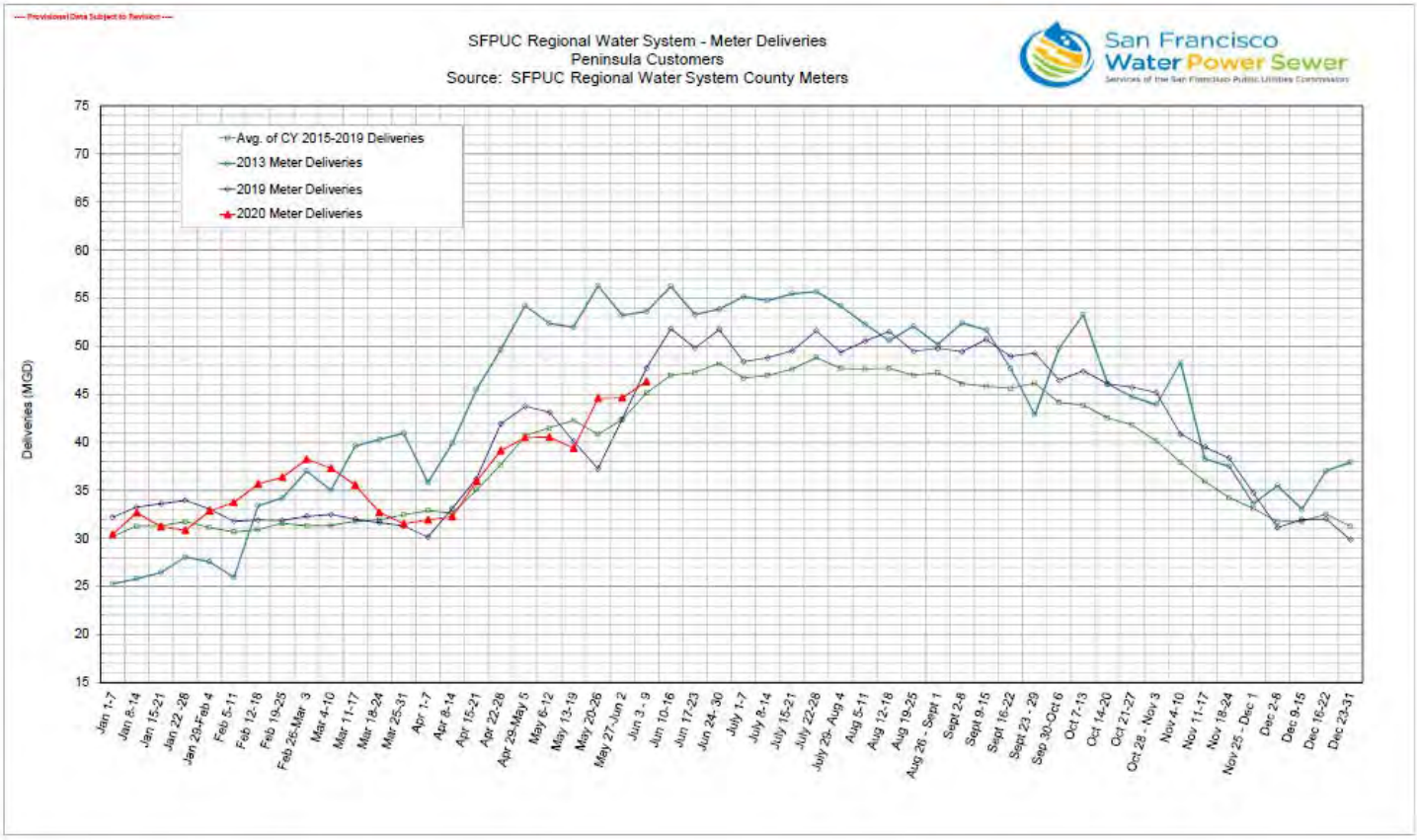



**Figure 12: SFPUC Water Deliveries**

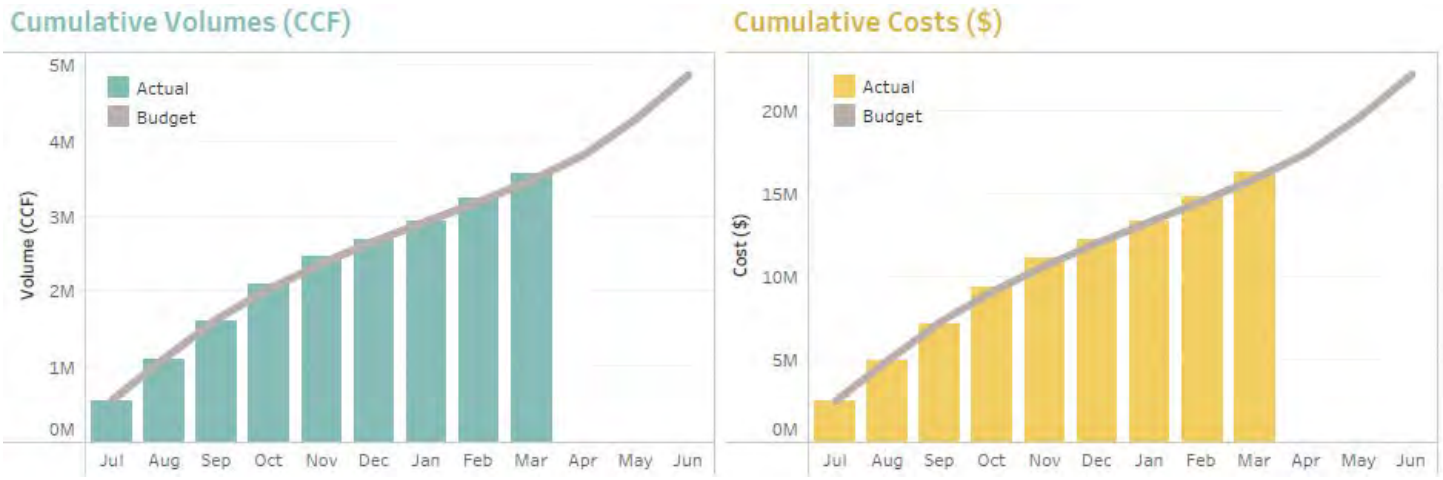


## Water Budget and Portfolio Performance

Supply Volumes and Costs: Budget vs. Actual

Figure 13 below compares actual water supply volumes and costs to the FY 2020 budget projections. Actual water supply volumes and costs through Q3 FY 2020 were both about 2% higher than budget.

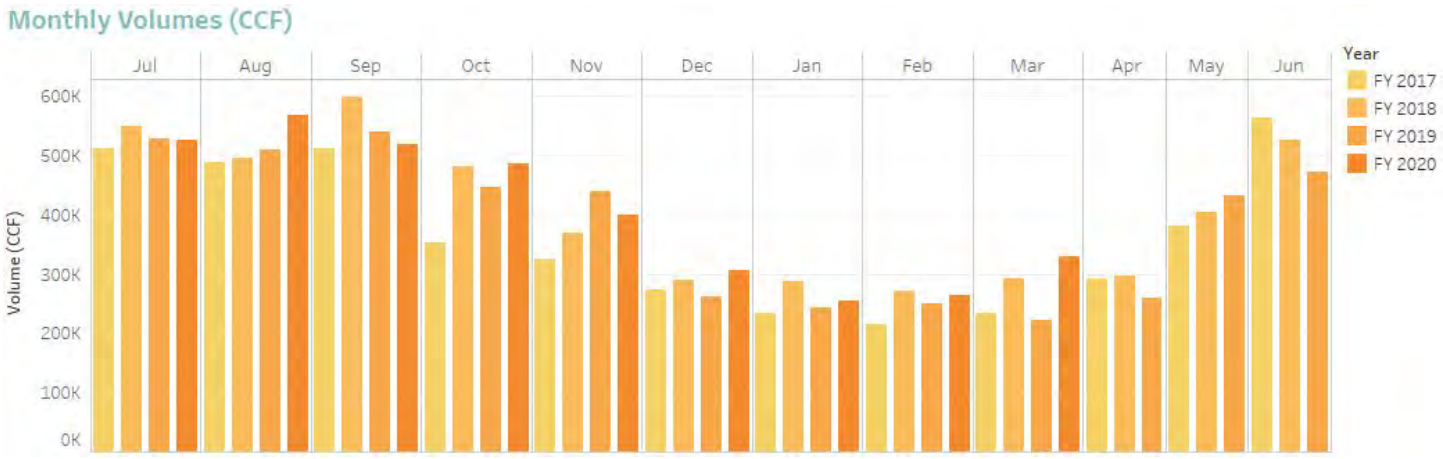
**Figure 13: FY 2020 Water – Budget vs. Actual**




## Water Use

Water use through Q3 FY 2020 was slightly higher compared to FY 2019. This could be attributed to less than usual precipitation throughout the winter/spring season. Figure 13 below shows the monthly water purchases in FY 2020, compared with FY 2017, FY 2018 and FY 2019.

**Figure 14: Potable Water Use**



# iv. Fiber Optics

### Commercial Dark Fiber Service

The total number of commercial dark fiber customers at the end of FY 2020 Q3 was 94 accounts (93 commercial accounts and 1 City account). The total number of active dark fiber service connections serving commercial and City customers is 205 (some customers have multiple connections). Commercial customers generate approximately 81% of the dark fiber license revenues. The remaining 19% of licensing revenues is from City departments.

### Request for Proposal for Phased Fiber Expansion

In response to a City Council Motion on June 24, 2019, which directed staff to reissue the Fiber-to-the-Node (FTTN) Request for Proposals (RFP), a new RFP was issued on September 10, 2019, to solicit one or more qualified consultant(s) under a Professional Services Agreement to begin a multi-phase fiber network expansion to support Advanced Metering Infrastructure (AMI), Supervisory Control and Data Acquisition (SCADA) Systems, and Wireless Communication Technologies. A contract was recently finalized with Magellan Advisors as project consultants. Project work is expected to commence in early FY2020.

This project is divided into four phases in the RFP scope of work. As phases are completed, staff will be seeking Council's approval of the completed tasks and funding authorization for subsequent phases (2 through 4).

*Phase 1* seeks a high-level design and cost estimate for fiber expansion to support Advanced Metering Infrastructure (AMI), Supervisory Control and Data Acquisition (SCADA), and wireless communication for City field staff and other City services;

*Phase 2* seeks a detailed engineering design and cost estimate for fiber expansion to support AMI, SCADA, and wireless communication for City field staff and other City services;

*Phase 3* seeks a business case and high-level design for a citywide Fiber-to-the Premises (FTTP) network. The FTTP network and high-level design in the business case should expand on the fiber network for AMI, SCADA and wireless communication; and

*Phase 4* seeks a detailed engineering design, cost estimate and a phased deployment approach for FTTP.

### Fiber Optic Network Rebuild Project

The rebuild project will install new aerial duct or substructure (conduit and boxes), in addition to fiber backbone cable to increase capacity for sections of the dark fiber ring that are at or near capacity. This project will allow CPAU to meet customer requests for services. The project areas primarily cover the Stanford Research Park, Palo Alto Internet Exchange (PAIX)/Equinix at 529 Bryant, and Downtown areas. This project basically "overlays" new fiber over existing fiber routes in the network. Existing fiber will continue to serve City facilities and commercial dark fiber customers.

As part of phase one of the fiber network expansion initiative, the consultant will perform a detailed audit of the existing network to determine the next steps of the rebuild project.

Tentative Rebuild Work Scheduled in 2019-2020

- Field investigation of the path from Park Boulevard Substation to Hansen Way Substation and then to Hanover Substation to determine the level of substructure work required to continue the new fiber backbone. Completed February 2019.
- Complete design of the new fiber backbone from Park Boulevard Substation to the Stanford Research Park area. Tentative scheduled for Q4 2020.
- Install substructure for the new fiber path from Park Boulevard Substation to the Stanford Research Park area. Tentatively scheduled for Q2 2021.
- Install dark fiber cable. Tentative scheduled for Q4 2021.

All scheduled rebuild work noted above is tentative and subject to change.

The estimated cost for the rebuild is between $500,000 and up to $1,000,000 for substructure work. Another $250,000 for the overhead portion of the work is allocated for the project. CPAU crews will perform the equipment installation, cable pulling and terminations. CPAU's substructure contractor will install the conduit and boxes.

## v. Efficiency Programs

All-Electric Reach Code

On April 1, 2020, the new Energy Reach Code became effective, with the requirements of all-electric design for low-rise residential new construction projects, and either all-electric design or increased energy efficiency beyond the state's requirements for non-residential new construction projects. Details of the 2019 Energy Reach Code are available from the city's website. Staff plans to return to City Council with recommendation for all-electric design requirements for non-residential projects in early 2021.

Saving Energy and Water While Sheltering in Place

Staff are committed to finding additional ways to innovate and expand energy and water related programs in the shelter in place environment. Recognizing that unprecedented numbers of people are working and studying from home and will likely experience increased costs on their utility bills, we have been sending e-mails and running a social media campaign to share tips and tricks for saving energy and water and making the home environment more comfortable. View these tips online at www.cityofpaloalto.org/efficiencytips and follow us in social media with the hashtags #WePowerOn #PaloAltoProud and #PublicPower.

CPAU launched a "Sustainable Kids" e-mail and social media campaign both to educate the younger Palo Alto community members about energy and water and to provide family-friendly activities for children as they spend more time at home this summer.

Energy & Water Efficiency Workshops

Many public events and workshops were canceled this spring in response to the COVID-19 pandemic. Our partners at the Bay Area Water Supply and Conservation Agency (BAWSCA) are offering virtual landscape workshops so you can learn how to save water and improve the sustainability of your landscape from the

comfort of your own home. Palo Alto residents and businesses can take advantage of landscape rebates through our cost-sharing partnership with Valley Water.

Modifications to Utilities Programs

In accordance with the County order lifting restrictions on construction activities, some energy efficiency projects are resuming. Examples of allowed activities include commercial energy efficiency projects, solar installations, EV charger installations, and other work that does not require staff or consultant visits inside occupied residential dwellings. The County's construction protocols must be followed: https://www.sccgov.org/sites/covid19/Documents/Mandatory-Directives-Construction-Projects.pdf

Although all visits inside occupied residential dwellings are temporarily on hold, many Utilities programs have been modified to continue to provide value to the community. Visit www.cityofpaloalto.org/utilityprograms for the latest on program modifications.

**Events and Workshops**

For updates on future events and workshops, please visit www.cityofpaloalto.org/workshops.

**Electrification**

Induction Cooktop Loaner Program

In summer 2019, the City contracted with Acterra to administer an induction cooktop loaner program. The innovative nature of the pilot made estimating the costs to run such a program difficult, and shelter-in-place orders further complicated implementation. As a result, Palo Alto and Acterra mutually agreed to terminate the pilot as of July 1, 2020.

Surveys showed participants' attitudes regarding induction cooking did shift after using a loaner. Before using the loaner, 77.5% of respondents had a very positive or somewhat positive perception of induction cooktops. This number increased to 94.9% after using the loaner. Staff is exploring other avenues for educational outreach and possible rebate programs for induction cooktops in the future.

Home Electrification Readiness Assessment

In October 2019, CPAU launched a new service offering home electrification readiness assessment to homeowners. This service is offered through the Home Efficiency Genie program. As of June 1, 2020, 13 readiness assessments have been completed and there are 3 scheduled to be completed once COVID in-home visits are allowed to resume.

Multifamily Gas Furnace to Heat Pump Retrofit Pilot

In 2018, CPAU was awarded a $300,000 grant by the Bay Area Air Quality Management District to implement a pilot to help retrofit existing in-unit gas wall furnaces with high efficiency heat pump systems at up to 3 affordable multifamily properties. The goal of the pilot is to identify the retrofit barriers, the energy savings and GHG reductions from such retrofits. To date, CPAU has contracted with a consultant to manage the pilot and has selected a candidate site (out of 5 potential sites). Contractors are preparing to bid on the furnace replacement project however, due to COVID 19 shelter in place orders, those installations are temporarily suspended.

2020/2021 Electrification Work Plan

In early March, staff presented the 2020/2021 Electrification Work Plan to the UAC. However, due to budget impact from the COVID-19 pandemic, staff has put a hold on the work plan and is revising the work plan to adjust for available staffing resources.

Electrification Webpage

In October 2019, CPAU unveiled a new electrification landing page to help homeowners electrify their home. The new Electric Panel Upgrade webpage provides information on the electric amperage required for different electric appliances including EV charger and battery storage, as well as the steps to upgrade an electric panel. Based on the contents of these webpages, an electrification brochure was also created for distribution. Graphics created for the CPAU pages were shared with other agencies including San Jose Clean Energy for their outreach material.

Electrification Expo

On October 10, 2019, CPAU co-hosted the Bay Area Home Electrification Expo in coordination with local partners. The Expo featured speakers, panel discussion, demonstrations, and vendor exhibits to provide hands-on education and resources to residents and building professionals wanting to further reduce their carbon footprint. Videos of the workshop presentations from the Expo can be found in the CPAU Youtube channel.

**Electric Vehicles**

EV Solutions and Technical Assistance Program

The EV Technical Assistance Program (TAP) was soft launched in October 2019 with a new program website, bill insert and workshops for multifamily properties, religious centers and low-income multifamily properties. The innovative program has been duplicated by neighboring Community Choice Aggregators, Peninsula Clean Energy and Silicon Valley Clean Energy, both of which have also contracted with CLEAResult to implement their TAP programs. By the end of Q3, 75 customers expressed interest in participating in the program and 30 customers signed a Program Participation Agreement allowing CLEAResult to conduct site visits. 26 technical site visits with engineers and electricians were completed before shelter in place began on March 17th. This 'quiet' period was used to create a template for final reports and presentations to customer which includes 3 design scenarios for installing EV chargers, including electrical load calculations, transformer and electrical panel information and price estimates. CPAU plans to deliver final reports to all 26 customers by the end of the next quarter and help get customers who are ready to move forward, to apply for permits and begin installations.

CALeVIP

The California Energy Commission has partnered with five local energy agencies to launch a $33M incentive project for the installation of public electric vehicle (EV) charging stations throughout Santa Clara and San Mateo counties. This Peninsula-Silicon Valley project, is an initiative of the California Electric Vehicle Infrastructure Project (CALeVIP), which aims to develop and implement regional incentives to support statewide adoption of EVs. CPAU has committed $1M of Low Carbon Fuel Standards (LCFS) funds, to receive $1M in grant funding. This fall, these funds will become available to all eligible Palo Alto commercial customers to install Level 2 or Level 3 fast chargers over the next 2 years. CPAU completed contracting with the Center of Sustainable Energy (CSE) – the administrator for the program, in Q3. CSE hosted its first webinar

to explain program details on June 23, with 188 attendees. Find more details at www.cityofpaloalto.org/calevip

City of Palo Alto EV Charger Rebates
In FY2020 Q1, CPAU increased rebate levels to $8,000 per EV charging port from $3,000 for multifamily properties and $5,000 for non-profits. Residential Transformer Upgrade (Utility Service Capacity Fee) fees were also raised from $3,000 to $10,000. CPAU also added a program to pay for commercial transformer upgrades (when necessary and feasible) up to $100,000 with a minimum of 10 connectors or fully wired EVSE-ready outlets. All of these incentives are funded through LCFS credits. The new and updated incentives have helped drive interest to the TAP program. We are also learning that to accommodate new EV chargers, about half of the transformers serving the non-profits and multifamily properties participating in TAP may require a new transformer.

## vi. Communications Highlights

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

**Current Communication and Outreach Activities**

Don't Rush to Flush
When the COVID-19 pandemic began, our wastewater operations staff noticed a high volume of sanitation wipes and other materials in the wastewater collection system. CPAU staff put out messaging that those presumably “flushable” wipes are not suitable to be flushed and can clog toilets, drains, sewer pipes, laterals and mains. Please do not flush foreign objects down toilets or drains. This can lead to sanitary sewer overflows, create dangerous health risks for our community, and pollute our waterways.

Don't Fall for Utilities Scams
We don’t want anyone to fall victim to fraud, so we routinely publish messaging to help our customers know how to identify and protect themselves from scams.

It's Here! MyCPAU New Online Customer Site
In March, CPAU launched the new online utility account management system, MyCPAU for our residential and business utility customers. MyCPAU offers new features and functionalities so customers can easily manage their utility account services online. MyCPAU has replaced our former My Utilities Account customer site, and the My Utilities Account site has been discontinued. Customer account information was automatically migrated to the new MyCPAU site. To inform customers of this, we send out email notices with a temporary password and instructions for registering on the new site. We are also providing outreach through utility bill inserts, email newsletters, printing info on utility bills, mailing postcards to everyone in Palo Alto, and sharing through social media, including with a new announcement video. Our Customer Service Representatives stand ready to answer any questions and help people use the new site.

Utilities Rate Assistance and Payment Relief for Residential and Commercial Customers
When the coronavirus (COVID-19) shelter in place public health order took effect, CPAU expanded payment relief and rate assistance programs to help our residential and commercial customers. The City's initial proclamation of a local emergency in March and extension in May instituted a moratorium on disconnections for non-payment, late payment fees, and full-bill payment requirements. Customers can make partial payments, without penalty, and without risk of disconnection for non-payment. The total of missed payments (except Late Fees, which will be waived in their entirety) will continue to be owed, but customers will be eligible for an extended payment plan of up to 18 months from the proclamation termination.

Residents may qualify for our Rate Assistance Program, which provides a 25% discount on gas and electricity charges and 20% discount on storm drain service fees. Both residential and commercial customers can equalize their monthly bill payment into twelve equal amounts through our Bill Payment Plan. Another helpful resource is ProjectPLEDGE, which allows commercial and residential Utilities customers in good standing with their own accounts to donate funding on a one-time or recurring basis to help another resident in Palo Alto. Residents who are struggling to pay their utility bills may apply to this program for one-time assistance. Utilities Customer Support Service staff are available through the call center at (650) 329-2161, the MyCPAU online customer account service, or by email at UtilitiesCustomerService@cityofpaloalto.org to help answer questions associated with any of these payment relief and rate assistance programs.

Outreach
CPAU has stepped up outreach about these financial assistance programs to get the word out to anyone needing help during this difficult time. This information is being shared in community email updates, on the Utilities and cityofpaloalto.org/coronavirus websites, in social media, and utility bill inserts.

## vii. Innovation and Pilot Programs

### Program for Emerging Technologies

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 the second quarter of FY 2020, the program has received a total of 94 applications. Table 3 below summarizes the status of all applications through the third quarter of FY 2020.

So far this year, none of the applicants have reached the threshold of value, quality, and relevance to be good fits for a pilot project. We are currently in discussions with some applicants about revising their projects and are also evaluating potential regional collaborations with promising early stage companies. In order to provide more clarity for applicants and better focus the applications on CPAU's priorities, we are also revamping the program's guidelines highlight what makes a compelling project pitch for CPAU. We plan to release these updated program priorities and guidelines later this calendar year, at which point we will work with local universities and accelerators to solicit high-quality applications closely aligned with CPAU's highest priorities.

In January of 2020 the CPAU sponsored the GridShift Hackathon focused on decarbonizing the energy sector with Powerhouse Ventures and Silicon Valley Clean Energy. Several of the participants work for early stage energy companies and have reached out about applying to the program. Staff has also had several follow-up discussions with a few of the most relevant companies to determine whether the program is a good fit for their current needs, and if they are a good fit for CPAU's goals for this program, and are also exploring possible regional collaborations for projects.

Academic Collaborations

CPAU currently has two active academic collaborations. One collaboration is with a Stanford researcher modeling hourly all-electric load shapes for single family homes and the implications for the distribution systems, transmission system and electricity generation in California. The other collaboration is with a San Jose State researcher modeling the impacts of utility scale battery systems on the emissions of the California electricity wholesale market.

Completed Projects

In the first quarter of FY 2020 CPAU elected to close a one-year pilot with the start-up UrbanLeap-- a platform for streamlining intake, ranking, and tracking of innovative pilot projects within local governments. There is potential to use UrbanLeap or another platform for interdepartmental collaboration throughout the City, but the scale of the Program for Emerging Technologies does not warrant using a dedicated software as a Utilities-only solution.

So far in FY 2020 CPAU has also submitted three letters of support for exceptionally promising *very* early-stage technologies for research grants and accelerators.

**Table 3: 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 | 3 |
| 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 | 1 | 2 | 2 | 3 |
| **TOTAL** | **94** | **1** | **65** | **2** | **25** |

## viii. Legislative and Regulatory Issues

While the City operates on the Fiscal Year (July through June), the State legislature operates on the calendar year and the federal government, on the Federal Fiscal Year (October to September). In order to provide accurate and timely information, CPAU Legislative staff notes here current issues we are working on at the time of this report, regardless of each entity's operating year.

**Quarterly Update for Third Quarter of FY 2020**
**August 2020**

## State legislation

The legislature took a COVID-19-imposed recess from mid-March to early May (for the Assembly) and mid-May (for the Senate). The truncated session and the need to spend time passing both a budget and COVID-19-related bills means that many bills, including many of the utility-related bills we were tracking, will not move forward in 2020. Below are those bills that remain active as of early June:

*AB 2788 (Todd) Public utilities: cooperation with immigration authorities*
Requires immigration authorities to obtain a court-ordered subpoena or judicial warrant to gain access to a customer's electrical and gas consumption data.

*SB 862 (Dodd) Planned power outage: public safety.*
Adds planned de-energization events within the conditions that constitute a state of emergency and adds new requirements of IOUs regarding protocols for these events. Also requires IOUs coordinate with local governments on the location and operation of new "community resource centers" during de-energization events.

*SB 1099 (Dodd): Emergency backup generators: critical facilities: exemption.*
Requires air districts to adopt or revise their rules to allow critical facilities, as defined, to be allowed to use backup generators — without it counting towards permitted annual runtime totals — during de-energization events and for testing/maintenance. Also prevents air districts from collecting permitting fees for any such generator.

*SB 1185 (Moorlach). Emergency backup generators: emergency variance: operation during de-energization events.*
Allows operators of back-up generators to apply for an emergency variance to their permit during a public safety power shut-off (PSPS) event while also encouraging the use of natural-gas-backup generation where applicable. Additionally requires reporting from utility providers to local and state air regulators.

*SB 1215 (Stern): Electricity: Microgrids*
Proposes several changes to existing law in order to promote the use of microgrids for electrical generation, including exempting a microgrid project, as specified, that serves multiple customers from the definition. This bill also requires additional provisions, including: (1) requiring the CPUC to create a database of critical facilities and infrastructure; (2) requiring the CPUC and CAISO to develop a methodology to account for the resource adequacy value of distributed storage by March 31, 2021; and (3) implies it would require the costs of distribution system improvements necessary to operate a microgrid to be borne by all customers, not only those benefiting from the project.

## State regulatory proceedings

Below, staff notes the issues we've tracked or engaged in with various agencies during the last quarter, primarily through our work with CMUA and NCPA:

<u>Energy Commission</u>
Power Source Disclosure regulations and Renewables Portfolio Standard regulations

Air Resource Board
Low Carbon Fuel Standard regulations

Public Utilities Commission
Despite the lack of jurisdictional authority over POUs, both NCPA and CMUA are tracking various PUC proceedings related to PG&E proceedings, IOU de-energization, and wildfire mitigation planning. Such proceedings may impact transmission dependent POUs or may provide insight into how future POU procedures may be viewed by the CEC.

State Water Resources Control Board
Water loss standards

**Federal legislation**

Much of Congress' attention has been on passing COVID-19-related bills. We continue to monitor the below utility-related bills, none of which have had any recent action.

*H.R. 1497 (DeFazio) Water Quality Protection and Job Creation Act of 2019*
Provides wastewater/stormwater assistance to local water agencies. A press release is here. This bill has had not action since October 2019 and may be removed from future Quarterly reports due to inactivity.

*H.R. 5217 (McClintock) Water Optimization for the West Act*
Advances water storage and provides restoration flows to the San Joaquin river without harming Central Valley Project contractors. A press release is here. The bill has not moved since its November 2019 introduction, and may be removed from future Quarterly reports due to inactivity.

*H.R. 5302 (McNerney) Western Water Recycling and Drought Relief Act*
Authorizes funding for certain recycled water projects, including two in Palo Alto. A press release is here. The bill has not moved since its December 2019 introduction, and may be removed from future Quarterly reports due to inactivity.

## ix. Utility Financial Summary

This section describes the unaudited actual financial results for FY 2020 for all Utilities funds. The Council-adopted long-term Financial Plans for the Electric, Gas, Wastewater Collection, and Water Funds have been updated for FY 2020 and FY 2021 during the budget review process. The utility overviews below for electric, gas, water and wastewater compare sales, expenses and revenue projection from the FY 2020 Financial Plans.

**Electric Utility Overview**

Sales for the Electric Utility in FY 2020 are projected to be 0.7% higher than forecasted in the FY 2020 Financial Plan. Sales for the electric utility have been declining for several years and in the FY 2020 Financial Plan this trend was projected to continue as companies move industrial processes and data centers out of Palo Alto. However sales have not declined as much as projected in FY 2020, even given the impacts of the COVID-19 pandemic. Revenues are also projected to increase by $6.4 million or 3.8% higher than forecasted. Part of this

increase was also due to favorable revenue from sales of surplus energy resulting from favorable hydroelectric generation conditions in the first half of FY 2020. Updated revenue estimates also include $1.9 million higher sales for FY 2020 than prior to the COVID-19 pandemic.

Expenses are projected to be $8.5 million (5%) lower than forecasted. About $5 million can be attributed to lower than expected electricity purchase costs, and $3 million related to lower administration, resource management, operations and maintenance, engineering and customer service expenses. The lower spending in operations and maintenance is related to staffing vacancies and contract funding that remains unspent due to challenges hiring contractors in a tight labor market, and this spending is expected to be higher in future years.

The Electric Supply and Distribution Operations Reserves were within the reserve guideline levels at the beginning of FY 2020 and were above the guideline range at the end of Q3 FY 2020. These funds will be used to begin repayment of a short term $10 million loan from the Electric Special Projects (ESP) reserve done in FY 2018, return the Hydroelectric Stabilization Reserve to its target levels to be used for future dry-year conditions, and to provide initial funding for a Capital Reserve intended to balance capital improvement spending year to year to stabilize rates.

The Electric Utility CIP Reappropriation and Commitment Reserves totaled $16.5 million at the end of Q3 FY 2020.

**Gas Utility Overview**

Sales for the Gas Utility in FY 2020 are projected to be 0.5% lower than forecasted in the FY 2020 Financial Plan. Correspondingly, revenues are expected to be 0.7% lower than forecasted. The updated forecast includes a tentative assumption that there will be some lost revenue due to the COVID-19 related shelter in place.

Expenses are projected to be 5.2% below forecasted. Operations costs are tentatively projected to be lower by about $0.9 million, but CIP costs are projected to be higher by $1 million.

The Gas Operations Reserve was within the reserve guideline levels at the beginning of FY 2020 and will remain stable throughout the remaining of FY 2020.

The Gas Utility CIP Re-appropriation and Commitment Reserves totaled $4.4 million at the end of Q3 FY 2020.

**Water Utility Overview**

Sales for the Water Utility in FY 2020 are projected to be 2.1% lower than forecasted in the FY 2020 Financial Plan. Revenue is projected to be $1.1 million higher in FY 2020 compared to the forecast in the FY 2020 Financial Plan. This is due to a combination of lower sales revenue offset by higher other revenue. Sales revenue projections assume a reduction due to COVID-19 impacts while other revenue including interest income was higher in FY 2019 and the updated projection for FY 2020 brings up the overall revenue forecast to 2.2% higher than projected in FY 2020.

On the expense side, the most notable change from the FY 2020 Financial Plan is changes to CIP expenditures. Approximately $13.7 million in projects budgeted in FY 2019 or earlier are slated to be re-appropriated to FY 2020, the largest being Main Replacement Project 27, estimated at $7.1 million, and some seismic water system

upgrades, estimated at $2.9 million. The FY 2020 Financial Plan estimated the CIP expenditure for FY 2020 to be $16.9 million while the current estimated CIP expenditure for FY 2020 is $20.8 million, of which $5.1 million will be funded through rate revenue, $13.7 will be funded through reappropriations and $1.3 million through committed funds.

The Water Operations Reserve was above the reserve guideline levels at the beginning of FY 2020, however, staff plans to transfer reserves from the Operations Reserve to the Rates Stabilization Reserve and CIP Reserve over the next few years where the funds will be needed to bring the Operations Reserve below the maximum guideline levels.

The Water Utility CIP Reappropriation and Commitment Reserves totaled $17.8 million at the end of Q3 FY 2020.

**Wastewater Collection Utility Overview**

Wastewater revenues in FY 2020 are projected to be 1.3% higher than forecasted in the FY 2020 Financial Plan, due to increasing revenue from sales and other income from connection fees and interest. The wastewater utility has flat fees for residential services, but bills for sewer services based on winter water use (Jan-Mar), which is a reasonable approximation of indoor water use. Because this usage occurred before the majority of shelter in place orders began in March, wastewater revenues for FY 2020 are not expected to decrease significantly as a result of the COVID-19 pandemic. Expense projections remain approximately the same.

During Q1 through Q3 of FY 2020, there has been an increase of $3.4 million in CIP commitments and reappropriations. This has been funded in part by revenues but is a primary reason for the decrease in the operations reserve of $2.8 million. The Wastewater Collection Operations Reserve at the end of Q3 in FY 2020 is $2.6 million, which is below the projected reserve minimum guideline ($2.9 million) but not below the risk assessment level ($2.6 million). The CIP Commitments and Reappropriations reserve balance will be trued-up at the end of the fiscal year based on actual CIP completion, outstanding contracts and revised budget reappropriations. Any unearmarked CIP funds will be released and returned to the Operations reserve at the end of the fiscal year. In addition, revenues during the remainder of the year are expected to bring the Wastewater Collection Operations Reserve up to within the reserve guideline levels at the end of FY 2020.

The Wastewater Collection Utility CIP Reappropriation and Commitment Reserves increased from $5.7 million at the beginning of FY 2020 to a total of $9.1 million at the end of Q3 FY 2020.

**Fiber Optic Utility Overview**

Fiber revenue and expenses through Q3 of FY 2020 were $3.3 million and $2.0 million respectively. Capital expenses are lower than projected, primarily due to delay of the Fiber Optic System Rebuild. There is no change in the FY 2020 revenue forecast of $5.5 million. FY 2020 expenses of $3.5 million are projected to be $0.8 million less than previously forecasted of $4.3 million.

The total Fiber Optic Utility Rate Stabilization and Emergency Plant/Other Reserves totaled $31.6 million at the end of Q3 FY 2020.

**Table 4: Utilities Financials, Q3 FY 2020 Projections**

| | Sales Volumes | Revenue $,000 | Expense $,000 | Net Reserve Change $,000 |
|---|---|---|---|---|
| **Electric Utility** | | | | |
| FY 20 Financial Plan | 858,347 MWh | 167,778 | (168,637) | (859) |
| FY 20 Projections | 864,778 MWh | 174,165 | (160,184) | 13,981 |
| Change from Financial Plan | 6,431 MWh<br>0.7% | 6,387<br>3.8% | 8,453<br>(5.0%) | 14,840 |
| **Gas Utility** | | | | |
| FY 20 Financial Plan | 27,725,000 therms | 39,381 | (39,206) | 175 |
| FY 20 Projections | 27,600,000 therms | 39,098 | (39,306) | (208) |
| Change from Financial Plan | (125,000) therms<br>(0.5%) | (283)<br>(0.7%) | (100)<br>0.3% | (383) |
| **Water Utility** | | | | |
| FY 20 Financial Plan | 4,607,000 CCF | 48,857 | (57,732) | (8,875) |
| FY 20 Projections | 4,511,000 CCF | 49,948 | (44,274) | 5,674 |
| Change from Financial Plan | (96,000) CCF<br>(2.1%) | 1,091<br>2.2% | 13,458<br>(23.3%) | 14,549 |
| **Wastewater Collection Utility** | | | | |
| FY 20 Financial Plan | | 21,911 | (23,112) | (1,201) |
| FY 20 Projections | | 22,198 | (23,081) | (883) |
| Change from Financial Plan | | 287<br>1.3% | 31<br>(0.1%) | 318 |
| **Fiber Optic Utility** | | | | |
| FY 20 Financial Plan | | 5,544 | (4,326) | 1,218 |
| FY 20 Projections | | 5,544 | (3,526) | 2,018 |

**Table 5: Operations Reserves, as of Q3 FY 2020 ($000)**

| | Electric Supply | Electric Distribution | Gas | Water | Wastewater Collection | Fiber Optic * |
|---|---|---|---|---|---|---|
| **Beginning** | 28,709 | 16,536 | 9,966 | 20,652 | 5,390 | 30,358 |
| **Change** | 5,152 | 2,723 | 3,608 | 4,729 | (2,769) | 283 |
| **Q3 FY 2020** | 33,861 | 19,259 | 13,574 | 25,381 | 2,621 | 30,641 |
| **Reserve Minimum** | 17,988 | 8,594 | 5,410 | 7,045 | 2,904 | 444 |
| **Reserve Maximum** | 35,977 | 13,609 | 10,821 | 14,119 | 7,260 | 887 |

* For Fiber Optics, the Reserve is the Rate Stabilization (not the Operations) Reserve

## Table 6: Q3 FY 2020 Reserve Report from the City's Financial System ('000)

**City Of Palo Alto**
**Utility Fund Reserve**
**Q3 Reserve Report - Detail**
**as of Mar. 31, 2020 - UNAUDITED**

| | Beginning Reserve Balance as of 7/01/19 FY 2020 | Changes to Reserves Summary ASD | Current Projected Reserve Balance as of 3/31/2020 FY 2020 | Addl Changes to Reserves to 3/31/2020 Util | Current Projected Reserve Balance for 3/31/2020 FY 2020 (Util) |
|---|---|---|---|---|---|
| Electricity | | | | | |
| Supply/Dist Operations | $ 45,245 | $ 7,875 | $ 53,120 | | |
| CIP Reappro/Commit | 10,657 | 5,890 | 16,547 | | |
| Hydro Stabilization | 11,400 | | 11,400 | | |
| CIP Reserve | 880 | | 880 | | |
| Rate Stabilization | - | | - | | |
| Public Benefit | 810 | | 810 | | |
| ESP | 41,665 | | 41,665 | | |
| GASB 68 Pension Rsrv | (31,324) | | (31,324) | | |
| GASB 75 OPEB Rsrv | (14,156) | | (14,156) | | |
| All Others | 4,637 | 3,161 | 7,798 | | |
| Net Capital Investment | 200,749 | 1,692 | 202,441 | | |
| Total | $ 270,563 | $ 18,618 | $ 289,181 | | |
| | | | | | |
| Gas | | | | | |
| Operations Reserve | $ 9,966 | $ 3,608 | $ 13,574 | | |
| CIP Reserve | 3,820 | | 3,820 | | |
| Rate Stabilization | 2,534 | 3,581 | 6,115 | | |
| CIP Reappro/Commit. | 3,771 | 604 | 4,375 | | |
| GASB 68 Pension Rsrv | (13,824) | | (13,824) | | |
| GASB 75 OPEB Rsrv | (6,230) | | (6,230) | | |
| All Others | 8,274 | (2,284) | 5,990 | | |
| Net Capital Investment | 104,693 | (233) | 104,460 | | |
| Total | $ 113,004 | $ 5,276 | $ 118,280 | | |
| | | | | | |
| Water | | | | | |
| Operations Reserve | $ 20,652 | $ 4,729 | $ 25,381 | | |
| CIP Reserve | 2,726 | | 2,726 | | |
| Rate Stabilization | 4,069 | | 4,069 | | |
| CIP Reappro/Commit. | 14,786 | 3,005 | 17,791 | | |
| GASB 68 Pension Rsrv | (13,076) | | (13,076) | | |
| GASB 75 OPEB Rsrv | (4,346) | | (4,346) | | |
| All Others | 3,922 | 2,261 | 6,183 | | |
| Net Capital Investment | 98,249 | (138) | 98,111 | | |
| Total | $ 126,982 | $ 9,857 | $ 136,839 | | |
| | | | | | |
| Fiber Optic | | | | | |
| Rate Stabilization | $ 30,358 | $ 283 | $ 30,641 | | |
| CIP Reappro/Commit. | 790 | 904 | 1,694 | | |
| GASB 68 Pension Rsrv | (2,002) | | (2,002) | | |
| All Others | 1,060 | 155 | 1,215 | | |
| Net Capital Investment | 9,165 | (132) | 9,033 | | |
| Total | $ 39,371 | $ 1,210 | $ 40,581 | | |
| | | | | | |
| WasteWater Collection | | | | | |
| Operations Reserve | $ 5,390 | $ (2,769) | $ 2,621 | | |
| CIP Reserve | 978 | - | 978 | | |
| Rate Stabilization | 342 | - | 342 | | |
| CIP Reappro/Commit. | 5,658 | 3,417 | 9,075 | | |
| GASB 68 Pension Rsrv | (7,828) | | (7,828) | | |
| GASB 75 OPEB Rsrv | (2,382) | | (2,382) | | |
| All Others | 74 | 148 | 222 | | |
| Net Capital Investment | 88,336 | 1,004 | 89,340 | | |
| Total | $ 90,568 | $ 1,800 | $ 92,368 | | |

## Residential Bill Comparisons

**Table 7: Residential Electric Bill Comparison ($/month)**

| As of February 2020 | | | | | |
|---|---|---|---|---|---|
| Season | Usage (KWh/mo) | Palo Alto | PG&E | Santa Clara | Roseville |
| Summer (May-Oct) | 300 | $41.27 | $70.74 | $36.96 | $70.74 |
| | 365 (Median) | 52.18 | 89.76 | 45.27 | 88.70 |
| | 650 | 107.37 | 174.33 | 81.66 | 173.27 |
| | 1200 | 213.89 | 337.54 | 151.91 | 336.48 |

**Table 8: Residential Natural Gas Bill Comparison ($/month)**

| As of February 2020 | | | | |
|---|---|---|---|---|
| Season | Usage (therms per month) | Palo Alto | Menlo Park, Redwood City, Mountain View, Los Altos, and Santa Clara (PG&E Zone X) | Roseville (PG&E Zone S) |
| Summer (Jun-Oct) | 15 | $26.89 | $22.22 | $22.22 |
| | 18(Median) | 29.60 | 26.67 | 26.67 |
| | 30 | 40.43 | 44.45 | 44.45 |
| | 45 | 53.96 | 66.67 | 66.67 |

**Table 9: Residential Water Bill Comparison ($/month)**

| As of February 2020 | | | | | | |
|---|---|---|---|---|---|---|
| Usage CCF/month | Palo Alto | Menlo Park | Redwood City | Mountain View | Santa Clara | Hayward |
| 4 | $46.89 | $51.56 | $54.04 | $37.92 | $43.47 | $37.20 |
| (Winter median) 7 | 70.28 | 74.22 | 72.43 | 58.74 | 62.13 | 54.60 |
| (Annual median) 9 | 90.42 | 89.32 | 85.91 | 72.62 | 74.57 | 67.54 |
| (Summer median) 14 | 140.77 | 128.97 | 122.66 | 107.32 | 105.67 | 103.24 |
| 25 | 251.54 | 217.24 | 217.76 | 225.26 | 174.09 | 181.78 |

Based on the FY 2013 BAWSCA survey, the fraction of SFPUC as the source of potable water supply was 100% for Palo Alto, 95% for Menlo Park, 100% for Redwood City, 87% for Mountain View, 10% for Santa Clara and 100% for Hayward.

**Table 10: Residential Wastewater Collection (Sewer) Bill Comparison ($/month)**

| As of February 2020 | | | | | | |
|---|---|---|---|---|---|---|
| Palo Alto | Menlo Park | Redwood City | Mountain View | Los Altos | Santa Clara | Hayward |
| $41.37 | $98.08 | $81.76 | $42.05 | $38.44 | $44.07 | $34.30 |

**Table 11: Median Residential Overall Bill Comparison ($/month)**

| As of February 2020 | | | | | | |
|---|---|---|---|---|---|---|
| Utility and Usage | Palo Alto | Menlo Park | Redwood City | Mountain View | Santa Clara | Hayward |
| Electricity (365 kWh/mo) | $ 52.18 | $ 89.76 | $ 89.76 | $ 89.76 | $45.27 | $ 89.76 |
| Gas (18 th/mo) | 29.60 | 26.67 | 26.67 | 26.67 | 26.67 | 26.67 |
| Water (9 CCF/mo) | 90.42 | 89.32 | 85.91 | 72.62 | 74.57 | 67.54 |
| Wastewater | 41.37 | 98.08 | 81.76 | 42.05 | 44.07 | 34.30 |
| TOTAL | 213.57 | 303.83 | 284.10 | 231.10 | 190.58 | 218.27 |