



**DRAFT**

## **UTILITIES ADVISORY COMMISSION MEETING MINUTES OF MARCH 1, 2017 MEETING**

### **CALL TO ORDER**

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

Present: Vice Chair Danaher, Commissioners Trumbull, Forssell, Danaher, Schwartz, Ballantine, and Johnston, Councilmember Filseth

Absent: Chair Cook

### **ORAL COMMUNICATIONS**

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None.

### **APPROVAL OF THE MINUTES**

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Herb Borock, Palo Alto resident, asked that his remarks be amended so that it recorded that his reference to the "Wastewater Utility" reflect that he called it the "Wastewater Collection Utility"

Commissioner Trumbull moved to approve the minutes from the February 1, 2017 UAC meeting with the amendment requested by Mr. Borock. Commissioner Johnston seconded the motion. The motion carried unanimously (6-0, with Vice Chair Danaher and Commissioners Trumbull, Forssell, Danaher, Schwartz, Ballantine, and Johnston voting yes and Chair Cook absent).

### **AGENDA REVIEW AND REVISIONS**

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None.

### **REPORTS FROM COMMISSION MEETINGS/EVENTS**

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Vice Chair Danaher attended a conference with clean tech investors. He said the Great Barrier Reef lost 22% of its coral last year due to global warming, which underscored the urgency of the problem. There was a lot of activity in the private sector to implement storage. Storage was becoming more attractive to investors. There were companies coming into existence focused on helping utilities work with customers to deploy storage and achieve benefits associated with grid management.

## **UTILITIES GENERAL MANAGER REPORT**

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Utilities General Manager Ed Shikada delivered the General Manager's Report:

### New Electric Vehicle Charging Station Rebates, Solar PV & EV Calculator

In early March, the City will begin offering rebates for Electric Vehicle Charging Stations installed at schools, apartment complexes, and non-profit buildings with common area charging accommodations. This is following Council's approval of the Low Carbon Fuel Standard program (#7301) on October 24, 2016. The Bay Area Air Quality Management District also just announced an incentive program for EV Chargers for public and private entities, which we will promote to those ineligible to participate in our rebate program. Additionally, we are putting the final touches on a new online PV and EV calculator. This calculator will help customers understand the costs associated with use of solar PV and electric vehicles in Palo Alto, using City of Palo Alto Utility rates and taking into account customers' roof exposures for solar generation.

### Building Operator Certification Courses for Key Account Facilities Managers

The City is sponsoring a Building Operators Certification course for Key Account business utility customers. These are a series of classes designed to teach facilities management staff techniques to keep their buildings operating as efficiently as possible. The first courses are being held this week. The class is funded partially by the student's admission fee and partially from Utilities Public Benefits funds.

Vice Chair Danaher asked what types of charges allowed to take advantage of the rebates.

Program Manager Hiromi Kelty said the majority of the chargers would be Level 2. The program was focused on charging stations that could be used all day. Level 1 chargers were too slow for the program. Level 3 chargers were very expensive, so it was unlikely many of these would be installed.

Commissioner Schwartz asked whether they would all require a Chargepoint account.

Kelty said no single product would be required for the rebate. There were many products available.

Commissioner Schwartz recommended a map making it clear where chargers with different brands could be found.

Kelty said there was a map available online and that information would be available.

Vice Chair Danaher said he had heard that serving populations in that manner was important and that Level 2 chargers were a minimum requirement, with Level 3 eventually becoming more and more important.

## **COMMISSIONER COMMENTS**

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None.

## **UNFINISHED BUSINESS**

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None.

## **NEW BUSINESS**

### **ITEM 1: DISCUSSION: Discussion of Staff Plans to: (1) Suspend Additional Work on Evaluating the Feasibility of Implementing Local Building Code Amendments to Mandate Heat Pump Water Heaters and Space Heaters; (2) Continue to Implement Pilot Scale Customer Programs for Heat Pump Water Heaters and Initiate a Pilot Program for Space Heaters**

Senior Resource Planner Shiva Swaminathan gave an overview of the City's carbon reduction efforts in the previous decade. Electricity carbon content had been nearly eliminated. Natural gas and transportation were the remaining major sources of greenhouse gases. Today's focus was on natural gas, which primarily was related to building heating and hot water heating. He showed the ten point electrification work plan adopted by Council in August 2015, noting that tonight's presentation would focus on items one and four of the work plan relating to evaluating both mandates and pilot programs related to heat pump water and space heating.

Development Services Director Peter Pirnejad stated that over the previous year staff had been working to evaluate whether it would be cost-effective and feasible to mandate electrification of homes and businesses. He described the stakeholder engagement effort associated with the work, including a working group his team had brought together to provide feedback, including builders, architects, green building professionals, energy modelers, developers, contractors, and city staff. He discussed the various aspects of heat pump water and space heaters that needed to be analyzed to evaluate the mandate, including cost barriers associated with California Energy Commission (CEC), operational and performance barriers, the knowledge and willingness of contractors to install them, customer acceptance, and rate- and fee-related barriers. The first step was to work with the California Energy Commission (CEC) to eliminate regulatory barriers that prohibited heat pumps, and to remove the modeling requirement that installers previously had to undergo prior to installing a heat pump.

Commissioner Trumbull asked what these modeling efforts were and how they affected electrification.

Pirnejad stated that previously the builder would have to run a full analysis of the building prior to installing a heat pump water heater to demonstrate compliance with Title 24. This is no longer required.

Pirnejad continued the presentation, describing the Green Building Code the City recently adopted, for which it had received several awards, and stated that the Green Building Code required new buildings in Palo Alto to be more efficient than was required by the base California Energy Code. Staff had created separate requirements for all electric buildings, since it would be cost prohibitive for these buildings to comply with the Green Building Requirements.

Commissioner Ballantine asked whether all-electric buildings consumed more electricity.

Pirnejad said they did.

Commissioner Ballantine asked whether the all-electric home would be more efficient than an equivalent building using both gas energy and electric energy. He was concerned about any waiver that would enable an all-electric home to be less efficient than other homes.

Pirnejad said there were two alternatives for compliance under the Green Building Ordinance, either installing an all-electric building or making the mixed gas and electric building more efficient than the base requirements in the California Energy Code.

Senior Resource Planner Shiva Swaminathan said in calculating the efficiency both electric and gas energy were considered on the same basis, British Thermal Units (BTU) per square foot. He said that the CEC's modeling methodology for electric appliances was not yet mature, resulting in calculated BTU values that were higher than actual BTU values. Actual all-electric homes met the efficiency goals the City was aiming for in the Green Building Code, and therefore a carve-out for these homes had been established.

Commissioner Ballantine said the explanation was helpful.

Pirnejad continued the presentation, stating that in most cases heat pump water heating, space heating, or all-electric building packages were not cost-effective for the purpose of code mandates. In addition, there were a number of industry barriers. Contractors were unlikely to have the skills and willingness to install these appliances, customers were less willing to accept them, there were performance issues with how quickly the water or space was heated with these technologies, and there were higher space requirements for installation. As a result, staff did not believe it was prudent to proceed with a mandate. Instead, staff believed it was better to reduce barriers and create programs to get the market ready to accommodate these appliances. Staff would monitor the conditions and consider re-evaluating a mandate within the next five years. Staff would meanwhile focus on finding ways to achieve deep energy efficiency retrofits in existing buildings.

Commissioner Ballantine asked whether failure analysis like FMEA had been performed to determine the consequences of failure of electrified buildings. He said he had been through two situations in all-electric homes. In one case he had been in an all-electric home during a utility outage during cold weather, and had needed to burn wood for heat. The other situation had been similar and if he had not had a backup heat source, pipes would have frozen. He was concerned about the reduced resiliency of moving to all-electric homes. This topic should be considered prior to imposing any mandates.

Pirnejad said those types of factors had been considered in addition to the cost-effectiveness analysis, though resiliency had not been considered in as much detail as an FMEA analysis. Even cost-effective measures may not be reasonable to mandate due to issues like market readiness and logistical challenges in installation of heat pumps.

Commissioner Ballantine recommended doing some kind of hazard analysis if a mandate were considered in the future.

Melanie Jacobson, Consultant, Integrated Design 360, spoke about the scope of the electrification study. It had considered single-family, low-rise multi-family, and office buildings. She said there was a protocol required by the CEC to evaluate whether it would be acceptable to mandate a given technology that differed from the State's Energy Code. It used a calculation methodology called Time-Dependent Valuation (TDV). She discussed industry barriers, including the cost of electrical panel upgrades, the lack of knowledge base in the industry, issues with making space for these appliances in houses, the fact that contractors handling these small projects were not

normally licensed for both electrical and plumbing work, and other factors. She discussed the results of the study, noting that heat pump water heaters were generally not cost effective. Heat pump space heaters were cost effective in some cases, and heat pump packages that involved no gas connection were generally only cost effective in new construction, particularly in single family homes. However, even when packages were cost effective, industry barriers were such that mandating these packages was still not recommended.

Commissioner Forssell asked how cost-effectiveness was calculated in this context

Farhad said the TDV methodology calculated the cost of energy use at different times of day and times of year. The calculations were done both using the TDV methodology and from the customer perspective.

Swaminathan said the cost of one BTU of electricity was higher than the cost of one BTU of gas. This was taken into account in the TDV methodology.

Commissioner Forssell asked whether it would be accurate to say that the TDV methodology calculated the cost effectiveness from the State of California point of view.

Swaminathan confirmed that was true.

Commissioner Trumbull asked whether there was a climate change impact included in the calculation.

Swaminathan stated there was a carbon cost included in the methodology.

Commissioner Ballantine asked if the model could deal with the variation in COP by temperature.

Farhad confirmed it did.

Commissioner Schwartz said her neighbor had a heat pump sitting opposite from her front porch, and it was very loud. She asked whether this was factored into the study.

Jacobson said noise was an industry barrier considered in the analysis.

Vice Chair Danaher asked whether the cost analysis had considered the difference between Palo Alto electricity rates and rates in the rest of the state.

Farhad said the cost effectiveness analysis had also been done using Palo Alto rates and remained the same, except that the scenario that assumed heat pump space and water heating in a single family home with the gas connection remaining became cost ineffective.

Swaminathan spoke regarding the Heat Pump Water Heating Pilot Program that had been operating for the last nine months. It had been created in partnership with members of the community.

Commissioner Schwartz made clear that the people impacted by heat pump noise were the neighbors, not the homeowner.

Swaminathan said an important goal of the program was efficiency, and heat pump water heaters installed had to be more efficient than an equivalent gas heater. He discussed the industry barriers to be reduced in the pilot program, including ensuring it was possible to obtain these appliances, that contractors were able to install them, and reducing code barriers. He discussed the work the City did with the CEC to define a minimum efficiency for heat pumps that would eliminate the requirement for installers to create a model before installing them. Previously, if a gas connection was available, anyone who wanted to install a heat pump had to complete an expensive modeling exercise. The City had worked with the CEC to establish an efficiency level for heat pumps that, if exceeded, would mean the modeling exercise was not required. The CEC had rolled out this rule statewide. He discussed education and discussions within the community. He described how the program worked and what resources were available to customers. He also discussed how the Utilities Department was doing some work to achieve some of the same benefits for heat pump space heating, working with the CEC to reduce barriers and launching a pilot program. He stated that these efforts were a small part of staff's level of effort related to building and vehicle efficiency electrification. Most time was spent on building efficiency and vehicle electrification. He reiterated that staff's overall approach at this time was to defer any mandates for electrification and instead focus on building efficiency, while spending some time on reducing market barriers to electrification and establishing pilot programs.

Vice Chair Danaher said there was also a Colleague's Memo included in this agenda item focused on just how green the City's electricity was. He believed the UAC would agree with the staff's approach to efficiency and electrification. He asked for public comments.

Bill Conlan, Palo Alto resident, said he was Commissioner Schwartz's husband and had done the calculations in the Colleague's Memo. He said he had redone the calculations, and it was now clear there was a greenhouse gas (GHG) savings associated with heat pump water heaters, as opposed to what had been stated in the memo. He showed a series of slides demonstrating that the City's load was not always aligned with its energy generation. When the City had a higher load than its generation, it bought power in the market, and when it had higher generation, it sold power. He gave an example with a specific day, showing how one could build a solar project that generated an number of megawatt-hours (MWh) equal to the City's load on that day, but that they would not occur at the same time. This created merchant risk. It was premature to pursue electrification until this problem had been solved.

Gary Lindgren, 505 Lincoln Ave, agreed that there should not be mandates for electrification at this time. He said heat pumps were not meant to be used when gas was available. Where gas was not available they saved money, but generally gas was preferable when available. He said that electricity was five to six times more expensive on an energy basis. Heating bills of pilot program participants could double, and it was very important to make that clear to participants.

David Coale, Palo Alto resident, said he was a member of Carbon Free Palo Alto, but speaking on his own behalf. He thanked staff for the hard work reducing barriers. He urged the UAC to consider some kind of mandate. He said the State's TDV methodology was outdated. The carbon cost used in the methodology was based on the cap and trade market carbon cost, but the real cost of carbon associated with climate change was much higher. He said mandates saved money and pushed the market to learn how to install them. He said the noise for a heat pump water heater was in the house, not outside the house. The noise for a heat pump space heater was the

same for an air conditioner, and it was not considered a barrier for air conditioner installation. He said the industry would not adopt these appliances without a push.

Vice Chair Danaher asked what the carbon cost used in the TDV calculation was.

Swaminathan said the current cost was in the \$12-\$13 range, but the methodology used a higher cost than that.

Commissioner Schwartz said she and Vice Chair Danaher wrote this Colleague's Memo in reaction to some public sentiment she had heard that it was akin to a moral failing to want to use gas heat instead of heat pumps. She said that if the electricity purchased in the early morning was going to be dirtier than what was available during the day, it was not a net benefit. She said if the City had chosen to use Renewable Energy Credits (RECs) to make an effort to reduce carbon, it was helpful, but it did not mean there was a real benefit to using more energy in the mornings when renewable energy was not actually being generated. It should not be considered unless the City bought renewable energy like geothermal that generated at the same time as the energy being used. She said that practically, it was hard to consider something like solar hot water heating or heat pumps when a water heater failed. She thought it was great when people installed these measures voluntarily, but it was not a good idea to mandate them.

Commissioner Ballantine said it took a lot of work to manage an electric distribution system. He was concerned that there was not enough consideration on how electrification would affect the system. It would take a long lead time to prepare the system to accommodate these new technologies. He wanted to make sure electrification and CO2 reduction did not come at the cost of resiliency. He thought the pilot program was a good way to evaluate electrification. Storage could be paired with heat pumps to provide resiliency.

Commissioner Schwartz said she was very supportive of transportation electrification. In Palo Alto there was strong momentum in adopting electric vehicles. Moving quickly in this area was a way to have a significant impact. She addressed the issue of fugitive emissions. She thought driverless cars would be a good way to detect methane leaks.

Assistant Director of Resource Management Jonathan Abendschein emphasized that the City's gas utility had an aggressive leak detection and repair program. The entire system was surveyed every two years, more frequently than the five year survey cycle required by the CEC.

Commissioner Schwartz asked whether leaks were an area of concern for the community.

Chief Operating Officer Dean Batchelor said there was not a problem in this area. Staff detected and repaired leaks regularly.

Vice Chair Danaher asked how much of Palo Alto's power supply came from hydroelectric power.

Swaminathan said Palo Alto was probably buying power half the time and selling power half the time. He said Palo Alto was exposed to the power markets. In the short term, every new unit of electricity used came from the power markets, but in the long term, the electric utility would procure renewable energy to match that new unit of electricity.

Vice Chair Danaher clarified he wanted to know how much of the City's energy came from the market, presumably fossil fuels, and how much came from carbon free energy.

Abendschein said the carbon free energy was normally dispatched when it provided the most value, normally the middle of the day. During a summer day there was enough carbon free power to cover most of Palo Alto's load around the clock, with a small shortfall at night. During a winter day only a portion of the load was matched with renewable energy at any given hour.

Councilmember Filseth asked whether it was possible to use hydroelectric power to match carbon free energy to load, rather than geothermal.

Abendschein said most of the hydroelectric power was generated during the summer. It was easier to redispatch on a daily basis than it was on a seasonal basis.

Councilmember Filseth asked whether it was better for electric vehicles to charge during the day than to charge at night.

Commissioner Schwartz said if the goal was carbon reduction, it might be better to charge electric vehicles when the renewable energy was being generated. But from a practical standpoint, people would charge their vehicles when electricity was available. It was possible to set price signals for charging at specific times, but only if smart meters are available.

Commissioner Ballantine said electric vehicles were very efficient. Even if those vehicles were charged when there was no renewable energy, and were powered by a gas plant, it would still be better than using gasoline.

Vice Chair Danaher said Southern California Edison was in the process of changing its time of use rate structure. He asked whether Palo Alto had a time of use rate structure.

Swaminathan said there was a pilot program to try advanced metering and there was a pilot time of use rate associated with that program. He said carbon and price were considerations, but distribution impacts were also a consideration. It was not a good idea to have people come home and turn on all of their appliances and also begin charging their vehicles. Nighttime charging had lower distribution system impacts.

Commissioner Schwartz said education helped people make voluntary choices to charge at the proper time, even if they were not presented with price signals.

Abendschein said nighttime prices were still lower for energy. It was an open question about whether to push people to charge at low carbon times or at low price times.

Commissioner Schwartz said that a negative outcome would be to have people charging at the time they use other appliances and creating new peak demands on the system.

Vice Chair Danaher asked to clarify whether the overall policy goal was electrification, or simply carbon reduction.

Utilities General Manager Ed Shikada said the staff analysis had explored whether a mandate was an effective approach to electrification at this time, and had concluded it was not.

Vice Chair Danaher asked whether it would make sense to have customers charge electric vehicles during the day during the winter if the goal was carbon reduction.

Commissioner Schwartz said it was more complicated than that.

Vice Chair Danaher said it would be worth exploring whether there was a preferable charging time for electric vehicles that would reduce carbon emissions.

Abendschein said some of these topics had been discussed at the time the Carbon Neutral Portfolio goal had been adopted. It might be useful to review some of that discussion.

Commissioner Schwartz said it might be helpful to pilot an application showing the real-time carbon content of Palo Alto's energy.

Vice Chair Danaher said it would be helpful to discuss the Carbon Neutral Portfolio at a future time.

Shikada noted staff would be returning the following month to discuss the Sustainability and Climate Action Plan Implementation Plans, which included electrification.

Commissioner Forssell said the City had achieved carbon neutral energy, which was a real benefit, but the next step might be to achieve carbon neutral power, where renewable energy and load were in sync all of the time. She noted the Council had recently made the choice to make the gas portfolio carbon neutral. She said based on carbon accounting methods, both gas and electric energy were carbon neutral, which played into the debate on electrification. She noted there was not much geothermal energy available anymore. She said electrification was necessary in the long term, since at some point the renewable energy and loads would be balanced. She thought it was worthwhile to continue exploring electrification, but it was not something worth mandating at this point in time. She also noted that it was worth educating customers that the evening was not the right time to charge electric vehicles. The WattTime API could be a helpful tool for creating those educational tools.

Commissioner Johnston said the proposal was to not look at mandating electrification for five years. He asked if that was because that was the next time code amendments would be considered.

Pirnejad said the codes were considered every three years, but five years was an appropriate amount of time to allow the market to mature.

Commissioner Johnston said he agreed it was premature to mandate this right now, but if the pilot programs were successful, he asked whether it would be appropriate to reconsider the mandates earlier than that.

Pirnejad said staff's planned efforts over the next several years on deep energy efficiency improvements in existing buildings, which would mean less energy would be required to heat and cool them, would make electrification more feasible.

Commissioner Johnston agreed it would be worthwhile to provide more information about the right time to charge electric vehicles.

Commissioner Trumbull asked whether it was possible to pursue both building and vehicle electrification at the same time. The discussion tonight seemed to imply there was some tradeoff.

Swaminathan said both could be pursued at the same time. There was more payoff from efforts spent on vehicle electrification, since the technology was more mature.

Commissioner Trumbull agreed. He said, though, that it did not make sense to focus on existing buildings for electrification. He said he had experienced a similar issue to what Commissioner Ballantine had experienced with his own heating system. He had gone for several months in the winter without a heating system since he had a hydronic heating system that broke and could not find a contractor who knew how to repair it. He agreed the industry needed some experience with these systems. He thought that five years was too long a time to wait to re-examine the mandate. He wanted to see it re-examined for the next code cycle. He said fugitive emissions were a big issue, given what he knew about fracking. He wanted to mandate some type of electrification right now. He thought the best choice would be new small office construction, which was listed as cost-effective in the staff analysis. He said energy usage in these buildings would be more coincident with afternoon renewable energy generation.

Commissioner Schwartz spoke to something Commissioner Forssell said earlier, that there was not much geothermal energy available anymore. She said that there was a lot of geothermal energy yet to be developed in Southern California in Imperial County.

Pirnejad said that small offices were often voluntarily installing heat pumps already, though only a handful of buildings had been all-electric. To accomplish a mandate in the next code cycle, the analysis would have to begin in 2018, since the lead time was about 18 months. The analysis was very involved. This was not enough time for market changes to occur. Staff was open to a mid-cycle code change if needed, though this was disruptive for contractors, who preferred stability.

Commissioner Schwartz said that a mandate on small businesses would be burdensome.

Councilmember Filseth said he agreed with Commissioner Trumbull's assessment of the issue of mandates was a good one. He did not know when the right time for a mandate was, but he thought that the right way to approach mandates when the time was right was to pick a specific market segment, as Commissioner Trumbull had suggested, and make the mandate work in that segment before expanding it.

Vice Chair Danaher said this had been a good discussion. He hoped to hear more about the carbon content of the electric portfolio in the future, but that he thought tonight's issues had been well considered.

**ACTION:** No Action.

**ITEM 2: ACTION: Utilities Advisory Commission Recommendation That Council Approve an Update to the City of Palo Alto's Ten-Year Gas Energy Efficiency Goals (2018 to 2027)**

Senior Resource Planner Christine Tam provided a summary of the written report. She described the benefits of cost effective gas energy efficiency (gas EE), which include reducing the City's greenhouse gas emissions and lowering the City's gas supply cost. Since 2008, the City's annual gas EE achievements have surpassed the gas EE goals in most years, particularly for years when the City introduced new programs. For example, savings were high when the Home Energy Report was introduced in 2011 and when two new commercial EE programs introduced in 2013.

Tam gave an overview of the gas EE modeling framework, and emphasized that the energy savings mandated through the state's building and appliance energy standards are excluded in the gas EE potential. Tam presented the proposed gas EE goals, which were double the previous gas EE goals adopted by City Council in 2012. However, in the context of therm savings and the achieved gas EE savings in the past few years, the proposed 2018-2027 goals were aggressive but not unattainable.

Commissioner Schwartz asked why the City needed to be so aggressive with the proposed goals, given that there were no advanced gas meters to give feedback to residents. In the absence of better technology, the City might want to pursue simpler approaches to help customers improve their envelope rather than setting a standard beyond the state's requirements.

Tam explained that the proposed goals were developed from the gas EE potential model, which considered gas EE savings that were feasible, cost effective, and took into account the likely uptake from customers.

Assistant Director of Resource Management Jonathan Abendschein also pointed out the proposed goals were in line with historic gas EE savings achieved by the City. He stated that the proposed goals were aggressive but achievable.

Commissioner Ballantine clarified that with the electric EE goals, as compared to gas EE, there was a state requirement to pursue aggressive goals.

General Manager Shikada stated there was some desire to accommodate California Energy Commission (CEC) goals for gas EE and to be consistent with the mission of the Utilities Department.

Vice Chair Danaher expressed that he had no doubt that there is much efficiency to be gained given the existing use patterns.

Commissioner Forssell asked for a description of Residential Behavioral measures.

Tam responded that the City launched the Home Energy Report program in 2011, continuously ran the program for 4 years, and ended the program in 2015. While residents no longer receive the Home Energy Reports, some of the behavioral savings such as turning off lights and changing the thermostat setting persist. Staff was developing a new program, the Energy Lottery, which would encourage residents to reduce their energy usage through a competition, with an attractive prize for the winner. The Energy Lottery covers both electric and gas savings within households.

Commissioner Forssell asked for an explanation of RCx, which was mentioned in the slide showing the composition of gas EE savings.

Tam explained that RCx stands for Retro-commissioning, which are programs where third-party energy service providers help facility managers optimize the building's energy management system, such as to avoid simultaneous heating and cooling.

Commissioner Forssell also asked about what the percentage of gas EE savings relative to load in the slide "Gas EE goals & Achievement" represented. She clarified that for 2016, the 1% savings shown does not mean the City's gas usage went down by 1%, but instead represents predictable gas savings associated with the installed measures.

Tam confirmed that the 1% represents gas savings attributed to the gas EE programs based on the type of EE project rather than measured decreases in citywide gas usage, and that the City uses an EM&V consultant to evaluate and determine that the reported gas savings are real.

Commissioner Johnston asked how much of the goals will be met by existing gas EE programs versus new programs.

Tam pointed out that some of the EE programs in 2015 have been discontinued. An example is the New Construction program, which no longer makes sense given the strict energy requirements of the Green Building Code. In order to meet the aggressive EE goals, the City will need new programs as well as counting savings from the Green Building Code.

**ACTION:** Commissioner Ballantine made a motion to recommend Council approval of the proposed ten-year gas efficiency goals for 2018 to 2027. Commissioner Forssell seconded the motion. The motion passed unanimously (6-0, with Vice Chair Danaher and Commissioners Ballantine, Forssell, Johnston, Schwartz, and Trumbull voting yes and Chair Cook absent).

**ITEM 3: ACTION:** Staff Recommendation that the Utilities Advisory Commission Recommend that the City Council Adopt: (1) a Resolution Approving the Fiscal Year 2018 Water Utility Financial Plan; and (2) a Resolution Increasing Water Rates by Amending Rate Schedules W-1 (General Residential Water Service), W-2 (Water Service from Fire Hydrants), W-4 (Residential Master-Metered and General Non-Residential Water Service, and W-7 (Non-Residential Irrigation Water Service) and Removing the Drought Surcharge

Acting Senior Resource Planner Eric Keniston gave a presentation on the financial forecasts for the water utility. Forecasted rate increases for July 1, 2017 had decreased from 6% to 4% from the last year's forecast. Future year rate increases were projected to be roughly 6% per year. Cost increases by rising wholesale costs due to major capital expenditures for seismic improvements and rehabilitation to the Hetch Hetchy water system. Expenditures were projected to be lower than normal in FY 2017 and FY 2018 due to delays in water main replacement investments. This would result in an increase in reserves, which would allow rate increases to be phased in over multiple years. Lastly, water demand had decreased during the drought, but with recent precipitation and an end to mandatory reduction requirements, demand was beginning to slowly rise again. It was not clear whether it would return to pre-drought levels. As a result, staff would recommend removing the drought surcharge.

Commissioner Schwartz said it was important to remove the drought surcharge given the recent precipitation.

Keniston said that even with the 4% rate increase, the removal of the drought surcharge meant that customers would see an overall decrease in their bills.

**ACTION:** Commissioner Schwartz moved, seconded by Commissioner Trumbull to recommend that the City Council adopt the staff recommendation. The motion carried unanimously (6-0, with Vice Chair Danaher and Commissioners Trumbull, Forssell, Danaher, Schwartz, Ballantine, and Johnston voting yes and Chair Cook absent).

**ITEM 4. ACTION:** Staff Recommendation that the Utilities Advisory Commission Recommend that the City Council Adopt: (1) a Resolution Approving the Fiscal Year 2018 Wastewater Collection Financial Plan

Acting Senior Resource Planner Eric Keniston presented on the Wastewater Collection Financial Plan. He said no rate increase was proposed for the Wastewater Collection Utility. Wastewater collection capital investment was projected to increase in the future, and wastewater treatment capital investment and operating costs were projected to increase in the future.

Commissioner Trumbull noted citizens were voting for a parcel tax to extend the storm drain. He asked whether that was reflected in the summary of all rate increases shown in the staff presentation, and what the impact to residential rates would be if the parcel tax were not approved.

Keniston said that the numbers were provided for context, but staff did not have information on hand to address the storm drain rate changes.

Assistant Director of Resource Management Jonathan Abendschein said the ballot for the parcel tax would be the best source of information.

Commissioner Schwartz asked about basement dewatering. The water went to the storm drain. She asked whether the storm drain parcel tax was linked to the issue of basement dewatering.

Utilities General Manager Ed Shikada said the two issues were not linked.

Commissioner Danaher said the issue had been discussed at a prior meeting.

**ACTION:** Commissioner Schwartz moved, seconded by Commissioner Ballantine to recommend that the City Council adopt the staff recommendation. The motion carried unanimously (6-0, with Vice Chair Danaher and Commissioners Trumbull, Forssell, Danaher, Schwartz, Ballantine, and Johnston voting yes and Chair Cook absent).

**ITEM 5. DISCUSSION:** Utilities Strategic Plan Performance Update (Fiscal Year 2016)

Chief Operating Officer Dean Batchelor discussed the current status of progress towards meeting the performance measures for the current strategic plan. There were twenty-nine performance measures in the current plan. He focused on the five performance measures were not being met. An infrastructure backlog still existed. In the electric utility, there were backlogs in underground rebuilds and conversions, as well as substation improvements. In the water utility, backlogs had

accumulated in part due to delays in renovating the reservoirs. This was due to the fact that they were in worse condition than had been anticipated at the start of the project, and staff was doing a study to evaluate changing the project and possibly rebuilding the reservoirs instead of fixing them. Wastewater projects had been delayed, but they were in progress and would be completed in 2017. He said service restoration for the electric system did not meet the performance benchmark in FY 2016. There had been two large outages and more small outages in 2016 as compared to 2015. Some were related to underground facility failures, and others due to equipment failures. This was a result of difficulty in retaining experienced electrical linemen and deterioration of underground facilities. It was challenging because salaries were lower than at other utilities and the cost of living in the Bay Area was high, meaning many employees commuted long distances. The long commutes also affected response times. He noted that in FY 2016 electric utility operational reserves were below minimum guidelines due to decreases in customer sales and lower hydroelectric generator output that had led to higher energy costs overall. He noted that customer satisfaction was not meeting the City's goal of 85% satisfaction, but satisfaction had increased significantly to 82% from 74% in 2012, and was well above the average for municipal utilities of 71%. Another benchmark in the strategic plan was how many strategic initiatives in the Strategic Plan had been completed. Only 17 of 26 strategic initiatives had been completed, and the goal was 100%. Initiatives not yet completed included developing a smart grid and technology strategic plan, which was planned for 2018, improving the website, completing a business case and plan for a water recycling facility, which was commencing in 2017, and developing a plan for a new electric transmission interconnection, which was an ongoing effort. This effort was stalled, and staff was looking for other ways to proceed.

Commissioner Schwartz asked if staff was looking at self-service channels for customers to reduce operational costs as part of the customer website upgrade.

Batchelor acknowledged staff was doing that given the technology savviness of the community. Staff had installed an Interactive Voice Response (IVR) system, for example.

Commissioner Schwartz asked if staff used the West Alert system.

Batchelor said staff was not aware of it.

Commissioner Schwartz said she would send forward information on an event for utilities at the end of March. The topic was using these kinds of technologies in ways that measurably improve customer satisfaction at the operational level.

Commissioner Forssell asked staff to describe the IVR.

Batchelor said it was an interactive voice response system that allowed people to handle routine business using an automated phone response system, which reduces the number of calls to the call center.

Commissioner Forssell asked how many reservoirs the City has.

Batchelor stated there were seven reservoirs. The five in the Foothills were the ones that needed work.

Vice Chair Danaher noted it was sometimes good to have a backlog of capital projects to work on during downturns in the economy when construction costs were lower.

**ACTION:** No Action.

**ITEM 6. DISCUSSION:** 2017 Utilities Strategic Plan Update

Shikada gave an update on the 2017 Utilities Strategic Plan. He noted staff had released an RFP to find a strategic plan consultant. He hoped to have the contract approved in May 2017. He appreciated the input he had received on potential consultant candidates. He said the consultant would support both the plan development and the communication, both internal and external. He provided a list of topics and an overview of the schedule. He hoped to have a contract ready for approval in May 2017.

**ACTION:** No Action.

**ITEM 7. ACTION:** Selection of Potential Topic(s) for Discussion at Future UAC Meeting

Utilities General Manager Shikada noted staff had anticipated bringing a discussion of Fiber to the Premise (FTTP) to the March meeting, but staff anticipated taking it to the April meeting instead.

Vice Chair Danaher suggested briefing the UAC over the summer on emerging issues to be considered as part of the Utilities Strategic Plan. He also suggested a discussion related to the carbon content of the City's electricity. He suggested it be discussed at the same time as the Long-term Energy Acquisition Plan (LEAP) for the electric utility.

Commissioner Schwartz said the April meeting seemed very crowded.

Vice Chair Danaher noted the UAC had moved quickly through the Financial Plans that night and could perhaps do the same at the following meeting.

Assistant Director of Resource Management Jonathan Abendschein said a number of the items on the agenda would move quickly.

**ACTION:** No Action.

Meeting adjourned at 9:48 p.m.

Respectfully Submitted,  
Marites Ward  
City of Palo Alto Utilities