CITY OF PALO ALTO

UTILITIES ADVISORY COMMISSION MEETING
MINUTES OF JULY 5, 2023 REGULAR MEETING

CALL TO ORDER

Vice Chair Scharff called the meeting of the Utilities Advisory Commission (UAC) to order at 6:01 p.m.

Present: Vice Chair Scharff, Commissioners Croft, Forssell (arrived 6:02 p.m.), Mauter and Phillips

Absent: Chair Segal and Commissioner Metz

AGENDA CHANGES, ADDITIONS AND DELETIONS

None

PUBLIC COMMENT

None

APPROVAL OF MINUTES

ITEM 1: ACTION: Approval of the Minutes of the Utilities Advisory Commission Meeting Held on June 7, 2023

Vice Chair Scharff invited comments on the June 7, 2023 UAC draft meeting minutes.

ACTION: Commissioner Croft moved to approve the draft minutes of the June 7, 2023 meeting as submitted.

Commissioner Phillips seconded the motion.

Motion carried 5-0 with Vice Chair Scharff, Commissioners Croft, Forssell, Mauter and Phillips voting yes.

Chair Segal and Commissioner Metz absent.

UTILITIES DIRECTOR REPORT

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

Water Quality Report: Each year, the Utilities Department publishes an annual Consumer Confidence Report on water quality conditions for the previous year. The UAC received a copy. All customers received a postcard with instructions to call Customer Service if they were interested in receiving a copy of the water quality report or customers can view the report on the website.

Beware of Scams: City of Palo Alto Utilities (CPAU) received numerous calls from customers in the last 1½ months about a person pretending to be from CPAU instructing them to press a number on their phone to receive a rebate. All CPAU residential customers received a rebate automatically credited to their utility bill for high winter energy costs. Customers do not need to take additional action. CPAU is providing warnings against falling victim to fraud.

Outage Management System: CPAU's goal is to launch a new Outage Management System (OMS) by October. This system is an improved way to detect and respond to power outages as well as provide timely notifications and updates to our customers via text messages, phone calls and emails.

Drought Update: The San Francisco Public Utilities Commission (SFPUC) 11% voluntary water use reduction and State's emergency regulations expired in June. Palo Alto lifted the 2-day per week watering restriction. The State left some water waste restrictions in place, including no washing hardscapes, no watering within 48 hours of a rain event and a ban on the use of drinking water to irrigate decorative grass at commercial, industrial and institutional sites. Outreach over the coming months will focus on making conservation a California way of life. Educational workshops will help residents and businesses conserve water.

Recap of Spring Landscape Workshops: CPAU and the Bay Area Water Supply & Conservation Agency (BAWSCA) co-hosted a series of spring landscape workshops. Topics included how to water trees, design and conversion of lawns to drought-tolerant landscapes, installing rain gardens and available rebates.

Upcoming Events: Details and registration at cityofpaloalto.org/workshops.

- **Thu, July 6:** Save Money with an EV and EV Discount Campaign, 5 - 6 p.m.
- **Sat, July 15:** MSC Open House, 9 a.m. - 2 p.m. The City is hosting an Open House at the Municipal Services Center (MSC) to display some of the work we do for the community. There will be free ice cream. Approximately 350 attended last year.

NEW BUSINESS

ITEM 2: ACTION: Staff Requests the Utilities Advisory Commission Recommend the City Council Approve Participation in the GoGreen Home Energy Financing Program in an Amount Not-to-Exceed $2 Million over a Term of up to Five Years, Funded by the City's Cap and Trade Reserve, by Authorizing the City Manager or Their Designee to Execute a Memorandum of Agreement with the California Alternative Energy and Advanced Transportation Financing Authority

Shiva Swaminathan, Senior Resource Planner, delivered a slide presentation on the GoGreen Home Financing Program. The program is for residential customers to finance projects related to electrification and energy efficiency. California Public Utilities Commission (CPUC) authorized the program. The Agency of the State Treasurer's Office and the California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) administer the program. It was available to all Investor-Owned Utility (IOU) residential customers but recently became available to publicly owned utilities.

Staff recommended joining the GoGreen program. Residential customers can finance up to 100% of the project cost up to $50,000. No money down required. No collateral is needed because it is an unsecured consumer loan. The maximum term is 15 years. Competitive rates are between 4% and 8% (4% for loans up to five years, higher interest rates for longer-term loans). There are more than 40 qualified contractors enrolled in the GoGreen program. Customers can use up to 30% of the loan amount for unrelated renovation costs. Customers submit their loan application online through California Coast Credit Union or Matadors Credit Union, which are the only two credit unions servicing Santa Clara County. Work is underway to enroll several other credit unions in the program. You do not have to be a credit union member to apply for a loan. Once the credit union approves the loan, the contractor begins work. Upon the customer certifying completion of the project, the credit union pays the contractor. GoGreen is a potential financing source for our heat pump water heater program. In the future, we may have access to CAEATFA's suite of financing programs that include commercial and multifamily.

To participate in the program, Palo Alto has to pay a $50,000 start-up cost plus $40,000 per year in administrative costs as well as contribute to the loan loss reserve 16% of total Palo Alto loans made. Credit unions run credit checks to reduce the likelihood of losses. Upon UAC recommendation and Council's approval in August, GoGreen Home will be available to Palo Alto residents in Fall 2023.

Renters need an agreement with approval of the property owner for home improvement loans. The renter applies for the consumer loan and the loan stays with the renter. CAEATFA provides data in aggregate but not consumer-specific. Customers can use GoGreen loans for energy efficiency projects such as building envelopes, pools, lighting, HVAC and heat pump water heaters. Loans cannot be used for EVs, EV chargers or solar.

It is the credit union's loan and they will follow their normal procedures. The credit reserve covers up to 90% of outstanding loan amounts up to 16%. GoGreen has a portfolio of 3000 loans worth $50 million. There are $8 million in loan loss reserves. CPAU has to contribute 16% each time there is a Palo Alto loan. Reserve funds are in an escrow account held between CAEATFA and the credit union.

Some of the benefits of this loan program are it is an unsecured loan, the loan amount and duration, minimum credit score and lower interest rates. Typical unsecured loans are for a maximum term of five years but GoGreen's maximum term is 15 years. GoGreen provides lending to customers with credit scores as low as 580. It is unknown how many people in Palo Alto might be interested or qualify.

CPAU would pay startup and administrative costs to CAEATFA per the MOU. There will be some startup-related staff effort. Staff will promote electrification technologies to our customers through our existing channels for promoting the heat pump water heater program, such as the Home Efficiency Genie.

GoGreen's minimum loans are $2500. The average loan amount in their portfolio is $17,000. The State outlined the projects GoGreen can and cannot fund. This does not involve on-bill financing. The lending relationship is between the lender and the customer. The Utilities role is to promote this program.

Synergy is our installation contractor for the heat pump water heater program and is an approved GoGreen contractor. This financing instrument will become more useful as our suite of programs expands to include heat pump space heating, which could cost at least $20,000. There is no current plan for bill inserts, mass emails or social media advertising. The GoGreen Multifamily program is only available to IOU customers, but staff is monitoring for changes that would allow CPAU to participate.

Discussion ensued on the not-to-exceed (NTE) amount and administrative costs. Mr. Swaminathan explained that CAEATFA's administrative cost pass-through was based on the methodology outlined in the contract on an incremental cost basis for the first two years to bring Palo Alto on plus the baseline cost to run the program. CAEATFA's administrative cost for Years 3, 4 and 5 would be determined in the future but could be $50,000 or $60,000 per year. CAEATFA's administrative costs are to pay for their contractors, people who promote the program, maintain the website and maintain the bank accounts. Vice Chair Scharff opined it was more appropriate to approve what was needed for the MOU the first two years. Staff can return to discuss Years 3, 4 and 5, as it is the job of the City Council and UAC to provide more oversight.

Mr. Swaminathan addressed Vice Chair Scharff's questions about interest rates. These are unsecured loans. The credit risk increases as the duration of the loan term increases, so longer terms have higher interest rates. In response to Vice Chair Scharff's understanding that the State guaranteed the loans and the credit unions were getting 100% of their money back, Mr. Swaminathan replied correct.

GoGreen publishes statistics and current interest rates on their website. The March 2023 report provided by the State Treasurer's Office showed an average interest rate of 4.1% for GoGreen loans made over a 60-month period. For comparison, the interest rate is 10.6% for a similar unsecured loan. Credit unions typically do not provide loans for customers with credit scores lower than 640 but GoGreen can go as low as 580. There are 127 loans out of 3000 with credit scores between 580 and 640. The most recent interest rates published on the website were from March with loans at 4.99%, 5.99% and 7.99%, depending on the term.

Mr. Swaminathan stated that the loan reserves cover 90% of the outstanding loan amount up to 16% of all loans. If 100% of the loans default, the City is out-of-pocket for 16% but the credit union only receives 16%. There is $8.6 million in the reserve. Since 2017, $400,000 was used. Commissioner Phillips remarked it is risk subsidization; the credit unions determine the underwriting limit and the loan rate they want to offer. Vice Chair Scharff asked if there was a loss on one loan and it was less than 16% of all their loans, Palo Alto covers it 100%. Mr. Swaminathan responded that was correct. Vice Chair Scharff clarified that 100% of the loan was covered, assuming the default rate was not more than 16% of their portfolio. Dean Batchelor, Utilities Director, responded yes that was correct but they had to be Palo Alto loans. Vice Chair Scharff pointed out that the credit unions were not taking a lot of risk and Mr. Batchelor agreed. Mr. Swaminathan confirmed that the credit union loses money if the default rate is greater than 16%. The historic default rate was 4%.

Vice Chair Scharff expressed his concerns about the City promoting this program as well as older seniors, renters or people who cannot afford it applying for loans. He did not believe a renter should obtain a 15-year loan. He asked if CPAU had any safeguards in place or if we had to rely on the credit union. Commissioner Phillips remarked that most banks have an age limit for unsecured loans and asked how we would communicate that it is not available to seniors or if credit unions were waiving that requirement for this program. Vice Chair Scharff would be comforted if staff said that the credit unions' credit and income requirements were the same as they had for other loans, it will be well policed, the program's historical default percentage, if it was working well, how many cities in the Bay Area signed up and there was nothing to worry about.

Vice Chair Scharff preferred trying this program as a pilot with up to $1 million worth of loans, then staff report to the UAC the number of loans and provide an evaluation of the program. Mr. Swaminathan replied that staff would provide a quarterly report. Vice Chair Scharff wanted staff to return to the UAC and Council six months before MOA renewal to report the good and bad as well as the number of homes electrified. Mr. Batchelor stated that staff could return to the UAC 18 months after starting the program as well as provide periodic updates. Mr. Swaminathan remarked that there were no penalties to withdraw from the MOA and it does not automatically renew after two years. Commissioner Forssell felt it was prudent to return to Council with a program update and obtain approval after two years.

Discussion ensued on the amounts in Table 1. If the NTE amount is reached, staff can ask the UAC and Council for more money. Commissioner Phillips pointed out the administrative costs in comparison to the amount of loans. Mr. Batchelor believed this program would be successful because the City is pushing electrification. It costs $50,000 to $70,000 to electrify homes. Many people have a lot of investment in their home but not a lot of cash on hand and other methods of financing have higher interest rates. Palo Alto is converting from 4 kV to 12 kV in a pilot for about 500 to 600 customers. Overhead upgrades will be completed by 2026 or 2027, which is about 55% of our customers.

Vice Chair Scharff suggested that staff set realistic expectations for the number of loans during the first two years when making their presentation to Council. Mr. Swaminathan noted this program is growing. It has financed $55 million since its existence in 2017. In March, GoGreen financed $2.39 million.

Commissioner Croft wondered if we should wait two years to begin the program or if there was a benefit or need to start the program now. Mr. Batchelor replied that the pilot at the end of the year would allow 500 to 600 homes to electrify. Reserves funded the heat pump water heater program for this year's budget but the City will not subsidize it next year, so this is another avenue for customers.

Discussion ensued regarding the motion.

ACTION: Vice Chair Scharff moved to approve Staff recommendation to recommend Council approval of a Memorandum of Agreement with California Alternative Energy and Advanced Transportation Financing Authority (CAEATFA) for an Amount Not-to-Exceed $300,000 over a Term of up to Two Years to provide Credit Enhancements for Palo Alto Residential Customer Home Energy Efficiency & Electrification Project Loans Facilitated by CAEATFA through Registered Participating Financing Companies (PFCs), and approve the use of the City's Cap and Trade Reserve funds to cover the cost of the Program.

Seconded by Commissioner Phillips.

Motion carried 5-0 with Vice Chair Scharff, Commissioners Croft, Forssell, Mauter and Phillips voting yes.

Chair Segal and Commissioner Metz absent.

The UAC took a break at 7:22 p.m. and returned at 7:32 p.m.

ITEM 3: DISCUSSION: Discussion of Electric Supply Portfolio Modeling Results

Jim Stack, PhD, Senior Resource Planner, presented the Electric Integrated Resource Plan (IRP) Modeling Results. He showed low, mid and high-scenario graphs of Palo Alto's electric load projections through 2045. Dean Batchelor, Utilities Director, spoke about projected increased load from two new data centers. Dr. Stack showed a table of resources in the City's electric supply portfolio. One wind project and some landfill gas projects have contracts expiring between the late 2020s and early 2030s. Solar resources have contracts extending into the 2040s. The Calpine Geothermal contract starts in 2025 and runs for 12 years. The City has two large hydroelectric resources and is a partial owner of the Collierville facility. The Western Base Resource is a contract with the federal government and is the largest resource in the portfolio. A 30-year contract was executed with Western Area Power Administration (WAPA) to start in 2025. A decision will be made by July 1, 2024 to maintain our full share of the contract, decrease our share or exit the contract, which will be the subject of a future presentation.

Dr. Stack explained that each resource has a nameplate capacity, which is the maximum amount of power it can produce. Net qualifying capacity (NQC) refers to the amount of capacity each resource qualifies for under the State's Resource Adequacy (RA) rules. For new solar and wind resources, the amount of NQC is a small fraction of the nameplate capacity. The NQC amounts change yearly based on the resource's production and when the production occurred relative to when the grid was at its peak.

Commissioner Phillips asked about load curves and matching resources. Dr. Stack responded that it does not have to match on a monthly basis, although it is preferred because of exposure to market price risk when you have large surpluses and deficits offsetting each other. A generic product is bought at a trading hub, so it is unclear where the energy is coming from, but it is assumed that the resource filling the gaps in the winter comes from combined cycle gas turbines. CPAU puts our additional clean energy onto the grid in the spring months to offset the environmental impact of the combined cycle emissions.

Commissioner Phillips queried about the matching of supply and demand load over 24 hours. Dr. Stack does not have that slide with him tonight but he could provide that information. The City has large surpluses of solar during the daylight hours and hydro resources peak in the evening hours. There are gaps in the late night and early morning hours. The portfolio does not include nuclear but among the resources under consideration are small modular reactors.

Solar and wind are the least costly resources. Due to the Inflation Reduction Act, prices are expected to decrease and level off until about 2030 and then increase in the late 2030s. Small modular reactors and offshore wind projects are a long way from commercialization. New hydroelectric resources were not included in the portfolio analysis because there are no new dams expected in the west. Occasionally, an opportunity could arise when an existing hydro resource has a contract expire.

Commissioner Forssell inquired about the drivers for investing in storage versus generation resources. Dr. Stack replied that generation resources provide energy that adds to your resource mix. Because of efficiency losses, storage is a net consumer of energy. The reasons for investing in storage are to meet your capacity requirements, regulatory compliance for RA purposes, and its economic value. The cost of the investment, in dollars per kilowatt-month, is compared to the RA revenue and energy arbitrage value or the storage resource can be used for frequency regulation in the ancillary services market.

Commissioner Phillips asked for further explanation on why demand response (DR) was costly. He noted that about 70% of the City's consumption is commercial, so he wondered if there were any interruptible contracts or priority commercial contracts. He thought we would have AMR by the end of the year and the potential to use it creatively. Dr. Stack responded that he is not a DR expert. CPAU had a DR pilot program in past years, and it was not cost effective because it required a lot of staffing and overhead cost to maintain its reliability and for customer communication.

Commissioner Croft was very interested in seeing the hourly load curves. She thought the City wanted clean energy so the purpose of batteries was to bank energy during the day to use during the night instead of buying gas-powered energy; however, batteries were discussed as a financial play. Dr. Stack replied that the portfolio does not include any batteries but the strategy for utilizing batteries was based on the market price signal, so they were an energy play or a value play. If you have energy from a clean resource stored in the battery, you want to put it onto the grid when market prices are highest. A 10-hour battery has a greater amount of capacity in RA requirements and more energy can be stored. A 10-hour battery has to charge for 10 hours, so you do not get as large a price delta when buying and selling. With a four-hour battery, you can buy in the four least expensive hours and discharge in the four most expensive hours so you get the biggest price delta. Capacity is bought and sold monthly.

Commissioner Mauter asked if there was a plan to grow a DR program within the department or outsource elements of DR management in the future. Dr. Stack does not know the DR long-term plan.

Commissioner Croft wondered if projects were under consideration in Palo Alto to generate our own electricity, through investment in solar or harvested from wastewater treatment. Dr. Stack replied that since 2012 or 2013 there has been a feed-in tariff program to buy energy from larger solar installations in town over a long-term basis. About 3 megawatts of solar are under contract. The challenges are no open land available in Palo Alto for a big generation resource as well as costs for infrastructure and land. Installing something at the treatment plant or golf course parking lot may be considered in the future.

Our resources are profitable overall. Ascend’s preliminary modeling results recommended adding the following to the portfolio to meet our gaps: 25 megawatts of solar in 2030 and another 25 the following year, additional solar in the late 2030s and into the 2040s as well as some storage capacity in the 2040s.

Geothermal is a 12-year contract starting in 2025 with 5 megawatts for two years and 10 megawatts the next 10 years. When the geothermal contract expires, it might be available for renewal, but it could be at a higher price and would compete with other alternatives. The WAPA contract looks competitive and will be the subject of a future presentation. The model preferred contracting for new low-cost resources using stand-alone solar and adding storage in later years when we become capacity short. Solar is not the best fit for the portfolio because it exacerbates our summer surpluses and does not help much with the winter deficits. Staff is questioning whether the model might be overestimating the value of new standalone solar. Solar, wind and storage costs were expected to come down over the next few years.

Staff will work with Ascend to refine the model results to reflect our portfolio preferences. Staff will analyze the WAPA contract to determine its value. In the coming years, staff will seek new baseload or flexible resources that better fit our load shape. Staff will explore demand-side programs. With AMR coming online, staff wants to institute a time-of-use rate (TOU) to encourage load-shifting to solar hours when we have surpluses and explore other programs such as DR to improve load flexibility. Dr. Stack will return to the UAC in September or October with additional analysis results, including candidate portfolio options and supply cost data. Staff will present the final Integrated Resource Plan (IRP) report to the Finance Committee and City Council for approval by the end of the calendar year per State requirements.

Commissioner Mauter queried about planning for the mid-range load instead of the high-range scenario. Dr. Stack replied that there is a risk in undershooting and not buying at attractive prices now if prices go up in the future but there is the risk of overshooting and selling excess resources at a loss if you plan for the high load scenario. The electrification and EV load numbers shown in the high scenario are extremely aggressive and will be very difficult to achieve.

In reply to Commissioner Mauter’s asking what fraction of the load municipal services consumes, Dr. Stack thought municipal was around 5% and Mr. Batchelor concurred it was about 5% to 6%.

The rates manager was not present at the meeting, so Mr. Swaminathan addressed Commissioner Mauter’s questions regarding commercial customers and demand-side programs. CPAU had a couple large commercial customers on TOU rates. Commercial customers are charged average cost based but you could provide a signal for marginal DR. The limits on capacity are small for DR.

Mr. Swaminathan answered Commissioner Phillips' questions regarding batteries and DR. The assumption was that the battery's developer would own the batteries but CPAU would have control to dispatch it according to our preferences through a long-term contract. Dr. Stack was bullish on the potential for using TOU to incentivize EV customers to charge their cars during the day when they can take advantage of solar rather than at night, although there is no data to determine the net impact. Maybe in a couple years the analysis can be refined to provide that data.

Commissioner Croft was disappointed with the 2025 and 2045 monthly charts to see landfill gas and geothermal, which are flatter energy sources throughout the year, replaced by solar and hydro that are very seasonal. Keeping in mind the environmental impact of our actions, she would love to see generation better matched with our load. She thought DR should be used to change the load. She suggested having the S/CAP committee's input on our energy resources. Generating closer to our load curve decreases our exposure to market pricing. She was interested in seeing a model where load matched generation to evaluate the cost of that approach. Dr. Stack replied that when the basic IRP is complete, the next step is for Ascend to analyze the incremental cost of more fully matching our supply to our load on an hourly basis and that analysis will be shared with the UAC in the coming months.

Commissioner Forssell queried what where our commercial TOU rates and the peak times in our current rate structure. Dr. Stack thought the peak period was 4 to 9 p.m. Mr. Swaminathan clarified that was the legacy rate and a new rate had not been developed. The peak for commercial customers was 4 to 6 p.m. For residential, the rates under consideration for implementing in a couple years when AMI is in place would have off-peak 10 a.m. to 2 p.m. and on-peak 4 to 9 p.m. Commercial has a capacity component. Commissioner Forssell viewed EV charging as one of the greatest potentials for load-shifting by incentivizing workplaces to offer onsite vehicle charging. Demand charges might be a disincentive for employers to offer charging and should be evaluated during the Cost of Service Analysis (COSA).

Vice Chair Scharff inquired about the battery storage process. Dr. Stack replied that batteries could be located anywhere on the grid, depending on the response when the City solicits for storage projects. The City incurring the capital cost to own a storage facility may be considered. Mr. Swaminathan pointed out that with residential TOU rate implementation, the delta in prices may justify energy storage at the residential customer level to store during the daytime and dispatch at night.

ACTION: None

COMMISSIONER COMMENTS and REPORTS from MEETINGS/EVENTS

None

FUTURE TOPICS FOR UPCOMING MEETING

None

NEXT SCHEDULED MEETING: August 2, 2023

ADJOURNMENT

Vice Chair Scharff moved to adjourn.

Commissioner Phillips seconded the motion.

Motion carried 5-0 with Vice Chair Scharff, Commissioners Croft, Forssell, Mauter and Phillips voting yes.

Chair Segal and Commissioner Metz absent.

Meeting adjourned at 8:46 p.m.