



UTILITIES ADVISORY COMMISSION MEETING FINAL MINUTES OF SEPTEMBER 6, 2017 MEETING

CALL TO ORDER

Chair Danaher called the meeting to order at 7:05 p.m. Meeting of the Utilities Advisory Commission (UAC).

Present: Chair Danaher, Commissioners Forssell, Schwartz, Segal, Johnston, and Trumbull

Absent: Vice Chair Ballantine

ORAL COMMUNICATIONS

David Carnahan, Deputy City Clerk, said the City was recruiting for members of the Architectural Review Board (2 positions), Historical Resources Board (4 positions), and Planning and Transportation Commission (2 positions).

Jeff Hoel, Resident, noted the UAC/Council joint study session had been rescheduled. He was hoping to see information regarding the current financial position of the Fiber Fund in the Utilities quarterly report. Also, in April 2013 staff had predicted the financial position of the Fiber Fund through 2018. There has not been such a projection since 2013, and he would like to see one produced if possible.

APPROVAL OF THE MINUTES

Commissioner Johnston moved to approve the minutes from the August 2, 2017 UAC meeting. Commissioner Trumbull seconded the motion. The motion carried 6-0 with Commissioners Chair Danaher and Commissioners Forssell, Schwartz, Segal, Johnston, and Trumbull voting yes, Vice Chair Ballantine absent.

AGENDA REVIEW AND REVISIONS

None.

REPORTS FROM COMMISSION MEETINGS/EVENTS

None.

UTILITIES GENERAL MANAGER REPORT

Chief Operating Officer Dean Batchelor delivered the General Manager's Report.

Community Workshop for Strategic Plan Update

Utilities is hosting a community workshop to provide information on our Strategic Planning efforts and gather public input. As the Commission is aware, the Strategic Plan will provide a road map to guide our efforts over the next three to five years. We are inviting community members to join us and share their perspectives on key trends, priorities, and actions to consider as we try to align our Strategic Plan with community and other stakeholder goals. The workshop is scheduled for October 4, from 6-8pm at the Palo Alto Art Center, located at 1313 Newell Road in Palo Alto. Light refreshments will be provided. We ask

people to please RSVP at UtilitiesStrategicPlan.brownpapertickets.com Questions or feedback can be directed to UtilitiesStrategicPlan@cityofpaloalto.org

Carbon Neutral Outreach

This month we are ramping up outreach about our [carbon neutral](#) natural gas and electric utilities. While carbon neutrality for natural gas is new, we have discovered that many community members are unaware that the City's electric supply has been carbon neutral since 2013. Palo Alto is the first City in the nation to have a completely carbon neutral electric and gas portfolio!

Starting in September, residents and businesses will begin seeing a line item charge of 4 cents per therm on their utilities bills for Carbon Neutral Natural Gas. As part of our communication with the public, we are unveiling new [web pages](#), [bill inserts](#) and a [video](#) to explain what it means to be carbon neutral and to stress the continued importance of being energy efficient. Carbon neutrality for our energy portfolio is another step on our path of sustainability, and helps the City advance toward its goal of achieving an 80 percent reduction in greenhouse gas emissions by the year 2030. You can watch the video about our carbon neutral energy portfolio at cityofpaloalto.org/carbonneutral.

Bay Area Sunshares

As we mentioned last month, the City is participating in the Bay Area SunShares program, which opened August 7. SunShares allows residents or employees of businesses in the Bay Area, Yolo and Sacramento counties to receive discounts on solar photovoltaic systems, zero emissions vehicles, and electric vehicle charging stations. Those interested in participating in the program will need to register by November 10. Details are available at cityofpaloalto.org/sunshares.

Upcoming Events and Workshops - Details and Registration at cityofpaloalto.org/workshops

- Tue, Sept 12: Intro to Zero Net Energy and Beyond: Design Tools & Strategies Training for Single-Family Residential Buildings
- Sat, Sept 23: Bay Area SunShares Workshop
- Sat, Sept 30: Maintaining Native Gardens and Leak Detection
- Wed, Oct 4: Community Workshop for Strategic Plan Update
- Sat, Nov 4: Designing Native Gardens and Rainwater Harvesting

COMMISSIONER COMMENTS

Commissioner Trumbull recognized City of Palo Alto Communications Manager Catherine Elvert, who was being recognized by the Tuolumne River Trust as one of their environmental champions.

UNFINISHED BUSINESS

None.

NEW BUSINESS

ITEM 1: DISCUSSION: [Utilities Strategic Plan](#)

Tony Georgis, NewGen Consulting, gave a brief overview of the Strategic Plan process and how far the process had progressed. Several employee and stakeholder workshops had already taken place and the core planning team for the plan had met multiple times. The target for full Council adoption was January or February 2018. He shared a draft "Strategic Direction" statement for the Utilities Department, an analysis of strengths, weaknesses, opportunities, and threats (SWOT analysis), as well as a list of key priorities identified by employee and stakeholder groups. He asked the UAC for feedback on the Strategic Direction, SWOT analysis, and key priorities.

Chair Danaher noted that in the Strategic Direction exercise, "ahead of the tech curve" was listed, which he did not agree was true for the utility. The City of Palo Alto Utilities is not a technology leader.

Commissioner Segal asked for clarification of the relationship between the Strategic Direction statement and the Mission Statement.

Georgis said the two are aligned, with the Strategic Direction being supportive and providing more depth for the broader Mission Statement.

Chair Danaher said the Strategic Direction was well written.

Commissioner Schwartz was concerned about the statement by the stakeholder group that Palo Alto was a leader. She asked who was at the stakeholder meeting. She felt that there were excellent things being done by other utilities and she was concerned that the community was not aware of areas where Palo Alto was not leading relative to other utilities both in policy and technology areas. She felt there was a lot of lessons to be learned from other utilities. There was a lot of potential for the City of Palo Alto Utilities to become a leader but it's premature to consider itself as a leader. She said the City needed to ask how it could better educate itself to become a leader and take advantage of what other utilities have done.

Georgis said there will be tools in the strategic plan to facilitate the leadership discussion going forward within the organization and outside of the City.

Jonathan Abendschein, Assistant Director of Utility Resource Management, asked the commissioners if they could identify other areas besides technology where they may have concerns of perception versus reality.

Commissioner Schwartz said Utilities is proactive and does exceptional work in identifying exceptions for program changes. However, Utilities does not send staff to enough external meetings and conferences to learn what leading utilities are doing well such as innovative and effective community outreach. For example, the City has one of the highest concentration for EVs but we may not have the most advanced EV program compared to other communities.

Commissioner Schwartz said that with respect to opportunities, it would be good to bifurcate electrification. She was supportive of transportation electrification, but she thought that electrification of building heating was not as high a priority, and there were specific issues with building electrification that had been discussed in the past. She said another important priority was listening to customers. She thought the utility often did this well, but that it was important to state active listening as a priority.

Chief Operating Officer Dean Batchelor said electrification would be a good item for discussion at the joint UAC and Council meeting because Council may have a different perspective and approach.

Chair Danaher said the City has the opportunity to coordinate utility efforts with building codes and transportation policies more than PG&E and other utilities.

Georgis asked what role the UAC would like to take in the October 4 workshop, whether in a facilitative role or an active listener role.

Batchelor explained that in a facilitative role the UAC might lead a small breakout group of workshop participants.

Commissioner Johnston recommended the UAC take a listening role. Commissioner Trumbull agreed. Commissioner Forssell said it was possible to listen while being in a facilitative role, but she was open to any role needed. Commissioner Schwartz agreed. Chair Danaher said that the UAC could fulfill whatever role was most useful.

Commissioners Schwartz and Trumbull requested some advance information on the workshop structure so they could be more useful and make the meeting more effective.

Chair Danaher asked whether consumer involvement or customer experience was missing in the priorities.

Georgis said that most of the customer focused programs and services will be embedded in the technology and collaboration priorities.

Commissioner Segal asked if the City will be soliciting the community's key priorities. There needs to be an area or opportunity for the community to provide their feedback.

Georgis said the purpose of the workshop is to gather the community's feedback to see whether the City's priorities are aligned with the community's priorities or if there are gaps. There will be other opportunities and mechanisms to gather community feedback such as UAC and external stakeholder meetings and strategic planning email address.

Commissioner Forssell commented on the Strategic Direction, noting that it was so broad that it may be too generic, not utilities-specific, and it may not resonate with employees. The priorities were clear, but not the Strategic Direction.

ACTION: No action.

ITEM 2: DISCUSSION: Discussion of Electric Integrated Resource Plan – Hydroelectric Resources and Carbon Neutral Portfolio Alternatives

Jim Stack, Senior Resource Planner, gave an overview of the City's electric supply resources, focusing on the hydroelectric resources. He discussed the large contribution that these hydro resources make to the City's overall portfolio of supply resources, and the issues associated with the year-to-year variability of the output of these resources. He also highlighted the major decision the City will be faced with in a few years, when the City will have the option of extending its long-term contract for the Western Base Resource for an additional 30 years, or simply letting it expire.

Commissioner Schwartz asked whether it was possible to sell excess power produced by Calaveras.

Stack confirmed that was the case. He noted that excess power can easily be sold on the spot market, although the price the City would receive for that power is highly uncertain.

Commissioner Johnston asked what choices were available to the City in managing the Calaveras hydroelectric resource.

Stack noted that, as a partial owner of the Calaveras project, the City can provide input to the Northern California Power Agency (NCPA), which operates the facility, about how aggressively to use the water in the reservoir at any given time. He also noted that a more extreme option for managing the cost variability associated with this resource would be to try to lay off the City's share in the project to another utility.

Abendschein noted that approximately 70 to 80% of the annual cost associated with the Calaveras project is related to debt service, and that about half of this debt will be paid off in 2024 with the remainder being paid off in 2032. He noted that when that debt is fully paid off, Calaveras will become a very low-cost, carbon-free resource.

Chair Danaher asked whether the Western hydro resource was less variable than Calaveras because it was more geographically distributed.

Stack confirmed that was the case.

Commissioner Trumbull asked whether the Federal government would have to respect California water rights in the operation of the Central Valley Project as flows into the Sacramento Delta were adjusted.

Stack confirmed that was the case. He noted that the Bay Delta Unimpaired Flow Criteria is a state water use policy under consideration that could dramatically alter the flexibility that the federal government has in using the water in the Central Valley Project.

Commissioner Forssell asked about the other benefits that the Calaveras resource provided – such as capacity, ancillary services, and load following – and whether they could be quantified and added to the graph of Calaveras value.

Stack said some of them were quantifiable, others, such as load following, were much more difficult.

Commissioner Johnston asked about the “dispatchability” of Western, and how that was different from load following.

Stack said that the two terms were synonymous. He indicated that with Western, the City is prescribed a certain amount of generation that it will receive from the resource every day, and NCPA (which schedules the project’s output on the City’s behalf) can decide which hours of the day to schedule that energy into. Thus Western is dispatchable, but not quite as flexible as Calaveras.

Stack then presented a discussion of the City’s Carbon Neutral Plan, first giving an overview of the Plan and the resources the City uses to comply with it, and also addressing the question of whether to modify the City’s definition of carbon neutrality. He also described a variety of different alternative portfolios of supply resources that the City could pursue in the event that it does not renew its full share of the Western contract in 2025. He discussed the pros and cons of these different alternative portfolios, and requested UAC feedback on the metrics that staff proposed using to evaluate these alternative portfolios.

Commissioner Schwartz asked what the City’s electric supply emissions would look like if they were looked at on a short-term basis, rather than on an annual basis. Commissioner Schwartz also recommended including in the evaluation metrics the impact of renewables over generation and exposure to negative market prices.

Stack indicated that staff would consider the ability of different portfolios of resources to balance the City’s load and supply on a shorter timescale, and their impact on customer rates in their analysis.

Commissioner Trumbull noted that this was a very complex decision process facing the City.

Commissioner Johnston asked what the downside was to including more baseload renewables in the portfolio. He asked if there was an issue with price.

Stack confirmed that the price for baseload renewables were roughly double the cost of intermittent renewables.

Chair Danaher asked if it was true that geothermal resources are subject to supply variability too.

Stack confirmed that was the case, and also noted that another factor weighing against geothermal resources is that they produce greenhouse gas emissions.

Commissioner Segal recommended adding contract flexibility and operational control of resources into the evaluation metrics.

Chair Danaher asked to see long-term price trends for transmission, storage, and other resources that could impact the decision. He recommended consideration of threats and opportunities from distributed generation, as well as long-term weather-related risks and other risks like earthquakes. He would like to see uncertainty bands in the cost analysis as well. He also noted that the City should be prepared for a future where resources are more distributed and disaggregated, and pointed out that some utilities in Europe are planning for a future when producing electrons is virtually free.

Commissioner Schwartz noted that the UAC should be careful not to press staff for precision without accuracy, and that they should be aware that when they ask for cost projections, these numbers are not going to be particularly accurate.

ACTION: No action.

ITEM 3: DISCUSSION: Local Solar Programs and Community Solar Survey Discussion

Sonika Choudhary, Resource Planner, gave an overview of past and present local solar programs and shared survey results related to customer interest in a potential community solar program. Palo Alto has been supporting local solar programs close to 20 years now. The Local Solar Plan has involved moving away from State mandated programs to more cost-effective and innovative local programs. This include transitioning to the Net Energy Metering (NEM) successor program, successfully promoting the Group Buy (or SunShares) program for past three years, and proving trusted solar information to customers. Community solar and solar donation, two new programs contemplated under Local Solar Plan, are still under formulation. Sonika shared an illustrative graph showing prices of local solar across programs, including an overview of value of local solar (or avoided cost) and CLEAN program PPA price.

Chair Danaher asked to clarify the chart showing CPAU's cost of obtaining electricity, what the comparisons represented, and if the CLEAN program column presumed a price four cents above the avoided cost.

Choudhary said that the CLEAN program column represents CPAU's cost of procuring electricity under the feed-in-tariff, which was above avoided cost. For the NEM program, the price shown represents compensation provided to the customer. The community solar program had not yet been developed, but the price shown represented what CPAU was likely to pay for a local solar PPA. 14 cents/kWh represented staff's estimate of community solar project PPA prices. Staff would aim to bring that price down closer to 10 cents per kWh.

Chair Danaher further asked if the 14 cents per kWh accounted for the additional staff time that would go into setting-up the program.

Choudhary said that would be additional, approximately one cent per kWh. It was not shown in the chart, only the PPA price of local solar.

Chair Danaher commented that UAC has not yet been briefed with a clear chart representing the cost of community solar program compared to other sources of electricity. Such a comparison would give a baseline to establish any additional costs associated with the program.

Choudhary said that majority of the cost for such program would be cost of solar resource itself (or PPA payments). Staff time and administration cost would be additional, approximately one cent per kWh for such a program. Staff time and administration costs to establish the program exist across all customer programs and are to be accounted for 20 – 25 years over the life of the program.

Chair Danaher said that this chart implies the cost of procuring renewable resources from the central valley is about 8 cents and for local solar it is in the range of 14 to 15 cents.

Choudhary confirmed. Jonathan Abendschein, Assistant Director of Utility Resource Management, added that the 14 to 15 cents/kWh price for local solar is on the higher end and staff's earlier proposal on community solar had elements such as pre-payment and other contractual strategies to bring that price down.

Commissioner Schwartz commented that we are not seeking local solar as a cheapest electricity source but supporting it because of other reasons.

Abendschein added that it is also important to consider who pays across these different programs. The idea behind community solar is that participating customers pay for the differential between 8 cents and the final negotiated price. By contrast, NEM is a State law and effectively all ratepayers pay for any additional costs.

Chair Danaher said that moving ahead to the survey results, the survey questionnaire did not ask if participating customers would pay a six cent per kWh premium, and instead it asked if customers would pay 5% premium.

Abendschein responded that community solar program is not intended to have subsidies and if the price differential were six cents per kWh the City was unlikely to go ahead with the program. If the price differential could be brought down to around two cents per kWh we may have a successful program. The challenge with start-up costs is that it is not viable to recover all such costs upfront. For example, for the Palo Alto Green program, start-up and administration costs were recovered over the life of the program. The total risk for the first community solar project was an additional cost of about \$25,000 to \$50,000 per year if the project was not fully subscribed. Whether to take that risk was a policy decision for the UAC and Council.

Choudhary shared the community survey results. This survey was shared using one time e-mail to 13,000 self-subscribed customers (mainly representing single-family residents) and 1,700 randomly selected rental customers.

Commissioner Schwartz asked a question on survey demographics and why there is a considerable spike in responses from the Midtown neighborhood. Was this because more neighbors talked to each other?

Lisa Benatar, Utility marketing program manager, responded that it could be because of less shading in the Midtown neighborhood as compared to other neighborhoods.

Choudhary continued sharing the survey results regarding interest in utility programs. Solar programs and Electric Vehicle programs were two areas that survey respondents were interested in.

Councilmember Filseth commented that the two survey groups: one self-selected and other one randomly selected from multi-dwellings doesn't represent a true random sample. Both were skewed samples.

Choudhary said the second group, the rental population, represents a key interest group for a community solar program. Staff hasn't randomly selected survey participants from entire 26,000 residential customers but selected the survey population set that would be interested in such program.

Commissioner Schwartz added that rental population sample was not skewed, and that this group represented a group that was more likely to be interested in community solar.

Abendschein added that key research question for the survey was to gauge whether there was adequate interest to sustain a community solar program rather than to create a truly randomized assessment of all Palo Altans attitudes toward community solar.

Chair Danaher asked what number of households the City would need to sign-up to make the program viable.

Choudhary said for first 500 kW project would have capacity to meet energy needs of 100 to 200 households. For a full 3 MW program, it would entail up to 1000 households.

Chair Danaher asked a clarification question related to survey respondents willingness to pay. The survey question asked whether participants would be willing to pay 5 to 20% premium on monthly bills. The differential in 10 cents/kWh PPA price and 8 cents/kWh avoided cost a 25% premium. How do these values relate?

Abendschein replied that 8 cents/kWh is just the energy price. A 20% differential on the energy price is more like a 10% differential on the entire retail rate, which includes distribution costs as well.

Council member Filseth commented that it is great to have 75% survey respondents showing a willingness to pay. However, the demand curve falls very steeply with an increase in premium amount.

Commissioner Schwartz added that lots of community solar projects are financed by third-party developers. It should not be a problem for Palo Alto to find a third-party financier and developer.

Chair Danaher commented that the main policy question was whether the City should spend the staff time up front to figure out if the cost of a community solar program could be low enough to have adequate subscription demand from customers.

Abendschein added that utilities does have extensive experience in conducting RFPs and selecting a solar developer.

Commissioner Forssell asked if \$25,000 to \$50,000 in cost per year is for the scenario where the project gets constructed but no one subscribes to it.

Choudhary confirmed and added that this amount corresponds to the difference between the cost of a local project and the cost of a large project outside Palo Alto. These costs would be absorbed in the City's electric portfolio if there are no program participants. For context, the City's electricity procurement costs were on the order of \$80 million per year.

Chair Danaher asked if staff would seek subscribers before the project was built out.

Choudhary confirmed and added that the June proposal was to issue an RFP for a 500 kW solar project, get an estimate of PPA prices, market the program, and finalize the deal only if there is demonstrated subscriber interest.

Commissioner Schwartz added that community solar project could be developed in partnership with an electricity customer with onsite demand, with some solar energy used on-site and the remaining energy sold via subscriptions.

Chair Danaher added that he felt that survey was written in a certain way to reach certain conclusions. He requested to provide cost and benefits in a clear manner before the discussion with the Council.

Commission Schwartz added that some of the use cases for the community solar would be helpful to analyze.

Council Filseth asked if CPAU had any metrics for resiliency.

Abendschein replied that such assessment was done for siting a gas-plant in Palo Alto. He thought he recalled that the minimum plant size that provided local resiliency was about 50 MW, a fairly large plant.

ACTION: No action.

ITEM 4. DISCUSSION: Update on Smart Grid Pilot Projects and Development of the Utility Technology Implementation Roadmap

Shiva Swaminathan, Senior Resource Planner presented the lessons learned from smart grid pilot projects implemented since 2013. These automated metering infrastructure (AMI) pilot projects were designed to provide energy and water usage information to customers and to test a time-of-use (TOU) rate with some customers. The program had a budget of \$450,000 over five years. The lessons learned from these pilots included: the value of water leakage detection to customers, the shifting of electric vehicle charging loads to night-time, some customer concerns regarding the impact of radio frequencies from the AMI meters, the need to use external contractors to install meters, and the value of implementing a conservation voltage reduction program. The insights gained will be incorporated when evaluating and implementing a full scale-AMI system. Shiva also shared a chart outlining a five year draft timeline for implementing technology projects through 2022, including AMI systems.

Commissioner Schwartz commented that customers who express concerns regarding RF exposure should be given the opportunity to opt-out of the AMI program. Commissioner Schwartz also expressed doubt whether a 2 cent discount on electric rates would encourage EV owners to shift their charging pattern.

Jonathan Abendschein, Assistant Director of Utility Resource Management, acknowledged that Palo Alto can apply a number of lessons the industry has learned on TOU rates in the past few years. He also cautioned that all rates must be set based on cost to serve the load rather than the desired behavioral results, or they might be considered a tax under the State constitution.

Commissioner Schwartz referred to publications that document the experience other utilities have had with smart grid implementation.

Dean Batchelor, Utilities Chief Operating Officer, mentioned that staff was in touch with other utilities to learn from their experience and is exploring potential collaboration with other municipal utilities through Northern California Power Agency.

ACTION: No action.

ITEM 5. ACTION: Staff Recommendation that the Utilities Advisory Commission Recommend Council Adopt a Hydroelectric Generation Variability Management Strategy

ACTION: This item was moved to the December 2017 Utilities Advisory Commission meeting.

ITEM 6. ACTION: Selection of Potential Topics(s) for Discussion at Future UAC Meeting

Chair Danaher asked for comments from Commissioners by the end of the month on topics for the joint UAC and Council study session.

Commissioner Schwartz recommended agendaizing a discussion of the outcomes from the Joint Study Session at the November meeting.

Chair Danaher agreed.

Commissioner Johnston noted that the UAC would discuss the Strategic Plan at its December meeting, and would presumably get a presentation from the consultants of what they heard at the upcoming October 4 Community Workshop.

Batchelor said staff would give a brief overview of the outcomes of the workshop in November. He would have the consultants provide information for the UAC in advance of the October 4 workshop.

ACTION: No action

Meeting adjourned at 9:48 p.m.

Respectfully Submitted,
Marites Ward
City of Palo Alto Utilities