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The City Council of the City of Palo Alto met on this date in the Council Chambers at 5:32 P.M.

Present: Berman, Burt, DuBois, Filseth, Holman, Kniss, Scharff, Schmid,

Wolbach arrived at 6:00 P.M.

Absent:

Utilities Advisory Commission:

Present: Cook, Eglash, Foster, Hall arrived at 6:49 P.M., Melton,

Waldfogel

Absent: Chang

Closed Session

MOTION: Council Member Scharff moved, seconded by Council Member Berman to go into Closed Session.

MOTION PASSED: 8-0 Wolbach absent

Council went into Closed Session at 5:32 P.M.

1. CONFERENCE WITH LABOR NEGOTIATORS

City Designated Representatives: City Manager and his designees pursuant to Merit System Rules and Regulations (James Keene, Molly Stump, Kathy Shen, Melissa Tronquet, Dania Torres Wong, Sandra Blanch, David Ramberg, Joe Saccio, Walter Rossmann, Eric Nickel, Dennis Burns)

Employee Organizations: Palo Alto Police Officers Association (PAPOA); International Association of Fire Fighters (IAFF), Local 1319 Authority: Government Code Section 54957.6(a).

The Council reconvened from the Closed Session at 6:37 P.M.

Mayor Holman: We are now reconvening after a Closed Session about labor negotiations. There's no reportable action from that portion of the meeting.

Study Session

2. Joint Study Session of the City Council and the Utilities Advisory Commission.

Mayor Holman: Commissioners, thank you very much for joining us this evening. You have information that you would like to share with us and questions for us as well. I look to the Chair, Jon Foster, to start this discussion. Thank you.

Jonathan Foster, Utilities Advisory Commission, Chair: Mayor Holman, thank you very much for that introduction and for inviting us all to join you this evening as we do periodically every year to 18 months or so. It's a great opportunity to hear from individual members of the City Council on the utility issues of priority to you. Let me start with a few words myself. The City of Palo Alto is unique in California in operating all utilities municipally, our electric, our gas, our water and our wastewater. We're unique in that respect. We are, as many people know, a very green-friendly City, and we are also a very innovative City. Those things come together wonderfully in our municipal utility in providing an opportunity to be innovative in sustainability in running a municipal utility. At the same time, I tend to think of our utility in a pyramid structure. The very base of it is the need to operate our utility safely, reliably and cost effectively. As Director Fong is fond of reminding us, if we fail to do those things, all the nice things with sustainability and everything else doesn't happen. It is obviously very important that we continue that. We then move to the next layer of the pyramid, which is the opportunity in Palo Alto to push the ball forward on sustainability, renewable energy and energy efficiency which we have found over time is cost effective for our residents, our ratepayers and our That's great. The last piece of the pyramid is Palo Alto is uniquely positioned to be a leader among communities around the United States in setting an example for other communities and utilities on what can be done to use less fossil fuels in a cost-effective way for ratepayers. We have a wonderful opportunity here. What has worked very well in these discussions in the past is for individual members of the UAC and City Council to share the thoughts on their mind, what topics are of interest to them, what would you all like to see us work on over the next year. With that, we can go around or however you want to do it, Mayor Holman.

Mayor Holman: First we would go to other Commission Members and see if they have questions that they would like Council Members to answer or points that they would like to make that maybe accentuate the need for the question or something that they're particularly satisfied with that the Commission has undertaken. We have two Commissioners who are going to

be leaving the Commission. Maybe it would be particularly appropriate to have them make comments. Asher, would you care to go? Not to put you on the spot, but I'm putting you on the spot.

Asher Waldfogel, Utilities Advisory Commissioner: Thank you, Mayor Holman. I really don't have anything to add to that introduction. I want to thank the members of this Council for the opportunity to spend the last couple of years devoting my first Wednesday nights of every month to the Utilities Advisory Commission (UAC) for a couple of years.

Mayor Holman: Thank you. Other Commissioners?

John Melton, Utilities Advisory Commissioner: I have a couple of things I would like to recommend to Council as I am leaving the Commission. This is perhaps my last chance to say some things to you that I think are important. The first is following up on the comments about the importance of reliability in the utilities. I really believe that is the thing that our customers look to us for first, reliability. The water has to flow; the electricity has to flow; the wastewater has to flow. Cost effectiveness is good, but reliability is the top thing. In that context, five years after we learned the lesson of having a single point connection, we still have not gotten our second point connection in our electric supply. Doing whatever it takes to get Stanford Linear Accelerator Center (SLAC) and Department of Energy (DOE) and Western all lined up so that we can make a connection out on the west side is perhaps the most important thing that needs to be done. I would ask that the new UAC and this Council push on that as hard as they can. The second thing I would like to say is 11 years ago, when I first joined the UAC, my first vote on the UAC was to make a recommendation to Council on whether or not we should pursue Fiber to the Premises, at that time called fiber to the home. It's only been 11 years, folks. I know there are things on the table. By the way, the first vote I took where I voted yes and said, "Let's do it," that proposal fell apart over a legal issue that came to the surface. Since then there have been several other pushes at that, all of which haven't gone anywhere. We're now in the middle of another push, and we've got City Staff developing a proposal. We've got Google considering us as a possibility. We've got other carriers that all of a sudden recognized that Google is going to be a competitor, and they're starting to compete. Comcast, Verizon and such. I would urge Council to make this the last run. Either do it now—if that's what the analysis turns out to be the right thing to do; that hasn't been determined yet—or accept the fact that we've missed the boat and it's too late to do a municipal fiber project. The commercial world of Google and Comcast and Verizon and all of those guys are going to do it, and they are going to take care of it. There will be Fiber to the Premises, but it won't be a municipal

project. It will be in the commercial world. If that's the decision now, then let's take that off the table and not spend any more time working on another round.

Mayor Holman: Thank you very much, and thank you for your service. I thought I saw another light down there. Yes, go right ahead.

James Cook, Utilities Advisory Commissioner: Thank you so much for having us and meeting with us tonight. I love the work that we do on the UAC, and it's great to be able to get some guidance from you all on things that we ought to focus on. I've particularly enjoyed serving with Commissioner Melton and Commissioner Waldfogel, both of whom I've learned to listen closely to. I echo what they say. In addition to the second connection to the grid and determining what we do on Fiber to the Premises and what the UAC should be doing there, I'd also like your thoughts on fuel switching. The last five years or so that I've been on the UAC, the City has done an incredible job of moving to a more sustainable and green Electric Utility, leading the country in that way and leading the world in many ways. A lot of us are looking to what do we do next, so we've turned our Palo Alto Green into Palo Alto Green Gas. I'm wondering if there's a next step there and want to see if you have advice on that. Finally, something that we've done in the past that goes with utilities and has been great for the aesthetic of the City is undergrounding. As far as I know, we're in some sort of nether world; I'm not sure what we're doing about undergrounding. we've reaped the benefits of undergrounding in certain neighborhoods. People like it. I'd like to see us finish the job and do the rest of the City. I'd like to see what your thoughts are on that. Thank you again for meeting with us.

Garth Hall, Utilities Advisory Commissioner: Good evening, City Council Members and fellow Commissioners. Thanks very much for having us at this meeting. I'm Garth Hall. I've been a Commissioner, I'm coming onto my third year. I really appreciate this meeting. One of the fun things for me just over the last year or so is to realize what progress the City has made on the electric side in terms of its green footprint. We're probably amongst the leaders in the United States, never mind California. It's been a joy to see Chief Sustainability Officer Gil Friend appointed by the City Council to take on a role of what else can we do. One of the key things for us to look for is where do we go from here. We could become a lot more efficient with our natural gas usage. There's no doubt about it. Fuel switching, Commissioner Cook mentioned, is one avenue, but other things too. Also in the idea of reducing the footprint in greenhouse gas in transportation, that may seem like not a utility function, but I believe it can be and maybe should be. When you think about the opportunity to move towards electric cars, you

see them more and more on the road these days. It's not that we have to subsidize anything to do with purchases of cars; that is done by the market. There may be a consideration around pricing for electricity to encourage further penetration of electric usage, and thereby reduce the greenhouse footprint of the City. That and many other areas in the areas of water recycling and so on, there's just a lot more to be done. The other thing, just an aspect of the Fiber to the Premises, it's been obvious to many that it's not only an efficiency thing and providing what consumers want in the City, but it also is a greenhouse footprint reducing strategy. The more folks who are able to communicate effectively from their homes or businesses without travel, the better off we all are in terms of burning up fuel in order to get around. It's yet another strategy for us to adopt. Thanks very much.

Mayor Holman: Thank you. Looks like we'll be coming to Council Members now for questions and consideration of the points that have been mentioned this evening and the ones that are lined out in the Staff Report that was worked on with the Chair and Vice Chair and the Commission in terms of what topics they would like to have addressed. Council Members.

Council Member Kniss: If I could pick up on what John Melton just said. He talked about it going back 11 years; it goes back 20 years, John. That's when we first had a website. Your point is so well taken; if we're going to do it, do it. If not, let's absolutely let whatever company may come in. Some company will come in. There'll be absolutely no question. As you've said, Google is going in a whole variety of different directions. They certainly have made impacts in a variety of places. One of the cities that we've talked about but haven't really discussed recently is Chattanooga which has made theirs very effective in a variety of different ways in addition to having some emergency response pieces to it as well. That is absolutely what we need to take up with a real sense of purpose. I'm glad you mentioned it in particular tonight, because we need to be reminded all the time that that's out there and in play. Thanks, and thanks for everything you've all done who are going off as well.

Vice Mayor Schmid: I'd like to just follow up on a comment that Chair Foster made about governance. Utilities is a funny part of the City for us. It makes up half the Budget, but our daily life with the utilities is very limited. The issues that come in utilities are usually major capital investments over time that necessitate a broad perspective on the issues, the five years we've come to the five-year forecast in the future. It's very hard when utility issues come to the Council in spotty ways to be able to draw on the expertise that the UAC does. I have urged many times that you produce verbatim minutes. I have noted that to watch a UAC meeting takes three hours and, if you have the verbatim minutes, maybe in 20 minutes you can

get to a lot of good wisdom and foresight that we don't have. Maybe an option is to think through how you can reach us and the wider community in a more effective way. I might suggest to you in lieu of verbatim minutes of every time you send a recommendation to Council insert in it the place on the media tape where the discussion of the UAC takes place; not the presentations or the public comments, but where you as the Commission are discussing back and forth or with Staff issues. That way we can get the essence of your argument. I find that to have a group like yours that has such experience and that is sharing with the community, it's important that you reach out to us and help us with that insight that you have.

Council Member Burt: First, thanks to all of you for the work that you do and the contributions you make and the thorough analysis that we consistently receive from you. I want to touch on topics that several of you raised. First, on what Commissioner Melton had raised about the criticality of the second or western connection from PG&E to provide adequate reliability in the event of a severe event. I'm trying to remember. It's now been two or three years, maybe, since we saw our last report on that. I'd like to see not only an update of where we are, but a set of alternatives on how to resolve it. If we're looking at the cost and it's significant, then we as a City may have to look at what would be the rate impact for that additional reliability. We lay it on the table and decide whether we're willing to do it. We're 20, now 20-plus percent below PG&E on electricity costs. If we have to bite the bullet and take some portion of that to have the reliability, we'd get heat on it in the near term, but we'd get big heat if we lose power again. Second, on the fuel switching, I hope you're going to stick around because tonight's agenda is going to be talking about our Climate Action Plan in which this is a major component as we look long term how does any city or government get to 80 percent reduction, what's more 100 percent, without this. This is how to get there. Nobody's had to face that until now, because nobody really had a plan. We had a bunch of aspirations around 80 percent reduction, but nobody really has had a plan. We now can begin to formulate More specifically, I'm interested in us looking now at whether we should acquire additional renewable power purchase agreements beyond what we've booked for the electric power demand we currently have, but to begin to look at opportunistic, good deals like we've had. This is why we've done so well; we've been very opportunistic on our buys. That would meet whatever increase in demand of electricity we'll have going forward for fuel switching. It'll build over time and we'll certainly offset some of that through Second, as we have our oldest renewable contracts better efficiency. expiring, with the very low rates that we have now, it would be prudent to seriously examine booking some additional contracts. They take generally several years before they come online. Finally, on the Fiber to the Premise, I've been concerned that we as a City have been over-enamored with

chasing the Google unicorn. That has been dangled out in front of us for three years and it may eventually happen, but I certainly don't want to have us hold back because we keep thinking this magical thing's going to fall in our laps from Google. I don't know if it's a unicorn or it's Lucy pulling the football out from in front of Charlie Brown. In any event, I want to see us look at moving forward now. If Google's got something that they will commit to in the near term, great. Otherwise, I'm not for holding and waiting for them. Maybe if we actually lay it on the line, we'll see that they'll get off the dime. If not, we've got \$20 million to leverage, and almost no other city has that to work for the premise program. If anybody can do it, we should with our demographics and those dollars.

Council Member DuBois: Thanks again for serving. John and Asher are finishing up; I appreciate your service. As a new Council Member, I would appreciate, the next time you guys come, some kind of presentation, a summary of accomplishments and some of your issues and questions. A lot of groups do that when we have these joint That'd be useful. meetings. Personally, I'm very interested in water reuse and how Palo Alto can move forward in that area. I'd love to hear your thoughts on that. I'm also very interested in Fiber to the Premise. I won't repeat what Commissioner Burt said, but it was a good summary. I did attend one of your recent meetings, and there seemed to be some question about whether the UAC should be discussing fiber. Maybe we can clarify that. I would like to see you guys review our progress in fiber both on the Google initiative and the City-owned service. I would love to see you guys do that regularly and send your recommendations to us, because it's a complicated issue. On fuel switching and sustainability, that same night you guys had a preview of what we're going to get tonight. You guys had some interesting comments. I particularly appreciated some of the comments on how do you manage the transition and what are the economics of that, particularly if we're trying to switch from gas to electricity. We have these big hairy goals, these reductions we want to get to. If you guys could give us feedback on how you do that in a way that makes economic sense, that'd be very useful. Thank you.

Council Member Scharff: Thank you. I'd also like to thank Commissioner Melton and Commissioner Waldfogel for their service. I've enjoyed working with you on the UAC and been really impressed by both the contributions you guys have made. This is really a fantastic Commission. I'm always really impressed with the thoughtfulness and analysis that you guys do. Keep up the good work; you really do a great job. When it comes to undergrounding, since you mentioned that, I thought I'd mention that as well. I also think we should put that to the people of Palo Alto. Obviously, it's very expensive. I've heard really large numbers to underground the

whole City. I do think and have thought for a long time that what we should do is put this issue to rest and go to the voters and say, "This is what it'll cost. This is what'll it cost in surcharge on your utility bill. Do you want to do it or not?" If they want to do it, then we should do it. If not, we shouldn't do it. That would be the way to deal with that. I'd like to see the UAC take this issue up and come up with a recommendation of how to resolve this issue. We hear in the community that they've been promised undergrounding, they never get it, that kind of stuff. Currently, there is no plan to underground. There's a few places left where, who pays for it? I forget. Who pays 40 percent of the cost or whatever it is?

Valerie Fong, Utilities Director: It's typically split between the Communications Utility and the Electric Utility, like say AT&T.

Council Member Scharff: It's AT&T paying 40 percent. There's very few places left, if I recall, right?

Ms. Fong: Correct.

Council Member Scharff: The other thing I did want to say, because we hardly ever say it, is I've gotten to know a lot of other Utility Directors through Norther California Power Agency (NCPA), Municipal Utility Directors. While Val's not perfect, she is very, very good. I want to say, Val, that you do a great job. We're actually very lucky to have Val. I wanted to give a shout out to you and tell you what a great job you do. I appreciate it. I support the Fiber to the Premises discussion. I'm not going to repeat what people said, but I'd like to see that move forward expeditiously. I do think the UAC is the right place to take that up and start looking at different options and start vetting them. Obviously we want to get this done. Google is a very intriguing option, but who knows when that's coming about? We also want to make sure we do it right. If we do it wrong, there are a number of disasters out there. In the rush to say how wonderful it is, let's not forget that this can go all wrong, and we need to do it in a thoughtful and careful and deliberate manner. Given our fiber ring, it's easy to pop up, maybe easy is too strong a word. It's very possible to pop up enterprise class Wi-Fi in places. We've had certain hotspots that we've started rolling out in the City. The more we do that, that's great. I'd also like to see us move forward with more Wi-Fi spots around. Eventually I'd like all of California Avenue and Downtown to have great enterprise-class Wi-Fi. That would be fantastic. What else did I want to say? Anything else? No, I think that's about it. Anyway, thank you all for your service. Really appreciate it.

Council Member Berman: I'll try not to repeat what a lot of my colleagues have said. First off, thank you guys very much...

Mayor Holman: Except since we can't take motions, it is good for you to state what you support for the Commissioners to look at. Then they can count noses and say there's support from Council for something.

Council Member Berman: Very good point. I'll make that really easy. I support everything that my colleagues have brought up tonight. First of all, thank you guys. The City's utilities are the foundation of the community and something that a lot of folks, including myself, half the time don't understand. We're really lucky to have you guys serving the community. The rates that we have and the reliability that we have are a testament to the work that you guys put in. We are at an "all hands on deck" point as a community. It was great that we got to a 100-percent Carbon-Neutral Electricity Portfolio, but then we realized 30 percent of our greenhouse gas emissions still come from natural gas and 60 percent come from transportation. What's next? It's not like we can stop and pat ourselves on the back and pretend like it's a job well done. We have to keep moving forward and keep finding ways to reduce greenhouse gas emissions. fuel switching is going to be incredibly important and complicated. alluded to in our item on the Sustainability/Climate Action Plan about how, as we pursue that, it's going to create a lot of complications in terms of rate structures, in terms of the amount of natural gas that we provide dwindles but the cost for infrastructure stays the same. There are all sorts of issues that we're going to have to work through, that we're going to rely on you guys to help us figure out. We have to do that if we're going to get to our 80 percent or 100 percent carbon-neutral community, which should be our goal. Water Council Member DuBois brought up. Becoming more efficient and increasing our water recycling capabilities is something we need to start pursuing. We need to be the leader on that front now. We've been the leader on getting a Carbon-Neutral Electricity Portfolio. Now we need to show other communities what we can do in terms of being more efficient and being creative in increasing supply of water. I don't want to repeat Council Member Burt's point about taking advantage of everything. additional solar purchase possibilities, there's a chart on Packet Page 20 of our Packet tonight that shows how over time certain supplies are going to expire and we need to have plans in the works years in advance to replace those as opposed to having to rely on Renewable Energy Certificates (REC) again like this chart shows. That's something we should definitely keep an eye out for, good, advantageous opportunities. Municipal fiber, important. Creating a second point connection is incredibly important. I'm intrigued by the UAC's role in helping us reduce our transportation greenhouse gas emissions. Any ideas that you guys have I want to hear. They might not be feasible or I might not agree with them, but please don't hesitate to bring them to our attention. We're going to have get really creative if we're going

to try to chase a very ambitious goal. That's good enough for now. Thank you, guys.

Council Member Wolbach: First, thank you to the entire Commission for amazing work. We just interviewed for people to replace the two outgoing Commissioners. Thank you both for your exceptional work and service. They have big shoes to fill. We haven't picked yet, but we have some fantastic applicants. It really speaks also to the nature of our community, that we do have such phenomenal applicants, people with tremendous breadth of experience, skill and intelligence and commitment to civic service that are willing to dedicate their time free of charge to helping us supervise and guide our utilities which is, as Chair Foster said, unique here in Palo Alto and such an asset for us. Just going down the list of some of these things that were discussed that I'll say, "Me too" to. Fiber, yes and we should do it I agree with Council Member Burt's comments on that. communications, yes. This is a large issue for us in general. Time-stamping Commission meetings, reports that come to us so that we can quickly look up when those comments were said or recommendations were made during a video, so we can go and watch the actual video if it seems relevant to us, that would be really useful but might be more for Staff to work on as well. Sorry guys. Also as a new Council Member, this being my first time meeting with you, having a presentation or just a written report in advance of the meeting from the Commission before we have our next joint Study Session would be great. Electricity, yes. Let's definitely move seriously to explore another connection point. It is vitally important. On natural gas, it hasn't been discussed a lot tonight. I haven't made up my mind yet. Some people think we should move to being a natural gas-free City. I'm not there yet, but I am open to that consideration. I know you have a lot on your plate, but I hope that you're looking at ways to reduce natural gas use. On water, in addition to water efficiency and water reuse, something that I would envision being a big long-term project that would incorporate Public Works, Planning and Utilities is being a world-class leader in rainwater capture. Those are my comments for now. Thanks.

Mayor Holman: Commissioner Eglash, do you have comments or thoughts?

Mr. Eglash: Sure. Did you want the rest of the Council to finish speaking?

Mayor Holman: Go right ahead.

Mr. Eglash: Thanks to all of you for your comments and input tonight. These annual meetings are a huge treat for us to hear directly from you and share our thoughts directly with you, as opposed to the way we usually do this through inferring things through lots of written communication. Thanks

a lot. This is great. I wanted to comment briefly on a governance question about the way the UAC and the City Council work with each other. I also wanted to comment on fuel switching, but I won't try to touch on everything else that everyone's talked about tonight. Several years ago when I first joined the UAC, I had this idea that our proper interaction with City Council was to be an unbiased advisory body, like the Congressional Budget Office or some kind of bipartisan commission. Many of you and your predecessors told me clearly that that was not what was most helpful to you. You wanted us to behave as if we were responsible for running the City in the most responsible way possible and make decisions. Even though those decisions are advisory to the City Council, that was what was most helpful and most efficient for you to be able to look at us taking distinct positions on matters, but then give you something very specific that you could either agree with or disagree with, in any case, something that was as black and white and tangible as possible. As a Commission over the last several years, we've taken that to heart. All of us approach each of these issues imagining that we are responsible for the ultimately decision, the role that in fact the City Council has, trying to make the right decision, trying to articulate for the minutes and the record why we're doing that. I hope that's proved useful to those of you who have been around for several years and sounds about right to those of you who are new to the Council. I invite any of you to comment on that in a moment. I wanted to take a moment on fuel switching, because it is one of the most complex issues we've faced in many years. I believe and have discussed publicly that we have experts around that can help us get to the right decision on this one. I am personally as strong an advocate for sustainability as there is anywhere, but it needs to be done thoughtfully and in a way that doesn't create superficial headlines of sustainability but does genuinely help the planet and does protect our ratepayers at the same time. The fuel switching issue is that we have a zero carbon electric supply; therefore, perhaps it makes sense to switch from gas to electricity for heating our houses and heating our domestic hot water. That's the fuel switching question. Most of our furnaces and water heaters today are gasfired. That has a carbon footprint associated with it. The argument goes if we can move to our zero carbon electric supply for space heating and water heating, that ought to reduce our carbon footprint. That sounds pretty simple. Why is it complicated? Our electricity comes from the western grid of the United States. That grid is more than 60 percent powered by gas. We quite correctly say that our electricity isn't, because we're purchasing enough zero carbon electricity in a few RECs and offsets to true it up to 100 percent. That's true on a spreadsheet basis, but the grid that we get our electricity from is still predominantly gas-fired. That's one reason why it's complicated. It's also complicated from an electric rate point of view. This will push our homeowners into higher electric tiers, so we'll have to reengineer the rates appropriately, much like the problem that happened when

people bought Electric Vehicles (EV). The thing that changes it dramatically is new heat pump-based furnaces are remarkably more efficient than old electric furnaces. Fuel switching would have probably made no sense at all as recently as five or ten years ago. As anyone who has shopped for a furnace recently knows, new furnaces based on heat pump technology are incredibly more efficient than old ones, and the same unit works as a heater and as an air conditioner. They're both very efficient. Indeed, maybe this makes a lot of sense, but it's still a dynamic situation. Sustained drought means there's going to be less hydroelectric energy. That's going to put more burden on gas-fired power plants. It's still true that solar is not a good match for our 24-hour load profile. The only reason we can survive with so much solar in Palo Alto is we get our electricity off of the grid through PG&E, a grid that's balanced with the help of gas turbines. That's the sort of thing that's on my mind as we consider this issue. The approach I bring to it and one that I encourage all of us to bring to it is that it's not just about a headline that allows us to brag to the world that we've reduced our carbon footprint, but that we've done it in a thoughtful and meaningful way. Part of helping to get there can be to reach out to some experts in the community who know more than any of us. Thanks a lot for this opportunity and the opportunity to serve and work with you.

Mayor Holman: Thank you so very much for your comments, Commissioner Eglash.

Council Member Filseth: A couple of brief ones here. First of all, I too would like to thank everybody on the Advisory Commission for this. The utilities is really fundamental with so many people in Palo Alto, and there's such a huge amount of money involved and City funds involved in this. The role of the citizens' advisory commission is important. Thank you all very much for contributing your time and intellectual investment into this. Just a couple of I appreciate Commissioner Melton's comments on priorities. agree. Reliability in keeping the power on and the water running has got to be absolutely top priority. In terms of how do we move forward on that and how much will it cost and explain the costs, as Council Member Burt commented, is really important. I've lived here for 25 years, and every year or two we get a new report from the United States Geological Survey (USGS) that says the probability of a major earthquake in the bay area has increased. It's coming, so we need to be secure. That's obviously not the In terms of Fiber to the Premises, pending the analysis of course, my inclination is that irrespective of whether we choose to work with a Google or an AT&T or somebody like that, the City ought to own the physical infrastructure. Anything you need to dig a trench for, the City ought to own, irrespective of whether we do something with the other folks or not, because it's natural monopoly territory just like a power grid. I have

a couple of questions on fuel switching, but I might leave them until the next session. Thanks.

Council Member Wolbach: I want to echo what Council Member Filseth just said about the importance of us having control and options for control ownership over our utilities infrastructure, including potentially fiber optics, beyond what our current infrastructure is.

Mayor Holman: I'll join my colleagues in supporting several of these things. There's been much said about fiber. There's nothing been said about fiber that I disagree with. I would welcome your recommendations and expertise in that regard. A redundant electricity source, that's been something I've been passionate about and committed to for I don't know how many years, certainly since the Tesla incident. I appreciate any advice and advancement of that facility. It would be a huge improvement to our community and a Electric undergrounding, agree that we should be safety valve for us. addressing that. It's been stalled for a good number of years now. It comes up frequently by members of the community. That would be something also that I would look for your counsel on. When it comes to water, is there anything that is now in an ongoing fashion any more important than addressing water issues? Gray water, I was at an event yesterday evening, and somebody from another community talked about they were doing a significant remodel and wanted to install a gray water system at their home, but it was just too expensive. They are still quite expensive. Anything that we can do try to advance that; recommendations for rebates, anything that you can come up, any kind of calculus in terms of what the payback is in terms of savings, payback in terms of rebates utilized if the money's put out there. It is an aspect of our home use that isn't being utilized currently. Other than that, obviously the reliability of utilities is a first priority and we absolutely take it for granted. Although she's not perfect because none of us are, the head of the Utilities Department, Val, we are very lucky to have you. We don't take you or the Utilities Staff or this Commission for granted. You do excellent work and keep our utilities on. It's easy to take some of these things for granted. You flip a switch or turn on a valve, and things run for us. We don't take it for granted and we should never do that. Fuel switching, yes. That's it in terms of what I would like to see the Commission work on and recommendation to the Council. I would encourage you, if you do have questions about wanting direction from Council, do not be shy about asking.

Council Member Scharff: I had a brief follow-up on Commissioner Eglash's comments. I would fully associate my opinions with Commissioner Eglash on fuel switching. It's incredibly complicated. One of my concerns, as we go down this path, is that we actually get clearer regulatory advice from our

counsel in understanding where we are on this. I was struck by Council Member Wolbach's comment that, I'm not ready to shut down our Gas Utility but I might get there. I hope I didn't misquote you; that's what I roughly heard you say. There's a big transition between where we are now and—as we move away from natural gas if we go in that direction—if we're 20 percent above PG&E, 30 percent, are people going to start saying, "We want gas. We want to disband the Palo Alto Gas Utility and go with PG&E." Right now it's very aspirational, very half-baked unless what we're talking about is on the margins moving people very slowly towards changing their heaters for electric ones, efficient ones. If that's what we're talking about, that's great. If we're talking about something more radical, we haven't thought this through yet. Not to mention that we might be able to get there and think it through, but right now we're being very aspirational. These are serious and extremely complex and difficult issues. I'm really glad we have the UAC to vet these for us.

Council Member Burt: Since that's such an important topic and we've gone a little deeper on that, I don't view it as either aspirational nor an immediate aggressive plan. It's neither. We're beginning a deliberate process. We're at the early stages of a deliberate process. At that front end, the transition will be slow, and that's probably a good thing because at that frontend we don't yet have the visibility toward solving all of those critical and complicated elements to it. Just because we don't have those solutions in sight doesn't mean that they aren't going to be emerging as we move this ball forward. Just five years ago, conventional wisdom was that we were going to have a very hard time getting to 33 percent renewables, because of all the trend lines on renewable costs going up. We've seen the technology changes. We have nations like Germany that are ahead of the curve on renewable adoption from where we are, and they're pushing the envelope right now on smart grid systems, on storage and on distributed generation as being real fundamental legs of being able to move further in that direction. We will doubtless identify even more barriers as we get further along. I've become less conservative over time in thinking that we have to have identified our solutions before we start moving down a path. changes in technology in this arena have been so radical and are on the horizon going to address these problems. We may be somewhat at the forefront of this. I think we will help identify and solve those problems. I'm not supportive of capricious actions that are, therefore, bragging rights, but I am supportive of an aggressive program that will push us into being leaders on solving those remaining problems.

Chair Foster: Council Members, thank you very much for all your feedback. It really has been very, very helpful. I think it's going to provide excellent guidance for us in the year ahead. Let me just make a couple of comments

on points that have been raised. With respect to Fiber to the Premises (FTTP), we hear the message loud and clear. Our role in that has not been active over the last couple of years, because of other citizen advisory groups and others that have been involved, which is great. We will take your words to heart and reinvigorate or reengage in that area. One other point I wanted to raise. We have an interesting jurisdictional issue, because our jurisdiction, as the City Attorney will remind us, is the utilities only. When we talk about things like transportation, for example, although that goes to sustainability, that actually is not utilities. In areas like the City's Climate Action Plan, as well, we don't technically have jurisdiction there. We have a very good relationship with the City's Chief Sustainability Officer, who kindly comes and pays us a visit to fill us in on what he is doing. The City's Chief Information Officer has come and talked about fiber. It is something to think about, whether the current jurisdictional bounds of the UAC are the right ones or whether adjustment should be thought of. I don't think we're in a position to make a recommendation, but it is something both the UAC and the City Council can think about in the months ahead. That's it. Thanks again.

Wynn Greich: Hi. I was listening to a lot of the things that you were talking about. The one thing under utilities, I hope that water and sewer lines are part of that. I go to many City Councils and I hear about Millbrae had five water mains break in one day. You're talking about an earthquake happening. When you put chloramine and fluoride in the drinking water, this stuff is so corrosive, the pipes are leaching lead, they're disintegrating. They're putting these poisons in the water in already corroded pipes. What you really need to do is have some kind of Ordinance that you're going to replace so many miles of pipe every year. I know Burlingame, California was sued for dumping lead and arsenic in the bay, and they had to replace 100 miles of sewer lines. They jacked up the water prices so high on everybody to replace the pipes, and it was going to take 20 years to do. I guess that's 20 miles a year, right. I spoke to one of the water people in Marin, and they said they have on their books that they replace five miles a year. If you're really concerned about an earthquake, I would think that your water and sewer lines are a big deal. People think, because out of sight out of mind, you're only going to replace them when they leak. Alameda County Water District just jacked up their water rates, and there's a big stink over that. I think that's kind of funny, because they claim that they have over 800 leaks a year. They are going to put some of that money into replacing the pipes, but they haven't really spent it on it yet. When you were talking about using reclaimed water, yesterday in the newspaper in the east bay, you can call the water company and they'll come to your house and water your lawn with recycled toilet water. They put it in a big tank and take it to your house, and they'll water your yard for you. It was in the

paper. I've seen a lot of weird things. If you have vegetables and stuff, I wouldn't use that water because when they recycle the toilet water, they use 2.5 times stronger bleach than Clorox in that recycled toilet water. Now that we're blending our drinking water with recycled water and more people are getting sick, I would think that more people would be concerned about replacing the pipes so that we can go to alternative technology to disinfect the water without putting any poison in it. If people value their lives, the last thing you want to do is be drinking and recycling the toilet water, because you're taking other people's medicines and that causes a lot of other problems on top of that. Most of the diseases, Dr. Wynn Parker said in Chloramine Causes Collateral Health Damage, you're not only drinking someone else's medicine, you're drinking their disease. The water and sewer line should be mandatory to have that on some kind of book to replace so many miles every year. In the last ten years, I've taken a lot of college courses, and I've had five college books that say it's going to take over 16 trillion to replace the water and sewer lines nationwide. This would create a lot of jobs and it would do a lot of things. Just remember all those people that are coming to Google and Facebook, they all use the toilet, don't they? Bring them and they will come, then you're not going to have any water to flush it down. In this news article today, it says that your City, Palo Alto, has to reduce your water consumption 24 percent. When you think about this, there's no more water to buy, and people are turning to their toilets.

Mayor Holman: Commissioners, thank you again for your service, for your coming tonight. We really appreciate your comments, your questions and your service. Thank you all very much.

3. Annual Earth Day Report Study Session and Sustainability/Climate Action Plan (S/CAP) Update.

Mayor Holman: Before we go to Staff, I have something here to share with you all and to recognize. As we celebrate the 45th anniversary of Earth Day on Wednesday, the Council would like to recognize and give kudos to several Gunn High School (Gunn) students who showed great leadership in getting water bottle filling stations installed at Gunn as a way to reduce creek litter and prevent waste from bottled water sold in vending machines. Funded by a grant from the City Public Works Watershed Protection Program, the students came up with the idea, assessed the current impact of litter from water bottles, worked with Palo Alto Unified School District (PAUSD) maintenance staff to get new units installed, and are providing outreach to students. Next fall, students will assess litter reduction as a result of installing these water bottle filling stations. Two of the students, Josh Kaplan and Aitan Grossman, and their advisor, Carole Langston, are here

tonight. Would you please stand and we'll acknowledge your leadership and efforts? Is Ms. Langston here? If you will come down to the podium, the City Clerk has something for the three of you in recognition of your efforts. Thank you for your leadership, your initiative. We look forward to the results. Thank you very much. Gil, would you care to start your presentation?

Gil Friend, Chief Sustainability Officer: Thank you, Mayor Holman. Mayor Holman, Vice Mayor Schmid, Council Members, citizens, I'm Gil Friend. I'm the Chief Sustainability Officer for the City. You created the Office of Sustainability about a year and a half ago to bring focus to the City's many sustainability efforts and to help set a direction for the next phase of Palo Alto's sustainability leadership. We're here tonight to summarize what we've been doing, discuss where we might be going and to invite your guidance on the work that's ahead. Before I start, I'd like to acknowledge my Staff, Benjamin Privitt and Sarah Isabel Moe here at the dais with me, as well as about 20 members of City Staff who have worked on this report including Shiva Swaminathan from Utilities, Julie Weiss from Public Works and guite a number of others. Over the next 15 or 20 minutes, I'd like to walk through these topics: to look at the trends both broadly and in this community; the status of our work, the approaches that we're taking in moving forward on Sustainability and the Climate Action Plan; and share some observations about where we are and some of the actions that stand before us; and of course talk about next steps. Let me start with some trends. I want to also acknowledge the City Attorney's office who has advised us and guided us on this presentation and noticed that there are a number of legal issues that we're going to have to look at as we move into these conversations. I want to offer that disclaimer here. We're in a world that's getting a lot hotter. We're in the western United States, where it's getting a lot wetter. We're in a utility industry that's getting riskier. This chart shows the weather-related utility outages over the last 20 years in the United States. We're in an environment where cities are getting bolder in the kinds of actions that they're taking. These are goals of the C-40 cities around the world. I call out Melbourne, Australia and Copenhagen, Denmark who have set goals of 100 percent climate neutrality, in the case of Copenhagen by 2025 and in the case of Melbourne by 2020. Here in California and just in the last few months as we've been putting this report together, we've seen a number of bold declarations from our leaders. Governor Brown has set new energy policy targets for California. President Obama has set them for the United States. Governor Brown in the last couple of weeks set new water goals including the reduction targets that we are grappling with now on Staff. Some of our colleague communities. Los Angeles, California just in the last month released their Climate Action Plan which includes in addition to looking at a mode shift of 50 percent out of private vehicles—imagine that

for Los Angeles—but also capturing 50 percent of water needs from local resources. Vancouver, Canada is going to be 100 percent renewable over a similar interval. In this period, we've done a lot. There's more than 150 sustainability initiatives across City departments. You have many of those detailed in Attachment D of your report. All of them are chronicled in a SharePoint database, ranging from local solar to the electrification question that a number of you spoke about before in rolling out a sustainability dashboard to give us more visibility into our performance across the City. We continue to make progress on reducing our greenhouse gas emissions, down now about 37 percent from 1990 levels on our way to the State's 80 percent target. You can see that transportation and natural gas remain the big dogs in that race. Interestingly enough, Vehicle Miles Traveled, (VMT), have gone up in the last couple of years as we come out of the recession. Because of changes in the fleet and technology, greenhouse gas emissions have fluctuated a little bit but not changed very much. It's an indication of some of the external factors that bear on our work here as well as the ones that we control ourselves. We've seen progress on reducing water use, progress on our Zero Waste Strategy. You'll notice here flat in the last few years, but we're about to roll out residential and commercial composting in the next year or two as well as increased efforts around construction and demolition waste to start to bring those numbers toward the 90 percent target that you set for us. Lots more in the pipeline. I'm not going to read these; just to give you a sense of the range of activity that's going on across our organization. How are we doing in relation to the strategic goals? You could say that we're on track. If we are able to continue our 2005-2012 rate of reduction of emissions, we could actually hit the State's 80 percent by There's an if there. That's if we can maintain that pace of In fact our pace of improvement is not steady. improvement. showing you the rate of change in natural gas, electricity and water across our three different customer classes. It's not consistent. controlled process. This is something that we have an opportunity to work on in the coming years to tighten that up. We're trying to bring all this together in the Sustainability and Climate Action Plan, which is an opportunity for you to choose the goals that we will pursue, set the trajectory that we'll pursue that on, and build out the roadmap that will guide the implementation. As I've talked with you about before, we've developed scenarios, have done an expert charrette, held an ideas expo open to the community, benchmarked the plans and work of other cities. We are now deep into the analysis phase of looking at technical feasibility, economic feasibility and the impacts that would result from combinations of measures, so we can bring you back a grounded set of strategies for your consideration later this spring in building out the roadmap. coming up in May the Comprehensive Plan Summit. The intersection of the Climate Plan and the Comprehensive Plan are critical. We'll be also hosting

a virtual online summit for the community both in the weeks before and following the Comprehensive Plan Summit and are hoping to bring draft recommendations to you late in June before you go on recess. Some of the key elements or domains of action that we're looking at are electrification or fuel switching as we sometimes refer to it; the larger challenge of mobility and walkability; issues around water; and the question of finance, not just how do we pay for this, but how do we structure the financial instruments that build the logic that we want into the decisions that we make. We're operating under a premise that the City Manager has articulated that we go first. In other words, we don't ask the community to do things that we don't do ourselves, since we try to lead by example wherever possible. default to green and we've begun this in our procurement process, moving from the environmentally preferable purchase policy that you all created some years ago which said buy the environmentally preferable where it is possible to turn that around and say, "Let's start with that. Let's buy the environmentally preferable." That's where we start. Where it's not appropriate, where it's not cost effective, where it doesn't fit duty requirements, let's of course adapt. We've begun that in a simple measure with office products, recycled paper and toners. We've rolled it out into the fleet procurement, moving from, Compressed Natural Gas (CNG), as our vehicle of choice for sedans to electric vehicles as our vehicle of choice. We think that could save us \$1,000-\$1,500 per vehicle. Always looking for the economic as well as sustainability advantage going together where we can. We think it's also important to look very strongly at performance-based regulation; not prescriptive regulation that tells people what to do, but performance regulation that says, "Here's the targets that we need to hit. Find the best and most creative and most effective way to do that." We need to do all this in a way that protects the common wealth, the ecological resources, the ecosystem services that sustain this community. We need to consider the impact of consumption. These are things that we are not directly responsible for. The impact of airplane flights taken by people in this community probably exceeds the carbon impact of our natural gas use. The impact through the supply chain of the food that we buy and eat probably exceeds the impact of the road transportation. These aren't things that the City is responsible for but, if the community really cares about climate and carbon futures, it's something we're going to want to discuss in As you've heard some discussion in the previous Study coming years. Session, there's questions about the future of the utility, in fact what many people are calling the utility of the future. Let me address that last one in some detail, because it's a big issue and it's a new one that's very much on people's minds. There's a gathering storm facing this industry. Don't take my word for it; these are observations from Citicorp, Union Bank of Switzerland (UBS), Barclays, Bank of America. They are seeing major structural threats facing the utility industry as we see the rise of cost-

effective solar, local storage and so forth. Utility bonds will under-perform the market is the prediction of one of these financial institutions. One of the reasons for this is a phenomenon called grid defection. We're seeing a threshold approaching soon where the combined price of local solar and local storage could be competitive with grid-provided power. jurisdictions, we're seeing people wanting to get off the grid to become their own utilities. In other parts of the country, investor-owned utilities are fighting this trend. Here in Palo Alto with the municipal utility, we have the opportunity to think about how we use that trend and lead it and contribute to it in a way that is healthy for our utility, but that's going to be a big challenge to think through. There are big trends that are driving this. This is a projected cost curve of electric vehicles with a 200-mile range. I could show you similar curves for the cost of photovoltaics, battery-powered autonomous vehicles, sensor technology. Exponential rates of change in a half dozen key technologies that will shift the fundamental economics of this industry potentially. Certainly something we need to consider as part of our This is the State of California's forecast on solar forecasts as another example. All these curves have this kind of shape. These raise big questions that we would do well to start considering before we have to consider them, so that we can chart our own destiny rather than react to events or shocks that hit us. Many of these issues affect some of the concerns you expressed before about reliability. The impact of micro-grids, for example, on grid stability is something to consider. Fundamentally we need to look at what is the business model of a utility company in this kind of possible future. Do we continue to buy, broker and distribute energy as we've been doing? Do we deliver efficiency services as a commodity that we Do we sell and manage distributed generation and storage? That doesn't cannibalize our business, but becomes part of our business. Do we sell management, service, financing and data? It's an open question to think about how do we reposition this organization in what may be a dramatically changing business environment in this industry. Let me zoom out for the last couple of minutes here. These are big questions. They are challenging ones. They're things that many people think are impossible, but we know that barriers can fall. When Roger Bannister broke the four-minute mile in 1954, the record had stayed steady for nine years at four minutes Once he broke that record in '54, within six months and 13 seconds. somebody else broke it and broke it at 3:57. Within 18 months, four other people broke it in the same race. Once barriers fall, they sometimes fall very quickly. Let me step back another step and come back to the question we've talked about before of why sustainability matters. At a very direct level, this is a matter of mitigating our risks. We're facing risks around climate, drought and business disruption. We need to build resilience, the ability of the City to withstand shocks and stress that may come at us from these and other factors. There are rewards here in terms of quality of life,

economic benefits, innovation driver, the leadership that we have played in the region and the world, and the influence that we are able to provide to other communities. As we've talked about many times before, this is the right thing to do. I would note that whether to do the right thing is not an economic decision. It's a moral decision that we make or don't make. How to do the right thing, when to do it, those are economic decisions and we need to make those very carefully and diligently. The path ahead of us requires some bold moves, most fundamentally with the greenhouse gas goals we want to set. We need to be looking at moving not just to reducing impacts but net positive buildings, as will be required by the State of California in just a few years; and more agility in the way that we operate so that we can be experimental and learn quickly on a faster learning cycle. Frankly a lot of the things that we need to do, a lot of the opportunities ahead of us, no one has done yet. No one's quite sure how to do them. We need to learn as we go and find a safe and appropriate way to do that. A lot of this will come down to behavior change. Some of it is policy. Some of it is technology. Much of it is the choices that our citizens choose to make in our personal lives. How do we most effectively support and encourage those changes? How do we innovate the kind of financial structures that enable us to do this work? We have many levers. Some of them we've used before: utility incentives, legal mandates, Ordinances and regulations, new services to provide. The example that we set with our own procurement and some edgier ideas that we're hearing around the community around carbon pricing and carbon taxes as possible alternatives to look at. Microsoft, you may know, has established an internal carbon pricing regime where part of their internal cost allocations include cost of carbon. It's accelerated their reductions and saved them real money. We're talking with them about how they've done that and whether or not that might be appropriate for us. Several of you mentioned Renewable Energy Certificates (REC) and offsets before. We've done this very successfully with electricity to use RECs as a bridge to a climate neutral electricity strategy, voluntary program, action of Council offsetting 100 percent of our electricity and then building a Carbon-Neutral Portfolio over four years. We could conceivably do the same thing with natural gas. We have a voluntary program underway now, Palo Alto Green Gas. We could offset the entire gas emissions and be a carbonneutral utility by an action that you take. We could build a trajectory to taking out the impact of natural gas. Let me be clear. I am not an advocate for electrification or fuel switching. I am an advocate for a carbon-neutral City, and that's one of the critical issues that we need to look at. ahead. We'll need to discuss and ultimately adopt a Sustainability and Climate Action Plan. Again, we'll be bringing that to you later in June. I would encourage you, though, to think about goals that you might set in advance of adopting a complete plan. The California goal of 80 percent reduction in greenhouse gases by 2050 may be something for us to say,

"Yeah, we'll do at least that." How much more we'll do is to be determined by further analysis. We're evaluating electrification strategies. back to you, as you requested, probably in May with a plan of action about how to pursue that diligently. We're exploring development of mobility as a service pilot both locally and with other partners in the region. We need to explore the implications of changes to the Utilities business model. You'll be deciding tonight on the new Green Building Ordinance and Energy Reach Code. Peter Pirnejad and his team will be starting immediately following that adoption on the next Code cycle, continuing to ratchet up our standards I mentioned new financing strategies. The sustainability dashboard work which just kicked off last week will give us a much more comprehensive and granular and flexible view of our performance data, so we can understand better what we're doing, where the leverage points are and how effective we're being, to ultimately decide our trajectory for the next five, ten and twenty years. The question for us to ask as a small and innovative city is are we a drop in the bucket in the face of the global climate crisis or are we going to make waves. I'll stop there. I'd love to hear your thoughts and your questions.

Council Member Kniss: Lots of thoughts at this point. One of the areas, Gil, I'd like to push on right away is we are extremely enthusiastic about electric cars. While I haven't gone electric yet, I've gone hybrid. We're all delighted with our reduction of gas mileage. I've thought of this all the way through your presentation. There is always a reaction in some way to that or something is positive and something is negative. The negative to that is Gas Tax and how do we maintain our highways. While we may not think of that as a sustainable kind of concern when we're looking at this, it actually is one. Pretty much the roads run on the Gas Tax. Without that Gas Tax, it's going to be very difficult for us to continue that. What you're talking about tonight are a number of tradeoffs and switches. That's one small one thing. You've talked about natural gas and all clean electric. If you were listening earlier, you could hear that was a discussion on the Council as to which direction should we go, and not everyone feels the same way about giving up natural gas and going to all clean electric. There's a cost. There's also any number of other ramifications. I really admire your reach and your push and so forth, but there are certainly a number of equal and opposite concerns that I thought of right away. I know you're going to get lots of questions and lots of feedback from the rest of the Council as well. Some of them have been doing this with the City for more years than Marc and I have. I appreciate the report and I hope we do make waves. I hope that is our goal rather than being a drop in the bucket. I think we've already made waves. That's one of the things that Palo Alto can feel really good about, starting with Palo Alto Green. It's made a dent. One more thing, Mayor Holman. Water which earlier tonight Council Member DuBois talked about,

we're all very concerned with water. I notice Phil Bobel is here tonight. How do we recycle it? Where will it go? How will it go there? It would seem as though when we're discussing sustainability, that's probably one of the most obvious concerns that we have right now. It's one of the ones that we see. The electricity and the gas, we don't see except the results of. With water, we're all very aware of what the water does for us, how we deal with the water. Probably almost everyone in the community at this point is trying to think, "What do we do for more water? How do we get down to our 24 percent?" I think we're actually at 20 percent though, if I recall. Am I right, City Manager, we're at 20 percent?

James Keene, City Manager: As far as the target reduction that we have?

Council Member Kniss: Right.

Mr. Keene: That's going to be changed to 24 percent (crosstalk).

Council Member Kniss: Right, I know. I'm saying we're at 20 now, and...

Mr. Keene: No, last year we had hit 16 percent reduction which was the highest performance, as we mentioned last week, of any city in Santa Clara County.

Council Member Kniss: We have a way to go there as well. Lots of thoughts. You've prompted lots of what-ifs as well. Thanks for your report.

Mr. Friend: Thank you, Council Member. Let me just say two things very briefly, because I want to hear other people's thoughts as well. On the point you raised of many of these issues having equal and opposite drivers, this is part of how we approach all the issues that we're looking at. We don't see the opposites as tradeoffs. It's not a matter of choosing between economic well-being and climate well-being. The challenge is to say both of those are important. How do we then invent solutions that address them both well? That's easier said than done. Once that frame is on the table, sometimes that can be done. That's the way we approach all these issues. With regard to water, the focus for City Staff and the community right now is how do we hit the immediate target that the State has set for us. How do we do this 24 percent goal right now? That's certainly the priority, at least for the next few months. We also need to begin to think about the long range strategic implications here. There was an article in *Science* magazine two weeks ago that estimated 80-plus percent chance of multi-decadal mega drought in the west in the latter half of this century. That's not right now, but that's what may be ahead of us. It implies very profound structural changes in how we do things in California. We don't drop everything and think about that now; that's down the road. We also don't wait until that hits us to think about it.

The reason I say that is that some of the things that we would consider for that longer range eventuality might actually be beneficial for us now in the shorter terms. Those are the kinds of questions that we are looking at in the Climate Plan process. Thank you for your thoughts.

Council Member Wolbach: Thank you very much for the report. One thing that, as you heard, I mentioned during our immediately prior to this Study Session with the Utilities Advisory Commission was the issue of rainwater capture. As I alluded to, this is something that probably incorporates multiple departments. You might be well poised to help facilitate at least a discussion about this. I'm curious if you have any thoughts that you'd like to share about rainwater capture, whether from storm drains, from properties, in the design of new buildings and future design of our streets, etc.

Mr. Friend: Rainwater capture is certainly one of the options that we need to consider. As I mentioned before, Los Angeles is looking at getting 50 percent of their water use from rainwater capture. You look at a city like Los Angeles (LA), about three-quarters of the city is paved; most of their rainfall goes not just down the drain to the sea but through sewage treatment plants to the sea, incurring great expense. They're seeing really significant economic benefit from shifting that strategy to a capture and storage strategy. We might want to look at that. We're already incorporating gray water readiness into the Green Building Ordinance. In the coming Ordinance, we'll be looking at net zero water as well as net zero energy. There are of course questions of when and how, what are the mechanisms, how do you ensure that it's cost effective, how do we ensure that the tradeoffs can deliver on the requirements that we put forward. already seeing a number of net zero water buildings being built in the west. Somebody made a design decision to figure out how to do that. combination of efficiency of water use, water capture and water recycling off and onsite—in the building itself, not down to a sewage treatment plant and back—we're seeing the beginnings of the development of that kind of building technology. Certainly something we should look at. If we do move to a more mobility-based strategy and if that in fact requires less parking garages and less road surfaces to provide the mobility benefits that the community needs, then one of the possible benefits is you have more land available for water capture among the other kinds of functions that land can serve. Decarbonizing may be tied into de-paving; we'll see how that goes. In all the things we're looking at, we need to consider what are the local resources that we have. The sun that falls on the community. The rain that falls on the community. How do we capture and use those resources most effectively right here?

Phil Bobel, Public Works Assistant Director: Gil, could I add one thing—Phil Bobel, Public Works—about rainwater capture that we just saw today that was very exciting and the driver for it? I don't know if you've seen where they took out the old Bloomingdale's and now they've built the new Bloomingdale's. One thing they're putting right where the old Bloomingdale's was is two 30,000-gallon underground cisterns or tanks for rainwater capture. These will be the two largest, certainly in our neck of the woods. They did it because our Statewide regulations that we enforce locally require that when you build a new structure of a certain size and prevent the infiltration of water, you have to offset that essentially. Their choice was to try to offset it like we did at Mitchell Park with swales and green features that would absorb the water, they decided they didn't have the space to do that, so they built these huge underground tanks. It's probably a harbinger of things to come.

Council Member Wolbach: Thank you very much. I encourage Staff and my colleagues to continue thinking about how we can do this in a really effective way and how to make this a priority moving forward. Thank you.

Vice Mayor Schmid: I wanted to thank you for your presentation tonight and the report. I loved the data that you presented in it, both the historical context and perspective as well as a look at where we're going. Look forward to your new database that you say will be ready in a week or so.

Mr. Friend: Let me clarify. We started work on it last week. It's going to be two or three months to have that up and running.

Vice Mayor Schmid: Good. To get the community onboard with what we're doing, that's the type of thing that would work well. I certainly would emphasize the issue of water. We are tied to the south Sierras, and you have a very startling figure in there of a warming climate. Since our water is stored through snow, it's very upsetting that even if we have wet winters, if it doesn't come down in snow in the south Sierras, we will feel and experience that. We experience it not just in our water flows and access to water, but in hydro power. We are very dependent on hydro power, and so we're very sensitive to the flows and our need to go to the grid in times where the hydro power is not available. The other thing that I found very interesting in your presentation was your connection to the Summit and the Comprehensive Plan as you are coinciding some of your work and your public outreach with the Comprehensive Summit and our work on the Comprehensive. I would encourage that the sustainability effort and the Comprehensive effort try and coordinate as much as possible. concerned in a wider thing that we don't just focus on our boundaries and draw a boundary about what we do and the rest of the world is out there,

but that we get engaged with the State Demographer's Office. The State Demographer has been reassessing the long-term outlook for California and reducing growth projections over time, which is very important for a The Plan bay area, which is connected to the State Demographer's Office, is beginning their update for 2017. They have their first public meetings next month. What happens in the bay area is important to us and our role. It ties into our Comprehensive Plan and our role in bay area growth. Our tendency in the last decade has been to be a leader of job creation in the bay area and probably in California. I note that in the last six or seven years now that the growth of housing in Palo Alto is between one-third and one-half of the growth in jobs that is taking place in Palo Alto. We are creating a greater deficit between employed residents in the City and jobs in the City. While we can focus on green buildings for new office space and be very efficient during the workday, people are leaving the City to live elsewhere where their spending on cars, on gas, on other parts of the sustainable world is not the same as us. The question is what impact are we having by having a jobs-housing imbalance as great as it is. A coordination between our sustainability work and our Comprehensive Plan work would be very effective in the long run of creating not just beneficial impacts here but impacts that help our neighbors, help the bay area, help the State of California reach a sustainable level that makes sense. I would encourage you as we go through that process that you try and reach out and make connections. Thank you.

Council Member Burt: Let me first dive into the water issue. In one sense it's perhaps an even greater challenge. I also think it may be a more achievable challenge to overcome. We know that we not only have the drought today that is potentially a harbinger of what the future may be, but I was at a local government commission conference where three panelists among the top water experts in the State made a point that was striking to We know now from historical data that the 20th century was the wettest century in the last millennia in California. When we talk about a new future on water, it's actually more drastic than that. Our baseline in which the State essentially established both our expectations for water availability and the allocations commensurate with what we thought would be the normal water availability was based upon a century that was anomalous. Our baseline is much worse than we thought. That's the bad news. The good news is that this is probably an area that solutions are within sight. The drought may be driving us and spurring us to act sooner and more aggressively than we otherwise would have, but the opportunities are still the same. We already have been working on a plan to drastically expand our non-potable recycled water. We have Phil Bobel here who can give us more insight on that. That was going to be a major new water system distribution up Page Mill Road for irrigation and potentially toilet water for all

those jobs primarily. We now have to look at whether it's wisest to spend those tens of millions of dollars on a water distribution system parallel to our potable water distribution system, or to invest it in advanced recycling technology of potable water that would either be percolated back into the ground or blended or other decisions that we have on the horizon. These are really important decisions and ones that we need to begin to agendize and give some at least preliminary policy direction which will probably mean initiating studies, perhaps by the Santa Clara Valley Water District to give us a data-based foundation for alternatives in which way we should go. Right now we aren't taking either direction because we're like deer caught in the headlights. We don't know which of these major capital investments to go down, and we need to begin to tackle that. That coupled with water efficiency use in the homes, water recapture that we've heard about through gray water and otherwise, and then water efficiency in our landscaping which is an even bigger factor. It's not smart to grow rice in the desert. It's not long term very smart to have big lawns that we don't have insects and birds that can rely off of natural ecosystems in our vegetation, but instead they're green, sterile land. They look great. They feel cool. They aren't progressive. We should have them where they're recreational and people actually use them. To have big landscapes for decorative lawns is probably not a wise solution. We're going to need to move in that direction. That alone is a big impact. The water issue is imminently solvable as much as it feels overwhelming in the midst of this drought. I want to talk about a couple of the other aspects that we've been addressing. The notion of renewable energy credits, whether they be electricity or gas, we treated them as a bridge for our renewable electricity supply. That's the way we should think of them in natural gas. They're not the long-term solution, but they may help us get from where we are to where we are intending to go. I also want to encourage Staff to look at within our natural gas another partial solution, which is renewable natural gas. There are supplies available. We have Compressed Natural Gas dispensing for vehicles, our municipal fleet and for the public. My understanding is this is a no-cost impact alternative. I'm frankly disappointed we haven't yet moved anywhere on evaluating that. I want to encourage Staff to look at renewable natural gas. instance, use it as part of our renewable energy from landfill natural gas. These are the sorts of sources that are now being able to be purchased for natural gas. We may have a multifaceted approach on this fuel switching and gas, which is switching to heat pumps and other electric-based utilities and renewable natural gas and building efficiency that reduces the need for use of natural gas. As I was saying earlier with the Utilities Advisory Commission (UAC), we may not have the end solution in sight, but we can begin moving down that path. If it's getting 25 percent reduction in our natural gas in the next five to ten years, then at that time we start looking at what's the plan for the remainder. I want to look at the broad goal. Gil

has had this stretch goal or moon shot that he's described. We should as a Council look at when we agendize a policy setting action item on this. If I look at the data, I believe that our 80 percent reduction is from a 1990 baseline. We've achieved as of 2014 38 percent reduction in 24 years. If we merely continue the trend we've been on, we would have 80 percent reduction in 2040. Not 2050 but 2040, 25 years from now. 80 percent by 2040 is not a stretch goal at all. That's just keeping the trend line we're on. I would encourage us to set a goal not less aggressive than 80 percent by 2040. Perhaps we set two goals: that and 100 percent by 2050 with maybe 80 percent by 2030 as a stretch goal. Something along those lines. Let's begin to consider that. For almost all other cities and states and countries, 80 percent by 2050 is an aspiration. They are not on the path to coming close to that. We're actually on that path to achieve it by 2040. shouldn't take our foot off the gas so to speak. We should stay on that path. As was stated earlier, in our transportation we have 60 percent of our greenhouse gases from transportation because we eliminated our electricity. It's not because the transportation went up. We just took the electricity out I just wanted to make sure everybody's clear on that, of the equation. because I've seen those numbers get tossed around. I would like to also see data, and it may just be projections. I'm still waiting to see good data on what's the level of adoption of zero emission vehicles today, advanced emission vehicles like hybrids today, what are the trend lines, what have they been in our community, and what do people anticipate purchasing as their next vehicle based upon what will be the cost of those vehicles that are If somebody's told that you can buy an electric vehicle for \$25,000 within a few years and you say, "What vehicle do you expect to buy in five years if it's going to be at competitive pricing or nearly so," I suspect we're going to see a very high adoption. Then we can use that and say, "What's the life of our vehicle fleet and how long will it take to turnover all of our older vehicles and get the bulk of them out of our fleet." That also is a pretty obtainable goal. We're only going to facilitate that on the margins. We're going to make sure that we have policies in place to have adequate electric charging, that we've thought about smart grid systems and metering systems so it's off-hour charging of cars rather than peak hour, a number of measures that facilitate that. We won't have to be the primary drivers. That's a combination of the broader economic trends and what are the intrinsic characteristics of our community, which is a community that largely shares that value structure and has disposable income so that people are acting on their values sooner than many other people do. They have the values, and we have more ability to act on those than most communities. Because of those things, especially our financial ability as a City and as a community, that doesn't mean that everybody is going to be able to do this as rapidly as we can. We shouldn't go bragging about some of the things that result from our own affluence. We can lead and we can identify

obstacles, including regulatory and legal obstacles. Our local legislators have said that they are ready and raring to address whatever obstacles we identify are in the way of us being able to achieve these objectives. because they know that we are setting trends that others will be attempting to follow in short order behind that. We're not going to be long-term outliers. We're just going to be ahead of the curve and help achieve that curve. Thanks for all this good work. We have a lot before us, but we have a basis for optimization in our goals in both our greenhouse gases and a sustainable water system. Technology and innovation allow us to have within our sights some major achievements and continue to have this done at low cost. I'll add one note that it looks, and we want to see the data, like the recycling of the water is likely to be at lower cost than we're paying for Hetch Hetchy. It'll actually reduce our water cost. Just like our renewables, we're having 100 percent clean energy in our electricity, and we're at 20 percent below Pacific Gas and Electric (PG&E). This assumption that we're going to have tradeoffs between our environmental goals and our economic goals just doesn't appear to be the case. Thanks.

Council Member Berman: A couple of quick questions. Thank you, guys, very much for all the work that you've done and all the work that we're going to ask you to do in the future. On Staff Report Page eight, Packet Page 13, there's a chart, Figure 1, Greenhouse Gas Emissions for City Operations by Activity Category. You allude to the fact that greenhouse gas emissions have increased a bit for building and other facilities in large part because some facilities have come online that were previously offline. We can all understand that. I didn't see, and maybe I missed, a more thorough explanation for why the solid waste facility's greenhouse gas emissions have gone up 2X over two years ago.

Mr. Friend: Is Phil Bobel still here? Phil, can I bring you up?

Mr. Bobel: I'm not how you're concluding that we've gone up twice.

Council Member Berman: I could be completely misinterpreting the—it's on Packet Page 13.

Mr. Bobel: Let us look at that. That doesn't compute for me.

Council Member Berman: Got you. That works for me. Thank you. Page 12 of the report, Packet Page 17, now I'm missing it. I just can't read what that bottom left quadrant is on the pie chart.

Mr. Friend: The bottom left of the pie is air travel. About 21 percent of the total. These are estimates based on aggregate numbers in the region, I believe. They're not specific to here. We'll be trying to drill in and get

tighter numbers on some of these, working with University California, (UC) Berkeley and some others in the coming year.

Council Member Berman: Thank you. Even as estimates this was incredibly informative, especially as we talk a lot about natural gas. Space heating and water heating, I understood those were the two big drivers, but I didn't fully comprehend the great majority of our natural gas usage. I didn't compute the numbers, but it's 13 out of 15 percent. Quick math, that's 88 percent or something like that. It's a huge amount.

Mr. Friend: Cooking, which is the thing that people often throw up as an objection to electrification, is a very small piece of the puzzle. To be clear, water heating is going to be easier to get at than space heating. Those two together are the lion's share of that.

Council Member Berman: Is that because the technology for water heating has improved or become more efficient? Why is that?

Mr. Friend: It's because of the availability of heat pump water heaters, that was alluded to earlier. If you think about space heating, it involves a lot having to do with the structure of a building.

Council Member Berman: Makes sense. On Page 15, going along with what Council Member Burt was talking about in terms of the purpose of RECs as a bridge, it looks like on this chart that as of today we're going to have to rely on RECs again in about ten years.

Mr. Friend: No, you can read this differently. These are the large solar purchases that we have in place. We're going to have to make additional large solar purchases going forward. That's one conclusion to draw from this. The other factor is that below the zero line is hydro. About 50 percent of our portfolio is hydroelectric. The strategy is premised on stable hydroelectric supplies. That's the question we need to think about there. What if those supplies are not stable, how does that affect the strategy going forward or how do we prepare for that contingency?

Council Member Berman: It just tells us that, as we talked about in the Study Session with the UAC, we need to stay proactive on identifying good options and opportunities. One of the things that was brought up earlier was landscaping and big lawns and are those a thing of the past to the extent that everyone has them today. A couple of us got an email from a frustrated resident who alluded to the lawn outside of the Rinconada Library, which I haven't had a chance to drive by since I received the email so I haven't looked at it recently myself. Have we done an analysis of all the different kinds of aesthetic lawns that aren't used functionally as lawns on

City property and thought about better, more efficient uses for those spaces?

Mr. Friend: We in fact have. We just had several meetings about that today. The City is developing its own water plan, the same as we're asking everybody else in the service area to do, that will withdraw water from primarily ornamental uses, ornamental turf. In the case of turf for playing fields, that will probably be protected because there are safety issues involved there. Other more selective, careful choices across the entire landscape that we manage.

Council Member Berman: Remind me what in specific you want us to address tonight? You've given us a lot of information. A lot of it is incredibly helpful. I want to make sure that I provide you feedback, if there are certain things that you're looking for feedback on.

Mr. Friend: All the comments so far have been enormously helpful. We want to hear your mind on these issues. There's a lot of pieces of this puzzle, so grab the pieces that are most interesting to you. If there's any one thing I would request your guidance on, it's this question of what kind of goals do we want to think about. Do we want to sign onto the State of California 80 by '50 which is a completely reasonable option to do? Do we want to do something somewhat more aggressive or greatly more aggressive? I don't expect you to have a decision on that until you see the specifics of what might be required. Getting a sense of how you think about that, what questions come to mind for you as you think about it, what would help guide you in making that evaluation, that would be very helpful to us right now.

Council Member Berman: Council Member Burt spoke about how the trends that we've had in terms of Green House Gas (GHG) reductions since 1990 and how we've made great progress. I'm assuming that a lot of that progress was the low-hanging fruit. If not, then great because that means there's a lot of low-hanging fruit left to grab. I agree that we should at least plan to stay on that trend line, if not be more accelerated than we already have been, if it's 80 percent reductions by 2040 or a couple of years before 2040, if that's to push us to go harder and faster and stronger than we've been going. The need to reduce our greenhouse gas emissions hasn't abated; it hasn't gone away. We need to keep on going along the trend that we are, getting more creative. I'm going to feel like I'm repeating myself in a minute because of the conversation we just had with the Utilities Advisory Commission. I'm going to try to resist from doing that. Obviously fuel switching or electrification is something that a lot of us are interested in. We're fully cognizant of the fact that there are going to be complications

along the way that we have to be very aware of and have a conversation about. It's definitely something that I'm interested in. Council Member Wolbach's point about rainwater capture, I'm curious about that. I might go check out what Stanford's doing. It's definitely something that we need to consider. I'm encouraged to hear Council Member Burt think that this is a very achievable problem that we have. Let's try to move as fast as possible in coming up with a plan. Maybe we can serve as a role model to other communities about the easy ways to either be more efficient with our water usage or create supply through water recycling. That plus everything I said during the UAC Study Session are my thoughts. I'm also curious to hear from the audience. I don't know if 90 percent of you guys are Staff. I don't think you are, because I recognize some resident faces from out there. I'm impressed by how many folks are here from the community who clearly are passionate and care about this. That gives us and Staff a sense of the priority that this is for Palo Alto.

Council Member Filseth: Thanks very much. Thank you, guys, for putting together all this data. I wanted to ask a question about fuel switching. In Page 19 of the Packet, there's a chart that looks like this. If you look at the top one which is natural gas consumption, it looks to me like about one-third of our natural gas consumption is residential, and the other two-thirds is a combination of commercial and municipal, mostly commercial. The question I had was most of the dialog that I've heard about natural gas usage reduction has been about heat pump water heaters and clothes dryers and things like that. All that's residential kind of stuff, I assume. Are we looking at measures that would impact the two-thirds that's used by commercial as well as just residential?

Mr. Friend: Yes, we are. The proposed plan that we'll bring back to you will talk across the board of this entire fleet of natural gas uses. Many of our commercial customers, certainly the larger ones, are already at work on these issues. Utilities has programs working with customers on demand reduction. You're right to point out that clearly two-thirds of natural gas, half the water, 80 percent of electricity is from commercial sector. That has to be addressed as part of any plan.

Council Member DuBois: On water, I'd like to emphasize, echo two of the points that have been made. If there are ways to accelerate recycled water in the City, there's interest in that. Also maybe ramping up incentives on water-efficient landscaping. We already have some, but maybe there's more we can do in that area. Council Member Berman pointed out the one chart about the Scope 3 emissions, things that are outside the City like air travel, food supply. I was interested in a chart from the appendix, Page two of Appendix A, which was from the old plan that broke it down and included a

lot of those external uses. Are we going to be seeing an update of this chart as part of your plan? The total greenhouse gases and breakdown by commuting patterns and that kind of thing.

Mr. Friend: Our intention at this point is to include it in the Climate Action Plan. We don't include it in the reporting, because it's not part of the reporting protocols that are expected of us as a City. We report on the things that we have control over. As a community with a commitment to dealing with the climate crises, it needs to be part of our conversation.

Council Member DuBois: You just answered my next question. When we talk about 80 percent reduction, it's not from this total greenhouse gas. It includes things like food supply. It's only on the stuff within the community?

Mr. Friend: The way cities have been doing it, as I understand it, is not to include that, but to report on the reportable components of Scope 1 and 2, what we burn and the energy we buy but not the food and air travel. This is a place where we have the option to decide to do it the way everybody else has done it or to broaden the scope. It's an open question for us. It's a lot harder, as you can imagine, to think about how we get at those, because those are very much behaviorally rooted.

Council Member DuBois: Commuting, is that all one and two whether it's within the City or in and out?

Mr. Friend: Commuting is one and two, and you see that on the road travel part of the charges.

Council Member DuBois: No matter where that commuting is, it's included.

Mr. Friend: Yes.

Council Member DuBois: Does that include people cutting through town and going...

Mr. Friend: No. The transportation model looks at people traveling into Palo Alto, out of Palo Alto and within Palo Alto. It doesn't count people traveling through.

Council Member DuBois: Thank you for clarifying that. In this appendix, there was an interesting example of using landfill gas to drive the bio-solids incinerator. It was a great win-win. Do we still have low-hanging fruit, those kinds of win-wins, or is most of the low hanging fruit picked already?

Mr. Friend: In my experience, if you play your cards right, the tree has a way of bending over and giving you more of that low-hanging fruit once

you've gathered the first crop of it. There's still more to be done as the economics shift, as we get smarter, as technologies change. We'll continue to look at that, both improving operations within existing technologies as well as looking for technology replacement, where that makes sense.

Council Member DuBois: I get the sense you're asking us to get to the point of agreeing to a big goal or what the goal is. I'd like to see a goal that's supported by facts. Not that we'll know everything up front, but hopefully it'll be supported to a large portion. I don't want us to get caught up in this abstract goal without understanding the economics behind it, how technically reasonable it is. We can be cutting edge, but we need to understand how far over the edge we are and how we leverage the power of the market in terms of innovation. We have a unique opportunity to be a test bed. We have this utility; we should be easier to work with than the larger utilities. Hopefully innovators come to us and see us that way. As it's been said at the UAC meeting, we need to keep the lights on, we need to have reasonable rates for our payers. We all want to be progressive. If we try and fail, that's not the example we want to be. Obviously you're going to come back with a more detailed plan. In thinking about what the goal should be, continuing the improvements we've been making is not It's not easy to keep continually making those necessarily a given. improvements. It's going to be harder and harder to eke out returns; it's going to cost more; it's going to require more focus. necessarily we're on the path. If you look at our progress, it hasn't really been a smooth curve. It's been starts and stops, which you would expect. There was a short discussion here about net zero and performance-based goals. The way I read it, it was a choice between prescriptive approaches and performance-based approaches. I'd like to see us do both. When we get to things like land use, we talk about zoning for what we want. We could zone for what we want and we could set performance requirements and targets. I don't necessarily see them as an either/or choice. Thanks.

Mr. Friend: Thank you, Council Member. Could I respond to a couple of the points?

Mayor Holman: Absolutely.

Mr. Friends: Thank you for the clarification. Performance-based goals not versus prescriptive, there's a combination of both of those. There's new territory for us to explore in performance-based. That was the point we were trying to make there. I agree with you that continuing the trajectory we've been on is not a given. It requires commitment and diligence to do that. The trajectory that Council Member Burt referred to before includes the one-year big drop of eliminating the electricity footprint. It's averaged

out over all those years, but that's not something that we get to do every year. It'll take some diligent focus here. I do respectfully disagree with your assumption that it's going to get harder and more expensive to make these changes in the future. That's not borne out by experience in other cities and in companies around the world. We'll have to see the specifics. To your point that we need to look at the specifics, absolutely so. We will bring you as many of those as we can, as fully buttressed as we can. Let's be clear; if we're going to do a 25-year plan, say to 2040 as Council Member Burt suggested, we're not going to be able to nail down every piece of that plan. The horizon recedes; we can say with a lot of clarify what the next five years would be, perhaps the next ten year, but who knows what the technologies will be on the table in 15 years. You're going to face a pretty interesting challenge, which is choosing a direction in which you have very substantial certainty about our ability to fulfill it or possibly setting a goal that is a challenge where the direction is clear, where every step of the road is not yet clear and you basically challenge Staff to say, "80 by '40, or whatever the number is, figure it out and come back to us periodically with specific plans that are documented, grounded, analyzed," and we move step-by-step to filling that in. That's the challenge there. Last thing very briefly. It's really important and a number of you have raised it. You talked about the opportunity to be a test bed but not at the expense of keeping the lights on, total agreement there. My first conversation a year and a half ago with Val Fong—Val, if you're here, I hope you'll permit me to say this—Val said, "Before you say anything, I want to make it clear to you that I will not entertain any suggestion that compromises reliability, quality or safety." I said, "Absolutely not. I will never suggest anything that does." I just want to question the assumption that many people share that the kinds of change we're talking about necessarily mean compromising those values. don't; we won't.

Council Member DuBois: Thanks for that clarification.

Council Member Scharff: Thank you, and thank you for the report. The first thing I wanted to highlight since no one else has yet is the mobility as a service, where you say user centric, all the design designed to solve the transportation, congestion, parking problems in a multimodal, subscription-based service-level solution. What I assume you mean in all this jargon is that you're going to make it easy to get around in a simple way, right?

Mr. Friend: Right.

Council Member Scharff: When I was looking at what constitutes our greenhouse gas emissions, transportation obviously dwarfs everything else. Obviously if we had a simple way to get people out of their cars, that makes

the biggest difference. I've got to say, the trends are in that direction. I know it seems funny. I was at a conference a little while back where someone showed a slide. I don't remember the exact thing, but it was something like in 1900 there were all these horse and buggies on the streets. Like five years later, there's no horse and buggies. What that told me is that rapid change can occur. The combination of self-driving cars, what we're seeing with Uber, once you have self-driving cars, it becomes fairly clear you don't need parking garages. You send your car somewhere else, where it becomes easy. Suddenly, you don't need to own a car, because all cars are Ubers at that point. Why own one when they're selfdriving and they come and pick you up and take you where you want to go. It becomes a mass transit system? There's all sorts of things you see there. A combination of that with smart cars where you have self-driving cars but they can drive almost bumper to bumper. You double your capacity on the roads. You then make them all electric, and suddenly what you have is a mass transit system based on the automobile. We're done with that. The future could be very bright in lots of ways of all of that. I agree with you and disagree with you at the same time in that if we're looking out to 2040, we're going to see huge technical innovations. One of the crazy ones that you could have is electricity becoming so cheap through solar. I'm watching it fall; solar is getting more and more competitive where it's going to be cheaper than brown power in the not too distant future. When I saw that our avoided cost on solar is 10 cents and something, when I joined Council I don't remember what the number was, but it was something much, much higher. I think it was double that. That's just my recollection. I don't know if you know.

Mr. Friend: I don't, but it was probably more than double that, I would imagine.

Council Member Scharff: In five years, we've seen this radical shift in where solar is. Yes, go buy as many power purchase agreements as we can. We need to do that. That's easy. It seems that my experience on some of this stuff has been that the low-hanging fruit gets taken early on. You're the one who just pointed out that we had a big drop based on going carbon neutral. Those big drops are hard to necessarily come by. You can't recreate the ones you've just taken. What you really need to get another big drop is some sort of technology breakthrough or innovation to get a big change. When you see all of that, it's good and smart to plan aggressively for 2040. It's good to have a stretch goal. What you do in the next five years should be realistic and achievable. You hope that the technology comes along. I could envision a world where electricity is so cheap that we use hydrogen gas rather than natural gas for those few items that you need natural gastype things for. At that point you wouldn't have any emissions based on

that, because you're splitting water. We're going to be okay. I wanted to ask you on the Sustainability and Climate Action Plan (S/CAP), somewhere in the report it says you're bringing it in the spring of 2015. Any sense of when that is?

Mr. Friend: I'm working with the City Manager on dates, but we expect it would be one of your last meetings before you go on recess.

Council Member Scharff: In terms of water, there does seem to be large opportunities in terms of water these days. That is something that is achievable. We can show tangible results in fairly short order. I would be supportive of spending some resources on looking at that. Thanks a lot for the report. I'm looking forward to what you come up with in the S/CAP.

Mayor Holman: A number of comments here. I'll go through them pretty quickly. Air travel, a comment was made that that's outside of Palo Alto. It really isn't, because we generate a lot of that air travel here. We come and go ourselves and we have people that come to our community to visit on business or pleasure or whatever. I don't know how best you can capture that, but it really is partly Palo Alto too. It's local as well as regional. Do you have any idea about how you'd capture that?

Mr. Friend: Capturing it precisely, no. Capturing it approximately, we're starting to work with a research outfit at UC, Berkeley that uses census data and economic analysis to impute estimated greenhouse gas emissions. We'll get a better estimate from that hybrid input/output analysis for those of you who care to dig into that. Getting a precise measure of it is hard, just as getting a precise measure of transportation is hard. This is modeled estimates. That's why we call these reductions an estimate; we don't know exactly who drives how much at this point. We're using regional models to estimate what those mixes are here. We're not going to get precise on these numbers. I would encourage you to keep in mind that any of the greenhouse gas estimates are probably plus or minus 10 percent. Maybe plus or minus 20 percent accurate is about as good as anybody does. The more important question is what do we want to do about that. Do we want to in effect take responsibility for air travel emissions that this community generates? If so, then we need to start thinking about this is a realm where we don't have control over the technology, we do have a conversation in the community about the personal choices about how we travel.

Mayor Holman: Thank you. I was thinking, reading this, that for a couple of years or so at least, I don't remember the name of the book anymore, but there were other models. I could go online and calculate your own carbon impact, your own carbon footprint. We don't promote that or even mention

it anymore. It's not necessarily going to change things dramatically, but it can raise consciousness. What a lot of this is about is just mindfulness. That's what a lot of it is about. Landscape and water. I agree with a number of the comments that have been made, Council Member Burt's comments about landscape in particular. There's something that's missing for me just by reference. That is that there doesn't seem to be an acknowledgement that as we try to conserve water in our landscape and convert from grass to other plantings, that we need to consider habitat. I just don't see it referenced. The Urban Forest Master Plan is coming to us in the not too distance future. I've forgotten exactly what date. When we're talking about conserving water in the landscape, we aren't talking about how trees need water. We need to integrate that. We don't want to have unintended consequences because one document isn't referring to another, isn't integrating in it the essential portions of what another document contains. Habitat and our canopy needing water. Habitat is not just pick a ground animal, but it's also habitat for those pollinators that we rely on for just that, pollination. Gil, you're not going to be surprised at this. I've mentioned this before. I mentioned it this morning. Our Construction and Demolition (C&D), we talk about low-hanging fruit. We've had a C&D Ordinance, Construction and Demolition Ordinance, since 2004. The chart that's in your presentation, I think there's one similar to it in the Packet, shows that we are pretty flat on the last three years. We even had a little bit of a spike four years ago about C&D and landfill diversion. I was told previously that in Palo Alto that's due to construction activities. That would be consistent with what I know San Francisco's numbers are. Their numbers are also flat because of construction activities. You may hear a little bit of my frustration in this, because year after year I raise this. Phil Bobel is so familiar with me saying these things. While we have this low-hanging fruit, we know that new materials cause impacts because of their manufacture. The last numbers that I saw, I don't know if these is current or not, new materials are transported seven times, all that transportation, before they reach their final destination. Reclaimed materials can be reutilized either onsite or on another site, requires no new manufacture and most likely more local delivery to a new site. Sites that are completely demolished require water to water down the site to keep the dust down. It's another impact of solely demolition. If you salvage, you don't take nearly as much water because very little dust is created. Only when you're dealing with the concrete do you have that much dust creation. I talked about the City has a robust green building program, the new Green Building Ordinance, all of that. We're not recognizing the embedded energy in existing materials and We don't do anything that I can see to encourage existing buildings. adaptive reuse of buildings. There are a lot of occasions where it could. Look at our new Rinconada Library. That's a great example. Not always is that possible, of course, but I don't see us encouraging that. It is low-

hanging fruit at a minimum to encourage salvage. I don't need to remind anybody here, but maybe I do, that the environmental triangle is reduce, reuse, recycle. The Staff Report on Packet Page 23 has a very short paragraph about zero waste, does not even mention salvage. It mentions recycling. I want an answer from Gil and from Peter, why it is that when I stop by a construction site and ask what they've been told about salvage, the answer is, "What are you talking about? We're recycling everything here." Why is this? I am frustrated with this, because it is year after year I ask this, when we've had a C&D Ordinance since 2004.

Mr. Friend: Since you invited Peter to speak to this, let me ask him to come up too. This is something we need to look at more carefully. I don't know what the breakdown numbers are on that. I don't know yet how much of our remaining 10 percent toward the 90-percent goal would come from C&D versus composting and the other measure we're undertaking. I agree with you that this is an important measure. The way that you have framed it, looking at some of the systems costs of embedded energy, the water required, the transportation demand engendered is really important. If we have programs that aren't showing up as taking effect on the job site, we may have programs in place, but if people don't know about them or aren't interacting with them or they're not being adequately supported, then that's something we need to take a look at.

Mayor Holman: There are two houses just a block away from me that were totally demolished. I asked both of those contractors what they knew about salvage. Neither one of them knew anything about salvage. I'm serious in wanting to get this in place. Why isn't it in place when it is an Ordinance that we have?

Peter Pirnejad, Development Services Director: Good evening. Let me first say that's a great question. It is something that is on our minds. We have a very aggressive C&D Ordinance. We've seen a lot of improvement in how much material is recycled. When we looked at our C&D Ordinance two years ago, we realized we needed to do more in the way of encouraging buildings to be reused. The issues is it takes a lot more time and a lot more energy for contractors to do that. What we've done to incentivize that work is allow for the issuance of a demolition permit well in advance of their building permit to start the construction so that they have plenty time to start the deconstruction process. We've talked at length about the tax incentives of using those recyclable materials. In fact, Judith Wasserman, a close contributor to the work that we've done at the Development Center, has great examples and statistics and metrics about how much money can be saved in some of these "older" homes that are being torn down. Again, it's an educational process. We are pushing for the community to take more

time, slow down and look at the value that's embedded from a monetary perspective as well as from a greenhouse gas perspective in these existing structures. In fact, before you tonight we'll be bringing a Green Building Ordinance Amendment that mandates Tier 1 and Tier 2 construction techniques which demolition, again, is embedded in that Ordinance as well. We'll continue to press that and encourage applicants to take the time to do the deconstruction and in every way, shape and form provide them the leeway and the training and methods to take advantage of that.

Mayor Holman: When it's in our Ordinance, why aren't we requiring it? Why aren't we going further? I'm a little concerned about saying that you're giving demolition permits prior to building permits, because we just flipped that a few years ago for very good reasons. It takes a little bit longer, but some of the other things we put in requirements also take longer, but we're not allowing for "we'll let you start construction earlier because of those things." It seems like there's a real disconnect here.

Mr. Pirnejad: One of the areas that we identified during our green building retreat was deconstruction. We prioritized that with input from the Green Building Advisory Group. It is one of the things that we're going to be taking a closer look at. This year, we were mainly focused on water and energy. It is something that we can take a closer look at going into this next Code cycle.

Mayor Holman: Not to hit you guys over the head, but I'm going to hit you over the head. It's 11 years, 11 years. Phil, you have some comments?

Mr. Bobel: In defense of Peter. One thing that's going on here is we could be increasing, I think we are, our percentage of material that gets reused, recycled. Yet, the economy is going gangbusters right now. That's what you were alluding to. We've got these two offsetting effects. That's one thing that we have to realize is going on. There's our overall chart, it happens to be up there. You see that same thing happening there. Our diversion looks like it's going down a little bit. This is the overall diversion, not just the C&D diversion. The same thing hit us here. The economy got a lot better; we had a lot more occupancy in the buildings. Frankly, we got a lot more trash. That's one factor. If I could just say one thing on the dust control and the use of water. That's a great point. In fact, we were just talking about it today and that we need to get more aggressive there. We probably need to suspend the use of potable water on dust control. That's something I'm personally going to see is there some road block, is there some reason for not doing that. We haven't thought of any yet in the six hours since it occurred to a bunch of us that we needed to do that. They can either use recycled water, yes, they have to drive all the way to the

sewage treatment plant, but life's tough. They can use the water from one of our pumping sites. There are two now in Palo Alto as of today that are pumping groundwater and can be reused. They can send a truck over there if it's more convenient than our sewage treatment plant. The third thing I wanted to say in response to one of your points was the tree angle. We're tuned into that. What Community Services Department (CSD) is trying to do in their park-by-park analysis is look at two ways of looking at turf. One is what does it take to keep the turf alive and do we want to keep that particular piece of turf alive. Secondly, what does it take to keep the trees growing? Probably it takes a lot less to keep the trees growing. Probably two waterings a month can keep the trees growing. I just wanted to point out that where the trees are in the middle of the lawn, we're not ignoring that. In fact you'll see it in our analysis.

Mayor Holman: Thank you for that. I hope there'll be some different news to report the next time.

Sven Thesen: Good evening Council Members. Sven Thesen, Palo Alto resident, chemical engineer, owner of project green home, net zero energy, part-time consultant to the City on electric vehicles, climate activist and loud mouth. First, the bad news, the trends. The trends are as true as your cell phone mostly works. That's the bad news. Climate change, the battle we're losing. Every year our carbon emissions as a society go up. As such, I'd like to show one graph that I've put up as a presentation. This is California emissions cumulatively for 2012. As an engineer what I like to work on is the 80 percent solution. What is the biggest problem? Once that slide goes up, you'll see it's actually transportation. Worse, it's our light-duty vehicles. Unfortunately it's really hard to see, but it's 120 megatons per year of lightduty vehicles. It's all about what Greg and Pat talked about. How do we get out of our light-duty vehicles? Two great things are happening as Greg and Pat alluded to, which is changes in our transportation, both technology and stereotypes. I'm 50; I had a car when I was 16. I had my driver's license when I was 15. I bet you guys did too. My nephew, who's 21, still doesn't have his driver's license. This is noted by all the major automobile manufacturers, that they are losing the number of people who are buying cars. We have Uber; we have Lyft; we will have self-driving cars. The problem is we will have them in five or ten years. Right now we need to slow down that bus that we're all riding on into that cliff, so we can do as much as possible to solve that 80-percentile problem. Residential, I feel really good about having this net zero energy ultra-low carbon household, but it doesn't really matter compared to how much that dark green is over Only a very small component of that is heavy-duty trucks. miniscule component is airplane rides. That's important. potential solution by converting our transportation. The sooner we do it the

better to get those middle and late adopters in. Education and adoption. I challenge all of you to get into an Electric Vehicles (EV) as soon as possible. I want to talk about water, but I also want to talk about the good news in getting out of those cars and the technology. The total cost of ownership for those electric vehicles right now is cheaper than a conventional vehicle. Water and energy, we want to talk about economics, because that's important. There are more people employed in the solar industry in California than are employed by PG&E, SoCal Edison and San Diego Gas and Electric. Our three major utilities in the State employ fewer people than the solar industry does now. Where has that blossomed in the last five years? Water. This is the City's water use right here for residences. Residences use roughly half the water out of Gil's report. Thank you.

Steve Raney: Good evening, Council. Let's definitely go for the moon shot. I wanted to ask if Council has an opinion about adding some kind of initiative on housing. For example, low impact housing micro units. Taking something that can make some waves, that can really scale where there's a lot less driving per capita in those new homes and a lot fewer cars. They could also have a very green building design as well, such as the Patrick Kennedy micro units up there. Potentially you could follow Stanford West's green housing preference to reduce commuting, build that in as well. Take a parcel like 27 University, everybody bikes to Stanford for their job and then they spend their money in Downtown and they don't have much need to drive. It's affordable by design. Thank you for your consideration.

Timothy Gray: Good evening. Tim Gray. I wanted to make sure that we keep a global look at the greenhouse gas and this whole topic. Oftentimes, people get into thinking that we're going to reduce the gas here. Maybe that doesn't tie in with what happens in China or the rest of the world. If we can take more of a global look. For example, if each of us would just, I'm not sure what the statistics are, reduce our meat consumption by 50 percent, it's the equivalent of having every single resident in Palo Alto switch from a Sport Utility Vehicle (SUV) to a Prius. That would be a tremendous accomplishment. Just a little conversation with the community about other impacts besides the micro projects that we would want to showcase. I'll just leave it at that for the sake of time. Take a bigger look at the issue and let's not get into something that we do right here to produce pride in being green. For example, look at the cost of batteries in electric cars. Let's go back to the manufacturing of the savings as well as what happens right here in Palo Alto.

Wynn Grcich: Hi. I was at the Earth Day Festival in San Francisco on 22nd and Mission on Saturday. I was protesting the chem trails. There's going to be a huge global march this Saturday on it. This is something when you're

talking about what's happening with this climate change, yeah, we could have more water. Stanford has a grant with National Aeronautics and Space Administration (NASA) to spray those chem trails, which is geo-engineering If you look up on YouTube, they have a video called Geo-Engineering Lawsuit, and everybody should be looking this up to see what we can do to stop this drought. If they stop geo-engineering the weather, then we would have more water. Secondly, there's more legislation that needs to be passed. In naturalnews.com on April 18th United States (US) government allows powerful corporations to sell California's water with no permits and no reporting during the drought. We could save water right there, if we go after this and make sure that our government doesn't do this. Nestle is being sued right now, because their permits have not been renewed. Their privatizing of the water and bottled water, they're selling it While we're sitting here turning our water to toilet to tap, we have these corporations that are selling bottled water elsewhere and not to us. That's one way we can get rid of it, if everybody got involved in this. Secondly, the fact is you're talking about dust. You can put tarps down when you do construction and roll it up like carpet. That'll keep some of it down, where you don't need to use water. Paul Gardner from East Palo Alto used to have a company that did this stuff when they took...

Mayor Holman: Deconstruction is the word I think you're looking for.

Ms. Grcich: The demolition, that's what he would do. He's now moved to San Mateo. If you hire him, then the East Palo Alto people would get the jobs, because they work for him. Another thing too is that you're talking about cars. What's going to happen when all these cars that have batteries get in wrecks? Where's the dump for all the battery acid that's going to be coming out of this? Here you're talking about carbon credits and all this stuff, where's going to be the waste dump for that? I can't imagine if a Tesla car gets in an accident and it can't be repaired that we're going to create more of a problem. Most of all, when you're turning toilet to tap and you're doing this thing with taking your sewage sludge and turning it into mulch, you've got copper in it. When you recycle the toilet water, you're going to have copper in your recycled toilet water. I'm going to put this on public record. You can all check it out. Copper causes gastrointestinal distress. It causes Alzheimer's. It causes Parkinson's. The fact is it causes kidney damage. When you're turning to toilet water even though you think it's cheaper, Dr. Wynn Parker's been on the radio for the last eight years talking about recycled toilet water. He did Deoxyribonucleic Acid (DNA) research at Stanford and he wrote Chloramine Causes Collateral Health Damage. You might think this is a cheap outlook to recycled toilet water, but you can't get all the stuff out. When you use these toxic poisons, this is the Swan report done on chlorine, how it sterilizes people and causes

miscarriages. This is the other one saying that fluoride is your next contraceptive. I'm going to put this on here and you can see what the water in recycled toilet water will do. It'll increase cancer death rates.

Bret Andersen: I'm Brent, a Palo Alto resident and member of the Green Ribbon Task Force from way back as well as Carbon Free Palo Alto. I wanted to mention two things in terms of connection with this whole effort. One would be to look at the potential effects of telepresence on transportation and greenhouse gases and the connection of that to the City's new vision for utilities bringing perhaps broadband communications into that, having that get funded in part by telepresence services. Telepresence is not just business meetings and reducing carbon at the corporate level, but also dispensing medical services, not having to do those errands that you would normally do for service providers that can be just in the same town, across town. For example, my visits from south Palo Alto to Palo Alto Medical Foundation (PAMF) for a dermatology check or whatever it is that can be done via telepresence these days. There's a connection there that we should look at in terms of how fast we could eliminate some of those trips. The other area would be to look at the cooperation regionally and not pass up in a sense opportunities with organizations that are making that effort to provide alternatives to car transportation. Namely here, I'm talking about Bus Rapid Transit where we have a regional organization that is looking to invest a substantial amount to improve the alternative infrastructure including bicycling and pedestrian. We should look more carefully as a City even though we have traffic models that show it might provide some additional traffic for car transportation. Let's make an effort to work communally with these other cities to build these infrastructure components that allow us to make the transition away from car culture. Whether that car is electric or gas doesn't matter if you're still energizing those cars through fossil fuels or potentially creating the traffic, the health, the safety and the congestion issues. I would urge the Council to take the default green approach when we're dealing with these external entities that have good ideas and projects to invest in.

Stephanie Munoz: Good evening, Council Members. Some 50 years ago after the second World War, our country made a huge investment in education and in homebuilding to honor the veterans of that war. It was so well received that ever since we've been on a growth spiral, up, up, up. It's almost been like a religion. That was the most important thing, to have growth and lots of jobs, lots of good jobs, and lots of everything. Get rid of the old one and buy a new one. Even 50 years ago, Santa Clara County was saying to us, "One of the problems with low income housing is the people are just staying in their houses and they're not buying new houses and leaving the old ones for lower income people to use." Gee whiz, I didn't

know. These past few weeks, we've seen a little bit of a change in outlook. Instead of saying, "Let's get rid of those poor people. Let's get rid of those old buildings. Build new buildings. Get rich new people." People are saying, "Wait a minute. We don't want to get rid of those poor people. We don't want to get rid of those old buildings. They're actually useful. Why can't we have new buildings also? Why can't we use the old buildings for something else?" We're pretty much stuck in a throwaway mindset. It's been a month since I looked at the gym at Palo Alto High School and realized that there was no reason why it had to be demolished. None. I had thought it was in the middle of a cluster of buildings, and they wanted to put a new one in. It's not; it's out there. Anyway, I would like to suggest that you spend a little bit of time thinking about what will happen if we have depression and deflation. Some of this stuff will be all to the good. A lot of solar will help, because we won't have to spend so much on energy. That would be good. It would be good if right now in addition to the work on new construction and new requirements, you help people do something with their old houses to make them energy efficient and water efficient. I have a tenant and I said, "You could have maybe an extra shower if we took out the tub." She said, "I really like the tub." Nobody is even thinking about some kind of a pump where that tub water could water the apricot trees. Nobody's even looking at it. You guys should. It would be a big help to everybody, a big savings. Thanks so much. Good night.

Mike Francois: Good evening, City Council. Mike Francois, your next door neighbor from East Palo Alto. Just a couple of comments. This has to do with recycled water, the first one. It says infants below the age of six months who drink water containing nitrates in the excess of mcl will become seriously ill and if untreated may die. Symptoms include shortness of breath Erosion of natural deposits discharged from and blue baby syndrome. refineries and factories, run off from landfills and lands, run off from fertilizer use, leaching from septic tanks, sewage, erosion of natural deposits. This is from nitrate and nitrogen, which is basically ammonia. Ammonia is put in water, as we know, to kill the smell and kill the germs. We know that. These are things you should consider. Also, you're talking about vehicle transportation. Tata Motors last year out of India, and India as we know went further than the United States has even been in space. actually gone to Mars. The United States should be monitoring them, because their technology is way out there. Tata Motors has developed a vehicle that runs on air. People laugh at that. They also laughed at running off of cooking oil for a while there. In fact KFC, they laughed at that but that came to be. Wynn Parker, Republican Broadcasting Network, who is a 15year student at Stanford who has studied science and law, comes on the radio every Sunday morning from 8:00 to 11:00 A.M. He talks about all this stuff you are talking about. He talks about where it's going, who's

developing it, who's ahead of it and why they aren't developing it and who is stopping it. If any of you are interested, try one Sunday morning. You can call in live and tell him who you are or don't tell him who you are. You can ask him a question about these things, and he will tell you his version. It may line up with yours. Thank you.

Mayor Holman: Thank you. Thank you to Staff with the notable exception. You're doing a great job, leading us well. You're covering a lot of bases. Really appreciate all of your effort in so many regards. Thank you.

Mr. Friend: Thank you, Mayor Holman.

City Manager Comments

James Keene, City Manager: Thank you. Madam Mayor, Members of the Council. A number of items to report on. First of all, the California Avenue Streetscape is nearing the finish line. Construction crews will be putting the finishing touches on items such as the lighting and landscaping over the next week. No grass landscaping, of course. The new fountain on the plaza will be installed tomorrow. Mark your calendars, Thursday, May 7th at 2:30 P.M. for a celebration with the local merchants where the City will officially commemorate and cut the ribbon on California Avenue. I did want to share that Palo Alto local Matt Schlegel, who you met a few weeks ago, successfully completed the Kasumigaura marathon in our Sister City Tsuchiura, Japan over the weekend. Reports suggest he had a wonderful time. I don't know if that meant during the marathon or after the marathon. He reported his time of 4:25 was pretty close to his goal of a ten-minute mile. We look forward to hearing from him and seeing photos on his return to Palo Alto. I again wanted to go into a little more detail when we were talking about water. On March 17th the State Water Resources Control Board adopted emergency drought regulations that limit landscape irrigation with potable water. Our recommendations on how to enforce these rules are scheduled for the May 11th Council meeting. Our City's been actively collaborating with other water agencies and cities in the bay area to implement a two-day-a-week irrigation limit with even addresses watering on Tuesdays and Fridays and those with odd addresses on Mondays and Thursdays. We'll be bringing this to the Council for formal action. As I mentioned earlier, on top of the March 17th emergency drought regulations, Governor Brown declared a statewide mandatory 25 use reduction. reduction target has been increased from 20 to 24 percent from the 2013 usage levels. The State Board is expected to act on those new emergency water use regulations by May 7th. Mandatory reduction targets would become effective on June 1st. As you know, we already have water use regulations in place that restrict water use and some uses of clean, drinking

water in fountains, irrigation during the day, washing vehicles, etc. The City will continue to enforce these regulations in addition to new actions. As I mentioned earlier, we as a community reduced our water use by 16 percent from 2013 levels last year. City facilities reduced water use by 27 percent. Up-to-date information can be found at cityofpaloalto.org/water. I know in this environment the Council and Staff is hearing from a lot of our citizens who are concerned about this issue with different questions recently of dewatering new construction sites, landscaping, leaking systems, etc. We'll be developing some Frequently Asked Questions (FAQ) and some information. We'll put those both on the website, and we'll share them with the Council so that there's a better understanding about these problems or issues and the City's response to them. I'll have that out shortly. The City has released a Draft Environmental Impact Report for the potential project to expand our recycled water system. Council Member Burt, amongst others, mentioned it during the discussions earlier. This is a project that would deliver recycled water produced by the Regional Water Quality Control Plant to parks and commercial customers in and near the Stanford Research Park. Public comments on the Draft Environmental Impact Report (EIR) will be accepted until June 4th. There will be public meetings scheduled for May 19th and 21st. More information will be posted on the City's website. I did want to share that at the Adobe Creek undercrossing, City crews have completed the cleanup and fence installation of the Benjamin Lefkowitz Bicycle Pedestrian Undercrossing. The gates reopened last week. As you may be aware, they typically remain open until October 16th and close upon the arrival of the first significant storm. Work at the Palo Alto Airport started last week to make needed repairs on the runway and adjacent taxiways. The first of three phases was completed with rubber and marking removal, crack sealing and runway pavement repairs. Phase 2 involves microsurfacing and painting, pavement markings during two all-day closures of the runway and taxiways, tomorrow and Wednesday. The improvements that we expect to begin seeing with the City's takeover of the Airport are taking place. I did want to point out to the Council that at your desks you've got a copy of the Fiscal Year 2016-25 general Long Range Financial Forecast. We'll be having that on your agenda. Next Wednesday we'll be presenting you the fiscal Operating Budget and Capital Budget that are informed very much by that forecast. I also did want to share with the Council as a whole, I know at least Mayor Holman was able to attend an important regional event here in the bay area this past weekend which was a commemoration of the 100th anniversary of the Armenian genocide. Participation from a number of different organizations on that particular occasion, so we want to thank the Mayor for attendance there. I had two other things real quick. I know that Council has had the opportunity individually to meet Ed Shikada, who has been appointed as an Interim Assistant City Manager. I thought I would formally introduce him to the Council. I'd ask Ed to come up for a

minute and say howdy to the Council as a whole. In typical Palo Alto fashion, I brought him on and then left for a conference for a week. Just threw him into the pool, which is the way things work here. Ed.

Ed Shikada, Interim Assistant City Manager: Thank you, Jim. I just again want to express my appreciation to be a part of this team. I have, in approaching two weeks, been onboard, getting up to speed on issues. Jim's description of jump in and start swimming and try to keep up with the stream is a good, accurate one. Just with this evening's discussion as a good example, while the issues may be familiar cross the valley that cities are grappling with, the City Palo Alto's certainly ambition as well as ability to act is extraordinary. I look forward to working with you in support of the City Manager and the organization, advancing your priorities.

Mayor Holman: Howdy, Ed.

Mr. Shikada: Howdy.

Mr. Keene: Lastly, obviously this past week we had a magical event out at the Mitchell Park area with the formal opening of the Mitchell Park bridge. Mayor, I would turn it over to you since you have some important accourtements and comments to make.

Mayor Holman: Thank you, City Manager. It was a great event. It's a great If you haven't been, I encourage anyone, any age, any capability to visit. It was truly a magical day. There were hundreds of people there. Council Member Kniss, Council Member Burt and Council Member Filseth were there as well. Rob de Geus, who I do not see here right now, was there. He and I and Council Member Burt accepted the key to the Magical Bridge. Council Member Burt, because when he was Mayor, that's when this project first came to light. On the back of the key it says, "Only with each inclusive space will real magic in our town take place." It is indeed a magical place. There's been some quotes and articles. If you were there and talking with people, you could see mothers that were able to visit a playground with their children for the first time ever, children who were siblings were able to play with each other for the first time. remarkable, remarkable day. Very possibly it has a broader impact than they had ever imagined because of its inclusive perspective. Congratulations to Jill Asher and Olenka Villarreal especially on a tremendous outcome and their insight in including Royston who's the designer of Mitchell Park originally and Royston is the architect who designed the Magical Bridge Playground. Great success. City Manager, your comments stimulated a couple of questions by colleagues, Council Member Scharff and Council Member Filseth.

Council Member Scharff: Thank you. I just wanted to comment on the California Avenue things and ask you, first of all, when do we anticipate it being finished?

Mr. Keene: The report I have from Staff is sometime over the next two weeks. The final landscaping and some of the furniture and that sort thing will be done.

Council Member Scharff: I wanted to say I saw the Light Emitting Diode (LED) light there. I think it looks great. Those bollards look fantastic, the little rock bollards. It's shaping up nicely. The one thing I did notice and I figure we're going to fix it, but in case we don't and it slips through the cracks, I've noticed that the newspaper racks are now off in the middle of the sidewalk because we've extended the sidewalks. They need to be moved out. It could be something that slips through, so I thought maybe we could look at that.

Mr. Keene: Yes. Thank you for pointing that out.

Council Member Filseth: Thanks very much. I'm going to try to be brief here, because I'm going to go off the ranch for a minute. Regarding the State water mandates, discussed here, I have really complicated feelings about this. Very clearly we're going to need to take these kinds of steps. A little later this evening we're going to discuss Green Building Code and so forth. Everybody in this state knows that residential water consumption is a tiny fraction of the water used in the state. 80 percent of it is agricultural. That's one or two percent of the State Gross Domestic Product (GDP), and a lot of that's exported. In The Mercury News this morning, I read that the state almond crop, of which 70 percent is exported overseas, consumes more annual water than all private indoor water use such as showers and cooking and toilets that we're discussing in our Code here. The Governor's mandates don't really touch this 80 percent. They're not really addressing much of the problem. We're going to take a chunk out of the 20 percent, but it's not going to make much difference. It also sends a terrible message. I'm going to exaggerate a lot here. This is going to be absolutely as pejorative as possible. Basically it suggests that every drop of water that we save is essentially a corporate subsidy of somebody growing commercial cash crops. By itself, the Governor's mandate will be given...

Mayor Holman: Council Member Filseth?

Council Member Filseth: I'm going to close in a second here. It's a terrible policy and it's worse Public Relations (PR). I assume Sacramento is anticipating cities are going to scream. We should scream and stomp our feet. We should push back on this. Until Sacramento takes the next step,

we're going to take these measures, but they're not going to make a huge difference. Thanks.

Oral Communications

Wynn Grcich: Hi. Last week I was in Millbrae when they were talking about the Armenian holocaust. I thought it was to throw everybody off of what was happening right here. We're having our own holocaust. When our government has the right to put fluoridation and chloramine in our drinking water and they know it increases cancer death rates, what I put on your public record tonight, that used to be on the San Francisco Public Utilities Commission (PUC), the Environmental Protection Agency (EPA) safe drinking water studies. Ira Ruskin way back when, when they started adding the ammonia to the drinking water knowing it was going to increase cancer death rates, they pulled it off. They told everybody that to his surprise there was no State and Federal studies done on chloramine. Yet, Wynn Parker had the Federal studies that was given to him by Pat Martell when she was the head of the San Francisco PUC in 2003, and he wrote Chloramine Causes Collateral Health Damage. I do encourage you to listen to his show, because he's talking about the recycled toilet water. For the last ten years, we're on the death threat right now. This is going to kill a lot more people. When you drink recycled toilet water, you drink it and you're drinking someone Think about this. One-third of the else's medicines and their diseases. population's already sterile. One-third of the population is also on antidepressants. Most of the antidepressants have fluoride in it. Prozac is 97 percent fluoride. Listen to this. This is from Beyond a Pale Horse, Page 225. Using drugs and hypnosis on mental patients is a process called Orion. The Central Intelligence Agency (CIA) inculcated these desires in people to open fire on school yards, thus inflaming the anti-gun lobbying. This plan was well under way so far working perfectly that the middle class is begging the government to do away with the Second Amendment. The shooters were all ex-mental patients or currently mental patients who were all on the drug Prozac. This drug when taking with certain doses increases serotonin levels in patients causing extreme violence. Coupled with hypnotic suggestion through electromagnet brain implant or microwave or EFL intrusion, you get a mass murderer ending up in every case with suicide of the perpetrator. This has been going on. This book was written in 1991. You know all this is happening. Now we have Columbine locks on the schools. We have recycled toilet water and you're drinking everybody else's medicine, while you're continuing to add fluoride to the water. Also think about this. When it's mellow yellow, that ammonia in the drinking water is also going to be full of more ammonia and nitrogen, right? Then you don't have the extra water to make it diluted when you recycle it. We know it causes blue baby syndrome. Mike just read that to you, and you also have

the paper that I put on public record. I do encourage you to listen to Wynn Parker. He can tell you more about it. One other thing too is Abby Martin explains why fluoride is poison. This is on YouTube. She actually shows you on Earth Day that we're drinking the air pollution from the fertilizer industry in China to reduce cavities. If people knew that, they would be ticked off. If you're drinking this with lead and arsenic in it, who wants to give lead and arsenic to their children? We know from the Harvard studies, when it lowers children's Intelligence Quotients (IQ), which you have the Harvard studies that I put on public record, why isn't anybody trying to stop this?

Stephanie Munoz: Good evening again, Council Members. I've looked with some bemusement at the movement to have a higher minimum wage at the very same time when we're doing a large number of things to harm poor workers, like telling them they can't sleep in their cars and not having any kind of shelter for them and making the price of homes too much for them. It seems to me that before we raise the minimum we should have that assessment of the businesses that's going to come in order to have a business license. We should ask the workers as well as the employers about the effects of the minimum wage on their job and their business. We don't have to go by scare stories from Oakland. We should realize that all of the upward trend of the economy and the houses and the businesses and the money is not going to be mitigated by taking a piece out of Baskin and Robbins and your local tagueria. Instead what the cities of this country should do is stand up on their hind legs and say to the government, "We want single payer." That is we want the Social Security money to go into the health insurance instead of sending that health insurance money to the investment companies, to the insurance investment companies to put more money in the economy. The people are really suffering from not having the health insurance that they have paid for with their taxes. This is a good time to look at it, because we're looking at the difficulties of being poor workers. That's what's driving the call for a greater minimum wage. Those difficulties are real. I would like to suggest to you that their suffering would be greatly mitigated if we had national health insurance, so that all the money that the workers and the employers are putting into health would go into health. It would be a safety net for everybody in the country. This is probably the best time to look at it, when we're looking at the enormous inequalities in wealth and in salaries and the enormous suffering of the poor. Thank you very much.

Mike Francois: I'm going to speak on a subject that came to my attention last week. It was on Assembly Bill 277. That was last week. It came in the news, people up in Sacramento protesting mandatory vaccinations which Governor Brown signed. He's not forcing people with religious beliefs, but he did sign it. He also approved fracking. Something's wrong with him. It

was stopped on April 15th after Robert F. Kennedy Jr. spoke in Sacramento Stay aware, because it will be brought back like the biochemical creation bill. If you remember, that was Assembly Bill 2283, and it came in 2011. They wanted to melt down bodies, in a liquid form, and pour it down the drain. It came to the Assembly, and they turned it They listened and they brought it back again and they turned it down. Twice in 2011 they turned it down. You have to pay attention. They want to cremate dead bodies into a liquid form and pour it down the drain like they do in Florida and some of the other eastern and southern states. According to Brown, it was stopped in 2011, like I said, twice. Stopping it again, the vaccinations will sneak in again. Stay diligent, pay attention. No one person or no group of people have a right to tell you how to vaccinate your children or your cousins or your family. A lot of you here that sit right up there that look and laugh and whisper, you weren't vaccinated with all Who says that vaccinations work? The only people who need vaccinations are the people who come here illegally, who are allowed to stay who carry diseases. That should be mandatory, not mandatory driver's licenses. They should take vaccinations because they are bringing a lot of diseases to the schools. Also, Wynn Parker, that Wynn talks about, a San Mateo county resident, like I said from 8:00 to 11:00 Sunday mornings. He will talk about vaccinations if you ask. He will tell you about them. Stanford taught him well. He once won the smartest man in the United States back in the '70s. The know-it-all guy. What is it called, Wynn? The question and answer man. He answers questions in law and medicine. He passed, he won, he has some answers. If you just listen to him one time on a Sunday and just hear him out, 8:00 to 11:00, Republic Broadcasting Network (RBN) live on your computer. Look him up, Parker Pathways. Thank you. Last thing, I've got a few more seconds.

Mayor Holman: You have three seconds left.

Mr. Francois: Thank you.

Richard Yan: Hello, Council. My name is Richard Yan, and I am a participant of the I Medicine Club at Gunn. We have researched extensively on the problems of trichloroethylene (TCE), which is a carcinogen that has permeated through a lot of our groundwater supplies. We believe it is the entire community's responsibility to try and resolve this problem. TCE is a carcinogen that was used extensively in Palo Alto from the 1960s to 1980s as an industrial solvent. It was frequently spilled into the groundwater where it still remains today. This very groundwater could be a potential source of drinking water if the California drought continues. TCE is very harmful, even in small concentrations. The accepted amount is five parts per billion; although, some experts believe that lower doses can cause

cancer. According to Dr. Samuel Goldman of the Parkinson's Institute, research shows a significant link between Parkinson's disease and also TCE. The most infamous TCE plume in Palo Alto is the California-Olive-Emerson (COE) plume located at the superfund site. It is very large and contains two HP facilities and also a medical facility as well. It contains the HP facility located at 6202-640 Page Mill Road and a former Varian Medical Systems, Inc., facility at 601 California Avenue. It also contains the former HP facility at 395 Page Mill Road. It is only 15 feet underground, so this can cause cancer to a lot of people who are living above. It extends from Alma and Oregon Expressway to the HP headquarters and encompasses part of Stanford-Palo Alto community playing fields. It sits directly above the Santa Clara groundwater basin. This could again be used as a source of drinking water as the California drought continues. Thank you.

Alex Holsinger: I'm also part of the Investigative Medicine Club at Gunn As Richard mentioned, there are a number of spills of High School. chemicals. TCE isn't the only toxic chemical; there are also TCE cousins such as tetrachloroethylene (PERC) or PERC and trichloroethane know as TCA. Using an online map provided by the company Terradex, the following Like Richard mentioned the Fairchild spills have been mapped. superconductor site, which is right next to our high school. We can see it from where we do our club, the site effected. The spill contains the following chemicals: tetrachloroethylene, xylene and trichloroethane TCA, and the list goes on. Another confirmed spill is the Palo Alto landfill. It's located east of Highway 101. It encompasses part of the Baylands. Spills found by the outer ring of monitoring well network. These chemicals are unnamed, but they are certainly harmful and very shallow in the groundwater. chemicals may cause cancer and birth defects. Two other sites on Middlefield Road are at Colorado Avenue, a small site only 7.7 feet under the The plume hazards are lung disease and others. chemicals include gasoline. Another is at Tallway, 9.1 feet underground and contains the same. Five plumes exist along East Charleston Boulevard and Fabian Way, located directly underneath the condo housing complex, the industrial center and a Costco shopping center. They're located at a depth of 6.5 to 9.1 feet under the ground. Health hazards include cancer, developmental disabilities, lung disease and various other diseases from the aforementioned chemicals as well as volatile organic compounds. Additional plumes exist under El Camino Way near the Foothills in the hills and under Town and Country Village. Thank you.

Brent Man: Hi. I'm also part of the Gunn I Med Club. We found out one of the main dangers is that even though we've known that in the future this could contaminate our drinking water from the drought, at the current time this groundwater could accumulate in underground structures such as

garages. When they evaporate, they release these toxins into the air, so you breathe it in. These toxins as aforementioned can cause many diseases such as cancer, Parkinson's and even birth defects. Since 1993, Mountain View Ordinances have required newly constructed buildings to have vapor barriers. These vapor barriers prevent TCE gas from entering living spaces; however, Palo Alto does not have any official law that holds construction to the same level of Building Code which endangers the lives of our residents. In addition, residential buildings built over these contaminated sites in Mountain View are not allowed to have underground parking for basements. Yet, in Palo Alto underground garages are common in contaminated areas and there are no restrictions to prevent this from happening. We feel this is something that must be changed. The Environmental Protection Agency (EP) has aggressively cleaned up much of the contamination across 101 Moffett Field, often using new freeway from methods Nothing of the sort has happened in Palo Alto. Palo Alto bioremediation. also uses an outdated 20-year-old pump and treat system. According to an associate from the EPA and the United States Navy, TCE will take 100 years or a century to fully remove these in this treatment. The system has also caused TCE buildup in some wells. As citizens in Palo Alto, we are very concerned about the safety of our City and our loved ones. We understand that the City's officials are doing everything they can to ensure that the situation is remedied. It is our hope that the City of Palo Alto will consider the following measures to help counter the prevalence of TCE and other groundwater contaminants. A, require inter-sampling around TCE hotspots. Buildings with TCE levels above the accepted safety level of five parts per billion must be treated and have vapor barriers installed. B, require new buildings to have proper vapor barriers to prevent soil gas from entering buildings. C, prohibit underground garages for all new construction over Thank you for taking the time to listen to our contaminated sites. presentation.

Mayor Holman: Before you leave the podium, Brent, you have some other people with you that look like might be your colleagues in this endeavor.

Mr. Man: Yes, they're all part of our club.

Mayor Holman: Would you care to introduce them all?

Mr. Man: Sure. We have Richard and Alex who spoke before me. We have Zach Stewart, a junior. We have Zach Holsinger; he's a sophomore and Alex's twin. We also have Jay Lee and David Chin. They're both sophomores like me.

Mayor Holman: Thank you all very much for coming. I believe you sent your comments to all of the Council Members, I do believe.

Mr. Man: Yes, I did.

Mayor Holman: If you come to the rail and see the City Clerk, he has something for each of you.

Mr. Man: Thank you.

Bob Wenzlau: My name's Bob Wenzlau. Perhaps I was a tiny instigator in what we enjoyed tonight. The high school students are showing what it's like to be civically engaged and equally applying science. I'm the Chief Executive Officer (CEO) of Terradex. What we've been working on for about ten years is to improve the mapping of these groundwater plumes. I wanted to make a couple of comments. Number one, the students in their research were right on that we actually can look to what the City of Mountain View's been doing and study their Ordinances. Another thing that the City of Mountain View does that I think is worthwhile is that they've worked to have their planning department be more informed of the occurrence and having accurate maps of where the groundwater plumes are. This is something that I've been working with Staff. Better planning decisions can be made if we have better mapping. One of the challenges we have in this space is that the responsible parties are not obligated to turn in maps that local government can use. I've been working a little at the State level to ask that there be uniform mapping obligated on RPs when they turn in maps, so that the local government can have a unified map so that they can make informed discretionary decisions. Finally, another initiative that we've been working on is more collaboration between local government, our different cities, Palo Alto, Mountain View, Santa Clara County Environmental Health. Environmental Health can provide a resource to the discretionary planners so that they can make informed decisions about land use. discretionary planner can be informed and smart as to these environmental hazards. Equally we've watched Santa Clara Valley Water District come into this, because they've been starting to recognize that the northern part of the county, even though we view the shallow groundwater as not being a resource, is going to need to be looked at this way. Again, I wanted to reinforce what the students brought forward today. I wanted to elaborate on it for a moment, because they've hit upon a vital and important topic in our City. Thank you very much.

Mayor Holman: Thank you for being a mentor to these young people.

Minutes Approval

4. February 23, 2015, March 2, 2015, and March 9, 2015

MOTION: Vice Mayor Schmid moved, seconded by Council Member Wolbach to approve the minutes of February 23, March 2 and 9, 2015.

MOTION PASSED: 9-0

Consent Calendar

Mayor Holman: There was a communication at places regarding Item Number 5.

MOTION: Council Member Wolbach moved, seconded by Council Member DuBois to approve Agenda Item Numbers 5-9.

- 5. Finance Committee Recommends Adoption of a <u>Budget Amendment Ordinance 5321</u> entitled "Budget Amendment Ordinance of the Council of the City of Palo Alto Amending the Budget for Fiscal Year 2015 to Adjust Budgeted Revenues and Expenditures in Accordance with the Recommendations in the FY 2015 Midyear Budget Review Report and to Adopt a <u>Resolution 9503</u> entitled "Resolution of the Council of the City of Palo Alto to Amend the Compensation Plan for the Management/Professional Group to Add a Principal Attorney."
- 6. Staff Recommendation that the City Council Adopt Resolution 9504 entitled "Resolution of the Council of the City of Palo Alto Amending Gas Rate Schedule G-10 (Compressed Natural Gas Service) to Recover Cap-and-Trade Regulatory Compliance Costs and Approving New Palo AltoGreen Gas Rate Schedule G-10-G (Compressed Natural Green Gas Service)."
- 7. Approval of Three Contracts with: 1) Delta Dental for Dental Claim Administration; 2) Vision Service Plan for Vision Claim Administration and Fully Insured Vision Plan; and 3) Life Insurance Company of North America (CIGNA) for Underwriting of the City of Palo Alto's Group Life, Accidental Death and Dismemberment (AD&D), and Long Term Disability Insurance (LTD) Plans for up to Three Years for Each Contract.
- 8. Approval of Loan Documents and Agreements Providing \$1,000,000 for the Rehabilitation of the Stevenson House and Adoption of <u>Budget Amendment Ordinance 5322</u> entitled "Budget Amendment Ordinance

of the Council of the City of Palo Alto Appropriating Funds from the Residential Housing In-Lieu Fund for this Purpose."

9. Adoption of Amended Ordinance Amending Chapter 9.14 (Smoking and Tobacco Regulations) of the Palo Alto Municipal Code to Establish New Outdoor Smoking Restrictions in Commercial Areas and Outdoor Dining.

MOTION PASSED: 9-0

Action Item

 PUBLIC HEARING: Adoption of Ordinances Amending Chapters 16.14,
16.17, and 16.18 to Adopt Local Amendments to the California Green Building Code and the California Energy Code.

Peter Pirnejad, Development Services Director: Good evening. Thank you again for welcoming us back to the Council. We were at Policy and Services. We will go through this presentation again with some modifications. First, let me start with some acknowledgements quickly. Let me first say thank you to the Green Building Advisory Group (GBAG) who has been instrumental in the efforts that we've undertaken over the last few years. The Green Building Advisory Group members, such as Sven Thesen, were instrumental in meeting and conferring and talking about prioritizing all the measures that we're talking about today and the work that's gone forward Melanie Jacobsen, to my right, worked closely with us on our since then. green building communication, our website, our outreach, connecting directly with customers, interpreting the Code and being a local expert, if you will, on all things green building and energy and introducing us to the leaders in the industry relative to energy and green building. To her right is Farhad Farahmand from Total Resource Cost (TRC). He has been our consultant working on the Cost Effectiveness Study as well providing some expertise in the area of energy efficiency. His firm has been working collaboratively and closely with the California Energy Commission as they roll out the newest standards which will be taking effect in a year and a half. We're ahead of that tidal wave, as I like to say, but it's closely nipping at our heels. I also wanted to thank Gil Friend who's been a collaboration partner in this effort, very much involved in our efforts relative to the Green Building Advisory Group, our retreat that we had in August of last year as well as a good friend to help bounce ideas off of. We've worked closely with Planning and Community Environment, Utilities, Public Works in the formation of this Green Building and Energy Code. I would be remiss not to thank them for their efforts as well. With that, let me direct your attention to the PowerPoint. Before you is the recommended motion, sometimes it's helpful

to have it. It'll be at the end of the PowerPoint as well. First, let me just quickly go over an outline of what we will cover today. The scope of the Green Building and Energy Code Ordinance. We'll explain what are the two Ordinances that we're asking the Council to make findings and provide a motion on. We'll go through the background of the green building and energy policies here in Palo Alto. We'll quickly go over our leadership awards in sustainability. We'll talk about a timeline relative to green building and net zero energy as it relates to the State. We'll quickly go over our Energy Reach Code Ordinance proposal with the changes, which at that point I'll hand it off to Melanie Jacobsen. She'll review that as well as our Green Building Code Ordinance proposed changes, which as you should know reflect the changes recommended by the Policy and Services. Since then we've been busy and hard at work meeting again with the Green Building Advisory Group. Those members that had submitted comments, we reached across and collaborated with them again, met with the Green Building Advisory Group two times since the time we met with Policy and Services and incorporated those findings and recommendations into the work that you have before you tonight. Finally, we'll go over quickly the future policy priorities as we move into a quick turnaround from this meeting and revisit our Green Building and Energy Code yet again in preparation for when this next Code cycle comes back around, practically a year from this June. With that, let's quickly go over it. The Green Building Ordinance versus the Energy Code. There's two Ordinances. They're separate chapters of the Building Code. The first is the Green Building Ordinance which covers site design, water efficiency, materials, etc. Second and apart from that is the Energy Code. It's a separate part of the Building Code, Part six. It covers energy efficiency and energy efficiency only. Unlike the Green Building Code, we need to make findings in order to enforce the Reach Code, as we refer to it. You'll hear that terminology being used when we're exceeding the minimum base Code. In order to enforce a Reach Code, you need to do a Cost Effectiveness Study and file such study with the California Energy Commission which is what we've done with the help of TRC. With that, the guick background. The history of the Green Building and Energy Ordinance takes us back to 2008, when the State offered its Green Building We, in fact, took that upon ourselves, being the Code as optional. innovative City that we are, and enforced it. Since then we've continued to raise the bar, doing Energy Reach Codes, green building amendments, modifications to that Code, making local amendments to that body of work and enforcing it more rigorous every year and every Code cycle and mid-Code cycle. Before you today is another revision to the Green Building and Energy Code. We don't shy away from stretching ourselves to ensure that our green building stock, both existing as well as new, not only meets but exceeds both State and national standards. The Green Building Advisory Group that we refer to as the GBAG, has been meeting for over a year,

vetting the efforts that are before you tonight. We've been talking about green building initiatives. We've been talking Energy Code updates, leaving no stone unturned on where we might improve in the area of green building, water efficiency, deconstruction, energy efficiency, etc. We've been having monthly meetings literally for over a year, talking in detail about all these different topics, and there is quite a few. It's difficult to attain in one meeting once a month, so in mid-part of last year we decided to have a retreat. We went to a conference room in City Hall and met for an entire day, had multiple facilitators as well as a visual facilitator to help discuss the body of work that we had before us, prioritize them and identify where the City fell in the leadership scale that we created ourselves. We polled the group of members, stakeholders that were there, which led to the work that is before you tonight. That day-long retreat, again, was in August of last year. We've been hard at work doing the Cost Effectiveness Study and other Ordinance measures to get before you tonight. Continuing on that background, let's see. Since the Green Building Advisory Group, we've met two times since we met with Policy and Services back on the 10th of March. We made two minor adjustments based on the recommendations that your Committee provided us, which included some added language in terms of infeasibility. In the event that a contractor cannot meet the letter of the law, we have developed a system that we've worked through the City Attorney's Office, how they might meet the intent of the Green Building and Energy Efficiency Code if and when it is infeasible. We've developed that criteria inside the Ordinance. Finally, based on the recommendations of Policy and Services, we clarified all the Tier 1 and Tier 2 local amendments. The Green Building Code is a standard edition, then a Tier 1 and a Tier 2. The Tier 1 and Tier 2 were reviewed item by item to ensure there weren't any internal conflicts as well as weren't any conflicts with our existing green building enforcement as we hold today. Staff has drafted before you tonight and in your Packet the report as well as various attachments. The first is the Energy Ordinance. You'll find the Green Building Ordinance. supporting documentation to those is the Energy Cost Effectiveness Study prepared by TRC. Finally in response to Policy and Services, we did a laundry to landscape valve cost estimate, just to give you a sense of how much it costs to put one of these diverter valves in. We'll get into that in a few minutes in the presentation. Recent leadership awards that the Development Services Department in cooperation with other departments have been able to receive that really speak to this work and the effort that we've been able to achieve is first and foremost the award for sustainability provided to us by Acterra, the Business Environmental Award. Phil Bobel had mentioned this in a City Manager conference some weeks back. We're very proud to have received that award in cooperation with the various other departments in the City. Green building was a part of that. We recently were awarded the ISO (International Organization for Standardization) Class

1 Community through the Building Code enforcement grading system. As you know, we're a Class 1 organization now, which means that the residents and property owners in Palo Alto get the benefit from reduced insurance rate as well as be assured that their buildings will withstand impacts such as fire and hazardous events such as earthquakes better and more resiliently than buildings that are less than Class 1. We were awarded the Most Electric Vehicle Ready Community back in 2013 and our Green Building Leadership Award received in 2013 reflect the advancement that we've made in green This is the visual facilitation diagram that we produced at our green building retreat. It speaks to the direction. It gives a nice narrative that we use to follow the discussion. We talked about water, emissions, energy, materials and waste and indoor air quality, all of which were identified, prioritized and pursued. This quickly is a timeline of our efforts. On the top you'll notice the timeline from 2014 all the way through to 2050. In bold, 2016 and 2019 represent Code cycles. I take that back. The green buttons represent the Code cycles. That's 2015, which just passed; 2017 is the next Code cycle; and 2019 is the Code cycle after that. Those represent the Code cycles that we need to be in advance of, so our Ordinances have to include all the local amendments. We need to go through the adoption language in advance of those goals. That's what drives all of this effort to make sure that our Green Building and Energy Codes are adopted well in advance of those periods in time, those January 1st deadlines. Step one is before you tonight. That's the Green Building and Energy Reach Code. Step two is the Zero Net Energy Code which will be coming before you in advance of 2017. Hopefully by June 2016 we'll have that wrapped up, which means we have to start that work immediately after we finish this effort before you. That Step two is going to be focused on zero net residential energy. We're going to study where to draw that line and pursue Zero Net Energy through the mandate of solar power on rooftops as well as identifying what is cost effective, which we'll get into. Finally, Step 3 we're calling a roll out. This is in advance of the 2030 goal established by the State which identifies when we want to try to be Zero Net Energy for commercial buildings, a much higher threshold to achieve. Technology still has a ways to go to catch up with that, but we are going to try to see how we might advance and beat that deadline here in Palo Alto. Again, it's a rolling effort. We will start that after 2017 when we adopt the next step. Below, at the bottom, you'll find the three projects that this is paralleling; the Comprehensive Plan, the Sustainability/Climate Action Plan which Gil made mention of, as well as the electrification study or the fuel switching study that's currently under way. All three of those efforts are aligned with the work that we're doing. We collaborate regularly with those departments to make sure that we're on the same page. Training and outreach was a big focus in this effort. It's the reason that we received the ISO Class 1 rating. We need to educate the construction, the architectural, and the engineering community about these

efforts. It is one thing to design a building; it is something else to actually We can't underestimate how difficult it is for a construction community that's been building buildings one way for decades, which is now being asked to build it a different way. This leads to cost overruns, delays and other things. We're trying to get ahead of that by training and reaching out to the community of contractors, engineers and architects to make sure that they're aware of how to build these things, which is not in your traditional way. As this Code reads, it's focused on the construction of the shell of the building. It stays clear of any mechanical requirements such as Heating, Ventilating, and Air Conditioning (HVAC) systems, heat pumps and other things. That's because that is what we're going to be seeing in this next Code cycle, which requires that contractors understand the science of building buildings. There needs to be a press from us as leaders in this space, ahead of all other municipalities, to educate the construction community on what it is that we're expecting them to do above and beyond all of our surrounding cities. We take that mandate seriously, and we will talk a little bit about what we're doing to achieve that. The first is our new green building webpage has been overhauled, thanks to the hard work of Melanie, which has a lot of informative Pages and forms and documentation. We've also included in our green building handbook that we're providing as part of the Construction Guidelines. Our community presentations and guest speakers that we're having on a quarterly basis, we're going to have speakers every month going forward to talk about where the bar is in Palo Alto and how to achieve some of these measures that we're implementing. We have a Green Building Advisory Group, the GBAG that I mentioned, which we meet regularly. Our Development Center has commercials now. If you go down to the Development Center (DC), you'll see a large monitor displaying commercials educating and directing people to where they can get more information. Finally, we published a Development Services newsletter. If you aren't a recipient of that, please let us know. We'll be happy to add you to the mailing list. Not only does it have information about what we're doing as a department, but also construction updates. With that, I'm going to pass the baton over to Melanie. She'll quickly go through our Energy Reach Code Ordinance. If you have any questions, feel free.

Melanie Jacobsen: Thank you, Peter. Honorable Council, thank you for hearing this Ordinance today. The two Ordinances before you are broken out between the Energy Reach Code Ordinance and the Green Building Ordinance. The Energy Reach Code Ordinance improvements include three primary amendments above the baseline State Energy Code. We're calling it the new Reach Code Ordinance, because it does reach beyond what is minimum. What's proposed for new construction is a 15 percent improvement over the baseline State requirements. That's increased stringency over State requirements by 15 percent for all single-family, all

multifamily and all commercial projects. Those findings have been supported by this Cost Effectiveness Study that Peter mentioned. That's also included in your Packet. That explores the different angles in which Since the Code is a performance-based those goals can be achieved. standard, it looks at several different options as to how those requirements can be achieved. The Cost Effectiveness Study doesn't cover the breadth of all potential measures. It really is more than one report could even cover, but it does outline certain measures that are specific to our climate zone and typical building practices that are included in Palo Alto. That's what we based that regulation language on. In addition, renovation projects 1,000 square feet or greater, we're going to have two options for compliance. Option 1 is the performance standard which increases the stringency over the State requirements by five percent for single-family, 10 percent for multifamily and five percent for commercial. Similarly, there'll be an Option 2 for prescriptive measures which presents a list of cost-effective measures that independently are cost effective, on their own as opposed to a performance package which looks at all those measures combined together on a single building. With that, we'll go onto the next slide here which outlines the additional measures. Also in the Reach Code Ordinance, we have solar-ready infrastructure for new homes. This is an amendment above and beyond the State Energy Code, again included in the Cost Effectiveness Study. We're proposing to designate 500 square feet of room on the roof for future installation of a solar panel system. It wouldn't be an actual mandate of a full system. It would be the solar-ready infrastructure to essentially eliminate the barriers for entry for a homeowner. Ordinance also proposes the installation of conduit from the electrical panel up to the roof line, again to eliminate the barrier to entry for a future installation. One item that has been a challenge that we've been working in collaboration with Urban Forestry on is working on exceptions for properties with protected trees. We want to make sure that the new policies that we propose are in sync with our existing policies. We've worked through a number of items with that, and we'll continue that conversation forward with our future priorities that Peter will be going over. In addition, during the Policy and Services meeting on March 10th, Council Member Burt and the Policy and Services Committee requested that we draft a carefully constructed infeasibility clause. Since this is a progressive Ordinance, we want to propose an exemption to allow Staff to permit alternative measures where strict compliance is not feasible or cost effective. We have included that, and that is in the Ordinance before you. Also included in the second reading of the Ordinance will be a small amendment which basically clarifies language on subdivisions. That will be included in the second reading. One of the items that the Policy and Services Committee requested was an analysis of the greenhouse gas savings associated with the Energy Reach Code Ordinance. That has been prepared in the Cost Effectiveness Study

and in this slide before you today. What this slide aims to capture is just a digestible understanding of the greenhouse gas savings associated with this Energy Reach Code. I'll have Farhad explain that a little bit more. Basically what you're looking at is the greenhouse gas savings avoided for the natural gas associated with buildings. Since our electricity stock is carbon neutral, there are no greenhouse gases associated with those emissions. This is only associated with natural gas. He'll get into that in just a moment. I'll pass this is over.

Farhad Farahmand, TRC Energy Services: Honorable Council, I'll just briefly interject to describe in detail this chart. As Melanie mentioned, it describes the avoided emissions due to the set of measures that we studied in our analysis associated with the Reach Code. The gray bar on the left side represents the typical emissions associated with a building that minimally complies with the Statewide energy efficiency standards. The bar on the right represents the tons of CO₂ emitted with the Palo Alto Reach Code, the measures that we studied in our analysis. The little dots above those bars represent the percentage savings. Going from, for example, multifamily eight tons of CO₂ emitted per new multifamily construction down to about five represents 32 percent savings in greenhouse gas emissions. As Melanie mentioned, these are based only on natural gas. That's why they vary from the 15 percent savings that the Reach Code prescribes. The measures that we studied affected electricity consumption, natural gas consumption, a little differently for each prototype, so 20 percent, 32 percent, eight percent. That's why they're fluctuating from that 15 percent value. Nonresidential buildings show an eight percent reduction, mostly because the residential measures that we researched were domestic hot water focused, and there's just generally less consumption of domestic hot water in nonresidential There's only an eight percent greenhouse gas savings there. buildings. That's pretty much it.

Ms. Jacobsen: Thank you, Farhad. That concludes our summary of the Energy Reach Code. We'll now go onto the Green Building Ordinance improvements. The first item that the Green Building Ordinance proposes is using residential CalGreen, what we call voluntary tiers. It mandates the use of the State-developed Tier 1 and Tier 2 system. Based on a project's scope of work, it would trigger either a Tier 1 or a Tier 2 system. One of the items that the Policy and Services Committee requested is that we work through some of the clarifications that the Green Building Advisory Committee wanted to include. We have done that. We've met with them twice since the Policy and Services Committee. Their comments are reflected in the Ordinance before you tonight. In addition, the Ordinance with the adoption of the Tier 1 and Tier 2 system, the use of the third-party certification program Build It Green is retracted. We still will promote the

use of third-party rating systems, just not necessarily as an enforcement tool. The second item in the Green Building Ordinance improvement list is inclusion of laundry to landscape ready infrastructure. Essentially the requirement includes the installation of a diverter valve on the back of washing machine fixtures in new construction projects. I've a graphic on the next slide that will show you. In addition, we have outlined increased water efficiency measures lowering the square footage requirement trigger for increased efficiency standards for irrigation on both residential and The graphic before you outlines a conceptual nonresidential projects. diagram of a laundry to landscape ready system. Laundry to landscape is a simple concept of taking the laundry water that's been used and sending it out to the lawn for irrigation. In the proposed requirements, the item that is included in the proposed requirement is the installation of the diverter valve at the clothes washer drain line which is outlined in the red circle that you see in front of you. The actual laundry to landscape piping and irrigation installation will remain voluntary. The intention behind this portion of the Ordinance amendment is to again eliminate the barrier to entry for those who want to go that step beyond and install a gray water. mandating any use of gray water at this time, just for the infrastructure to be included as part of a new construction project. With that, I'll send it back over to Peter to talk about our future priorities.

Mr. Pirnejad: Just to close things up, we wanted to just quickly go over where we're going to go next after tonight. We are going to reconvene the Green Building Advisory Group to talk about a solar electric mandate and think about ways that we could make that cost effective. We're going to be thinking about a Zero Net Energy design mandate as we look into residential buildings becoming Zero Net Energy. We're going to continue conversations with the Electric Utility about electrification. We are going to be revisiting our electric vehicle policy for remodeled and existing homes. water perspective, now that we've received the response from the Executive Order, we are going to be taking a closer look at how our new construction can respond to our new environment through cistern mandates, recirculation pumps, gray water systems that are a little bit more aggressive, and elimination of lawns. All things that we can think about and investigate. What's before you tonight is the following motions to adopt our Green Building and Energy Codes. With that, we would welcome any questions that you might have. Thank you for your time.

Vice Mayor Schmid: Just a quick question. Certain parts of town are in flood districts. By mandate with a certain refurbishing, remodel of the home, they have to raise it three feet. Does this affect that mandate at all?

Mr. Pirnejad: Could you repeat the mandate? The mandate to raise the homes?

Vice Mayor Schmid: They have to raise them three feet from ground level if they have a remodeling, rebuilding.

Mr. Pirnejad: Any home that affects 1,000 square feet or more is going to be subject to the Green Building Ordinance.

Vice Mayor Schmid: Does it work the other way around, that you reduce the square footage from 1,200 to 1,000, would that affect remodels of 1,000 feet where it would not have before?

Ms. Jacobsen: The remodel criteria looks at the energy-using systems of the building. If you have a remodel that's 1,200 going to 1,000, if it's altering some of the energy-using systems, two of the four main energy-using systems of a typical home, then it would be triggered. The fact that it's being raised wouldn't impact the energy performance of the building.

Vice Mayor Schmid: The impact is on the home remodel, where you want to remodel your home, but you don't necessarily want to get involved in raising the whole structure. Are you putting a bigger mandate on?

Mayor Holman: Can Staff answer that please?

Mr. Pirnejad: I'm trying to conceptualize the question. Maybe if you could rephrase it.

Council Member Burt: If I understand it correctly. Basically if you do a remodel above the 1,000 square feet and you're in the floodplain, that's what triggers having to elevate. This doesn't change the trigger point for that. It does mean that like any other home that is remodeled above 1,000 square feet, certain of these things would occur, but no different.

Vice Mayor Schmid: My question is, is the remodel driven at 1,000 square feet for the raising three feet.

Council Member Burt: Either way, this doesn't change what drives elevating a home. This is just about the green energy. We still have whatever we have in the Code about what triggers elevating a home in a floodplain.

Mayor Holman: Does that answer your question? Before we go to any motions, I also should acknowledge that we have one public speaker. Questions and comments, and then we'll go to the public and then come back for motions.

Council Member Burt: That was the main reason I hit my light. The Committee had five different small requests of Staff to look at modifying what was presented to the Committee. To their credit, they went through these, reconvened the Green Building Advisory Group, went through all of these in just over a month. That's pretty fast work. I'm not sure that we expected that you'd come to the full Council with resolution on all those. That was very good. You'll see on Page 698 of the Packet the two additional items that we've asked be evaluated going forward. We'll hear back next year on those, I assume.

Mr. Pirnejad: That's correct.

Council Member Burt: Lots of good, hard work on this.

Council Member Scharff: I was going to make the motion. Go to the public.

Mayor Holman: No motions yet. Council Member Kniss, you're waiting?

Council Member Kniss: Council Member Scharff just did.

Council Member Wolbach: I just wanted to second what Council Member Burt said. I thank you for great work in turning it around so fast. I really appreciate what Staff's done here.

Council Member Filseth: Thanks. I've got three questions, hopefully short. First of all, the Tier 1, Tier 2 thing which looks to me like it's in Section A4.106.9. Does that mean you can't have a lawn? How does that work? It's the 25 percent, 10 percent thing.

Ms. Jacobsen: I think you're referring to the lawn measure.

Council Member Filseth: Yeah, Page 707 of the Packet.

Ms. Jacobsen: Yes, I know which one you're referring to. The way that the tiers work is that based on the scope of the project, Tier 1 or Tier 2 will be triggered based on the scope. Tier 1 is for remodels over 1,000 square feet. Tier 2 is for new construction. Within those tiers, you get to select a certain number of measures that make sense for the project. In each category specifically for water, there's 14 measures that you can choose from. That turf item is one of them. You can choose that if it makes sense for the project. We do have mandates for the actual efficiency of the overall Water Budget. Each home or new construction project or renovation will need to put together a Water Budget as a performance requirement. Based on the square footage, how much landscape there is, the types of plantings that are specified including the type of irrigation that's specified, the designer will get

a Budget in which to use that water on. That's really the methodology that the State requires and what we've adopted above and beyond the minimum thresholds.

Council Member Filseth: What does the State require versus what do we require?

Ms. Jacobsen: The State requires that we adopt what's called the Model Water Ordinance. It's all based on turf. Turf is the maximum amount of water that's used. I don't have it right in front of me, but it's approximately 45 to 55 percent of what's called evapotranspiration (ETo), which is essentially turf, that's the technical term. We have adopted 65 and 55 percent above that baseline. That's included in the Ordinance before you as a mandate. The tiers, which are the optional "choose from a list of items."

Council Member Filseth: If I understand what you said, at one level it's optional. On the other hand, you don't have an infinite number of options. You have to pick something off the menu.

Ms. Jacobsen: That's correct.

Council Member Filseth: If you decide you want a lawn, you have to cut somewhere else.

Ms. Jacobsen: That's correct. The way that our Budget is written, lawns are becoming much less popular, due to the fact that they need so much water. That's definitely one of the things that the GBAG has discussed, how can we bring something before you that eliminates lawns or minimizes them to the maximum degree.

Council Member Filseth: My second question has to do with the solar ready on the roof. You designate 500 square feet, and you put a conduit there and some bracing or something like that. There was a line about an exception for protected trees. I assume that implies there's non-protected trees too. Is it conceivable this would force you to cut down some trees?

Ms. Jacobsen: That's a great question. That's what we've been working closely with the Urban Forestry Division on. There is already existing legislation in the Solar Shade Act of 2009, that says whatever was there first trumps shade. If a tree was existing and somebody installed a solar panel system, the rights would be the tree owner and vice versa. If the solar panel was installed and then the tree was planted and grew up, the solar panel owner would have the rights.

Council Member Filseth: If I understand that right, then it might prohibit you from planting a big tree or letting it grow real high if you already have solar there. If the tree was already there, then you don't have to cut it down.

Ms. Jacobsen: It doesn't prohibit. It's more of if we have to get involved with pruning existing trees, we want to know about that ahead of time before we mandate a solar panel system next to an existing tree.

Mr. Pirnejad: It doesn't mandate that you cut down any trees. The Code won't mandate any tree cutting. It just provides an avenue for there to be a conversation about who gets the priority. Non-protected trees.

Council Member Filseth: There's not a circumstance in which you would have to cut down a tree or force your neighbor to cut down a tree or something like that?

Ms. Jacobsen: No. That's exactly what the Solar Shade Act addresses. Most protected trees will prevail over a solar system in the proposed mandate, what we'll be setting.

Council Member Filseth: I have one more question. You folks have done a whale of a lot of work here. Did you look at all at embedded greenhouse gas emissions of construction materials used in these things? I think I saw a reference somewhere to concrete use or something like that. If you did that, did you come up with any numbers?

Ms. Jacobsen: There is an option in one of the tiers to do a life cycle cost analysis, which looks at that very subject. The industry is right in the infancy of those types of analyses. We have highlighted it as an option if a team wanted to go and do that work. We have outlined it as an innovative option for them.

Mayor Holman: I have a couple of questions, one that you've sort of addressed as a result of Council Member Filseth's question about trees. If you aren't required to take down any trees, why is the language written "exceptions for properties with protected trees?" As I recall the Solar Shade Act, which by the way came about because of the efforts of one of our City employees who went to battle to protect their trees. I don't recall that referring to just protected trees or redwoods, those happen to be. Why does this say "protected trees"?

Ms. Jacobsen: That's an excellent question. The challenge around the solar mandate or the solar ready proposed language also looks at the local Palo Alto Ordinance and the Solar Shade Act. Those two items would have to

work in tandem. We'll have to work closely with the Urban Forestry Division to make sure that both of those legislations are coordinated with this effort. It's both. "Protected" would be protected under our Tree Protection Ordinance and protected under the Solar Shade Act.

Mayor Holman: I don't see that that's how this is written. This says, "for properties with protected trees in sync with the Solar Shade Act." It seems to me that the language should be something more akin to "exceptions for properties with protected trees and protection of trees in sync with the Solar Shade Act." "Protected trees" seems like it shouldn't be there. It seems like it limits the protections.

Ms. Jacobsen: We'll have to talk with our Urban Forestry partners and get back to you exactly on the details of that language. That's what came out of our meetings with them. We can certainly look into it and make sure that we've looked at it from all angles.

Mayor Holman: But we're here to vote on this tonight. That's one question. I had a question about cement use. On the one hand, I'm happy that we can reduce, because cement is the biggest polluter in manufacture of any construction material whatsoever. When you're talking about "products used to replace cement in concrete mix designs," you're talking about fly ash, slag and you mention a couple of others. I'm sure you've looked at this, but I want to make sure. When we build basements here, they have to be built like ships that go underground. Are these formulas for concrete just for foundations or for basements and foundations? I'm not clear on the utilization of this exactly.

Ms. Jacobsen: In terms of reduction in cement use, it's about the volume of cement that's being used. It wouldn't necessarily be specific to the application of the cement. If there's X cubic tons of cement used, it would be based on that amount. The civil and structural engineer would determine what would be structurally sound for those items.

Mayor Holman: Okay, I guess. It's not very clear.

Male: What page are you on?

Mayor Holman: It's Packet Page 711. It's not very clear here what the application is. It doesn't seem to address both issues. Council Member Scharff, do you have a question? We have two members of the public.

Council Member Scharff: I do have a question. I wanted to follow up since you're asking us to vote tonight. Mayor Holman made two good points. When we came up with reduction in cement uses as an example, was that

vetted by building industry people who said, "Most people in Palo Alto want to build a basement where they're allowed to." What effect does that have on their ability to do so? I assume we're not making it difficult to build a basement.

Ms. Jacobsen: No, we're not. The reduction in cement use is one of the proposed elective measures. If it makes sense for the design team, they can choose that from a list of options based on the scope of the project. If it makes sense to go for this particular elective, then the design team can do so and move forward with the design using this as a guideline.

Council Member Scharff: What's stuff like fly ash and slag and silica fume and rice hull ash?

Ms. Jacobsen: Those are byproducts of different industrial processes that typically go to the landfill. These items can be reused within concrete, cement to minimize the other aggregate that gets added.

Council Member Scharff: They replace the sand is what you're suggesting?

Ms. Jacobsen: Yes. It goes in part of the mix design.

Council Member Burt: If I recall correctly, the first three materials are industrial wastes, and the fourth one is an agricultural waste. It's a pretty progressive utilization of waste material to replace the cement.

Council Member Scharff: You have a menu of options, the question becomes if you can't reduce your cement by 25 percent, do you know if you then use the fly ash or slag or silica fume, stuff like that? Do those have the same properties of regular cement for water tightness and for a basement and all of that? Is it just a cost issue? Is it more expensive to use fly ash and that kind of stuff? What's the issue?

Ms. Jacobsen: Over the last ten years or so, this has become much more popular in designing construction. Some teams might not choose this option because the cure time is typically a little bit longer. It takes longer for it to dry. Some teams would go against using it for that particular reason, if they're on a timeline. Some structural engineers will tell you that this is standard practice, and they'll use it. Other say they prefer the conventional methods. There's a range of options. That's why we've elected to make it an elective and not a mandate.

Council Member Scharff: This is a broad question. The Ordinance is really complicated. There's no way I, as a City Council Member, can understand it's unintended consequences. Obviously I like the intended consequences,

which is reduction of greenhouse gas. What I wanted to ask you is any sense at all that we're driving towards a particular style of home on this? For instance, flat roofs are going to be much easier because of the solar requirements than having more Spanish style or Mediterranean or colonial or craftsman or something like that. That would be a concern of mine, if we're going to drive Palo Alto to look like a bunch of flat-roofed houses in a modern style. If that's what people want to choose, that's fine. That's my concern. Are we doing that? Are we somehow limiting something that people typically do, build a basement for instance? Anything like that that we're going to change the way the built environment in Palo Alto looks, ignoring landscaping for a minute. I mean a style of house you build and that kind of stuff.

Mr. Pirnejad: Based on our interactions with the Green Building Advisory Group which is made up of a variety of different architects, both residential and commercial, we didn't get any of that feedback from them. It's more "it's getting harder to build the home" and "it's getting harder to find contractors that know how to construct the home in a way that meets our tightness test." It's really that more than anything.

Council Member Scharff: When you say a "tightness test," what does that mean?

Mr. Pirnejad: Imagine a house as a balloon with holes in it versus no holes in it. We're trying to get the balloon to be as tight as possible, so it doesn't lose any energy when it's being heated and cooled.

Council Member Scharff: Got it. In terms of the landscaping, we're driving towards less lawn. That's what it looks like. You're allowed some lawn, but driving towards less lawn. Are we allowing artificial turf and that kind of stuff?

Mr. Pirnejad: Sure.

Council Member Scharff: Do we have any concerns that if we fill all the backyards with artificial turf, that we're creating deserts?

Mr. Pirnejad: We're not mandating the artificial lawns. We're mandating the reduced water use. We always advocate for drought-tolerant landscaping. That seems to be the growing trend. The artificial turf has its life expectancy and other, like you mentioned, problems. Like I said, we're seeing more of the passive alternatives.

Public Hearing opened at 10:51 P.M.

Eric Keng: Thank you. My name's Eric Keng. I'm 20 years resident in Palo Alto also architect. I practice most of my career in this City. First of all, I agree with the direction that we're going toward green building and energy. I do urge the Council to consider why do we need to mix these two amendments together. Can we consider them separately? I can see the whole policy preparation. Where's the professional input? The architects, the contractor, the engineer. It's purely laboratory test results. I'm not sure if you fully understand. I'm only talking about the energy part. The green building, no comment. The 15 percent impact, what exactly is? If we only use the Cost Effectiveness Study, there's some factors being left out. When we increase the insulation from, because of that, two by four or two by six, the square footage for a 2,500-square-foot house drops about 30 square feet. In Palo Alto, 30 square feet, most residents know how much that will cost. Will that be a cost effect? Also, when we put the tankless water heater into it, the Utility Department will ask us to upgrade the gas Is that a cost effect being considered? You're not just buying a tankless water heater. If half of the block using tankless, can the Utility Department infrastructure support the instantaneous demand on the gas supply? That's something we really need to study, to put it into the study and present it to you to make decision. Sounds like I'm against this 15 percent. Last year's Energy Code upgrade, the State already upgrade 23 percent stringent than the previous years. We're adding another 15 percent, which really is a big impact to the industry. I did a quick study. I know this is very late. I asked my Title 24 to do a quick study of how we can comply, a new house to meet the 15 percent. Three categories we have to do. Tankless water heater, insulated attic space and the third area is miscellaneous. Throughout the project, we have to do Low E glass. We have to increase all the insulation we can. We cannot to do the house without the attic. Flat-roof house considered a cathedral. We don't have that insulated attic credit into it. That means if you build a flat house, pretty much you're not going to meet 15 percent. The case study didn't study that. I urge you to spend more time, to have professional input from the other side of the industry. We're hands on this every day. Give the impact to you, give the results to you, that you consider this energy amendment. Thank you.

Mr. Farahmand: May I have a chance to respond to that comment? Thank you. Thank you, sir, for that comment. I understand your concerns. I would just like to add that the measures that we studied for the residential prototypes in this study are going to be in some form or shape required by the 2017 California Energy Commission standards. They're going to be Statewide laws. They're going to be the baseline that's going to be effective January 1, 2017. There's been a breadth of research done for these measures going from two by four to two by six. There's been a lot of

feedback from the building industry voicing similar concerns, but also saying, "This is the direction that we need to go." There are going to be some leaps that we have to make to get there, but they're going to have to be worth it. The upgrade of pipe costs, thank you for bringing that up. That was brought up at a Green Building Advisory Group meeting after the first draft of this report was issued. We have since added that cost in for alternations, in other words having to increase the size of that pipe for an instantaneous water heater. We still found that to be cost effective. I encourage you to look in the appendix for that analysis. The same with the attics. It's been vetted with the industry; it's been discussed. There are different measures for different climate zones for that 2017 Code that's impending. For this climate zone, it should work.

Mr. Keng: Why can't we just wait until 2017? Why do we have to act (inaudible)?

Stephanie Munoz: Good evening, Council Members. I'd like to get one principle at least before trying to get through the maze of conflicting interests that surround that issue. The principle I'd you to observe is if there is something you want people to do, take care not to put a financial disincentive toward their doing it. A few years ago I investigated solar. I discovered that the City of Palo Alto had a rather high permit fee for the solar, which I thought was astonishing. I dropped the project and never followed through. Perhaps that has changed. Just in general, I'd like to recommend that as your first principle. The second is to try and get the people onboard for what you want to do and not have it come as a surprise, say a year or two down the line when they could have made a change for less money. I don't know if you realize it; you guys are in a high bracket. It doesn't apply to us anymore, because we lost the big house in Palo Alto. We still have little rentals in other places. I've discovered from talking to people around starting with San Francisco and Mountain View and Santa Cruz and other places, that there has been a tendency after Prop 13 for towns to get revenue from permits. This was forbidden by an initiative called Proposition 218. You probably know this. Cities may not charge more for the permit than the cost of implementing it, the cost of examining it. That's a rule that's more honored in the breach than in the observance. You know what you need is an ombudsman that people could go to when they find that they are being whipsawed by arrangements that are sent down from on high. It can be quite difficult just for an-okay. I'll be glad to speak to the people in charge later about that. Thank you very much.

Public Hearing closed at 10:59 P.M.

Council Member Scharff: I'll make the motion in just a second. I did have just one question. Do we look at how much this is going to add to the cost of a home?

Mr. Pirnejad: Since it's a performance-based Code, it really depends on what you do and how you want to meet the impacts. What we did determine was, based on a couple of different models, that every model we studied was cost effective at 15 percent above baseline amortized over 30 years. In every scenario we studied...

Council Member Scharff: You mean cost effective that you actually saved money on it, is that what you mean?

Mr. Pirnejad: Right.

Council Member Scharff: Is that what you mean by cost effective?

Mr. Farahmand: Correct, yeah.

Council Member Scharff: What you do, it costs a bunch upfront, but if you amortize that over 30 years, then you'll save money. Did you get a number for roughly what it adds to the cost of some base home, say a 1,500-square-foot home? I was just curious if you had a number.

Mr. Farahmand: Yeah. The prototypes that we ran for single-family residential which is an average 2,400-square-foot home, it would add about \$2,100 (crosstalk).

Council Member Scharff: About \$2,000.

Mr. Farahmand: Yeah.

Council Member Scharff: Thank you. I can see that you put huge amounts of effort into this. We really appreciate that. You guys seem to really understand what was going on. I felt really comfortable with your answers.

MOTION: Council Member Scharff moved, seconded by Council Member Burt to adopt:

- 1) An Ordinance repealing and restating Palo Alto Municipal Code Chapter 16.14 to adopt and amend the 2013 California Green Building Standards Code, Title 24, Chapter 11, of the California Code of Regulations; and
- 2) An Ordinance repealing PAMC Chapters 16.17 and 16.18 and restating Chapter 16.17 to adopt and amend the 2013 California Energy Code, Title 24, Chapter 6, of the California Code of Regulations.

Council Member Scharff: Thanks again and to the work of the Group. You did turn this around. Thanks to Policy and Services. I saw they had some really good responses that they had you guys include into this.

Council Member Burt: When we look back at what California has done 30-plus years ago with Title 24, I think it is, legislation and all of those progressive maneuvers and initiatives that ended up driving better building practices have now been adopted nationally and now widely recognized to have been very cost effective in the long term. This is in that same path. The State continues to move forward. We looked at what things we could do sooner that would not have any significant negative impacts. We felt that we could do these. It's a good measure, and it's going to be sound practice for the long term. Thanks.

Mayor Holman: I have one, maybe two things. One is I would like to add an Amendment. I'm doing this because of the various reasons that you brought up and that I brought up.

INCORPORATED INTO THE MOTION WITH THE CONSENT OF THE MAKER AND SECONDER to direct Staff to return with updates to these Ordinances including any concerns generated by the Ordinances within eighteen months.

Council Member Scharff: That's fine.

Council Member Burt: Can I ask Staff a question?

Mayor Holman: Sure.

Council Member Burt: We had the update to the Ordinance coming, so this would add just a review of any unintended impacts. That could just be folded in with the update of the Ordinance?

Mr. Pirnejad: If that would meet the intent. Our hope would be that we could bring back the Amendment. It would be a little bit longer than a year, if that'd be okay. It would be about a year and a half, but we could bring back a summary in advance of that, if that would please the Council. Our intent is to bring back a new revised Ordinance in a year and a half which would fall in line with this next Code cycle.

Council Member Burt: If the Amendment could be revised to 18 months, that would be most efficient.

Mayor Holman: That's okay with me.

Council Member Burt: Accepted.

James Keene, City Manager: Just to clarify. I'm assuming that as it relates to this review, it's both based on how we've gathered feedback of issues and that review period for people to have the opportunity to comment. We wouldn't necessarily have to go through detail, detail, detail review. It's much more of an exception, problematic, what have we heard about things that aren't working.

Mayor Holman: Yes, I still have concerns about trees. Council Member Scharff...

Council Member Scharff: It should say, "Staff will return with updates to these Ordinances with any concerns that have been raised within 18 months." It should say what the updates should be. We're not mandating that you update the Ordinance if there's no...

Mayor Holman: That's correct.

Mr. Keene: Thank you.

Mr. Pirnejad: To address your concern, Mayor Holman, our anticipation would be to prepare an administrative guideline to address some of the potential inconsistencies in the trees. We could bring that as well.

Mayor Holman: The Amendment should read "with any concerns generated by the Ordinances."

MOTION AS AMENDED PASSED: 9-0

Mayor Holman: Thank you to Staff. It's a lot of hard work. Also thanks to Policy and Services. Thank you.

Council Member Burt: It's after 11:00.

Mayor Holman: This has already been continued once.

Council Member Burt: We have a policy on how we address commencing items after a certain hour, right?

Mayor Holman: Let me ask Council Members. We have one member of the public who is here to speak to this item. This has already been continued once. Are Council Members willing to stay? In the Bay Area Water Supply and Conservation Agency (BAWSCA) item, there is a May meeting coming up. We could put this on the next agenda, though, the BAWSCA appointment.

11. Colleagues' Memo from Mayor Holman, Council Members Burt, Schmid, and Wolbach Regarding Strengthening City Engagement with Neighborhoods (Continued from March 16, 2015).

Mayor Holman: Is there any strong objection to taking up Item Number 11 this evening? It's already been continued once, and it is probably a quick items.

Mayor Holman: Do we have eight others who are willing to take this item up?

Council Member Burt: We should have a time limit on it.

Mayor Holman: We have a time limit of 30. Can we say a time limit of 15 minutes on it? Is that agreeable to Council Members?

Council Member Scharff: Just make a motion to refer it out to Policy and Services. I think that trumps other motions, if I recall our procedures. That way we can continue moving this forward. That's going to be the outcome of this item anyway at the end of the day.

Mayor Holman: You're making a motion before we hear from the member of the public. We have a member of the public who wishes to speak. Then you can make a motion. We can dispatch this pretty quickly.

Council Member Kniss: I second.

Council Member Berman: The article has already been written.

Doria Summa: I'll be brief. Good evening, Mayor and City Council. Doria Summa, College Terrace. I am on the College Terrace Residents Association Board of Directors, but I'm speaking tonight as an individual. In March when this first came to Council, the College Terrace Residence Association (CTRA) submitted a letter of support for the Colleagues' Memo before you tonight. Since then, we've had an election; we have five new members. Our first meeting will be Wednesday, so we haven't had a chance to revisit this with the new board. I believe the goal of increasing neighborhood participation and interaction between City government and neighborhoods is a laudable goal and that the specific recommendations in the Memo represent a great step forward towards reaching these goals. I'd like to offer my personal support for the ideas expressed in the Colleagues' Memo. particularly interested in the opportunity for neighborhood associations to once again hold meetings in public facilities without the financial burdens of having to rent the space and pay for insurance. There's not a one-size-fitsall model for neighborhood associations. I also believe that the

Memorandum provides flexibility for each neighborhood to choose the structure that best fits their needs. I urge the Council to support the item, to send it to Policy and Services for further consideration. Thanks.

MOTION: Council Member Scharff moved, seconded by Council Member Wolbach to refer this item to the Policy and Services Committee.

Mayor Holman: I want to make one or two quick clarifications. The ombudsman...

Council Member Scharff: Council Member Holman, under our rules on the Motion, I don't mean to be so strict about it. The only thing we're allowed to discuss is the propriety of referring it, not the substance of the Motion.

Mayor Holman: Can we not recommend things for the Committee to consider when it is referred? I thought we could.

Council Member Scharff: I don't believe so. It says on this, "only as to propriety of referring, not substance of referral."

Mayor Holman: City Attorney?

Council Member Scharff: I'm looking at the cheat sheet they provided us all.

Mayor Holman: I know in the past when there have been referrals....

Council Member Scharff: Go ahead. I'm telling you what it says.

Mayor Holman: I know in the past when we've sent things to Policy and Services or Finance, we've talked about what we want them to think about or consider when they do take it up. I know we've done that in the past. Looking to City Attorney here. We're taking more time with this than it would take me to make my comments.

Council Member Scharff: Go make your comments.

Mayor Holman: Just a little bit of a clarification about the ombudsman. The ombudsman is not someone, from my perspective and my intention, to be associated with a neighborhood association or any other organization representing a neighborhood association. It says "a resource to individual residents or perhaps business owners." It's an individual resource. The other is that the Communications person, that Communications Officer is just the person that the City would communicate with in terms of pushing information out that would be of interest to a neighborhood organization. That's hopefully a couple of clarifications to those items.

MOTION PASSED: 9-0

12. Discussion and Appointment of a Council Member to the Board of Directors of the Bay Area Water Supply & Conservation Agency (BAWSCA) and the Bay Area Regional Water System Financing Authority.

Mayor Holman: I'm asking for any volunteers for that assignment.

Council Member Kniss: It's a four-year assignment by the way.

Mayor Holman: Four, not three?

James Keene, City Manager: It's three or four; I can't remember which.

Mayor Holman: Vice Mayor Schmid, are you offering?

Vice Mayor Schmid: Yes, I would be willing to do it. I've been on the Santa Clara Valley Water District Boards and Commission for five years. Happy to follow up. If anyone else wants to, I'd be delighted.

Mayor Holman: Are there any other offers? I would really like to have an alternate.

Council Member Burt: Council Member Kniss said this is a four-year assignment. How does that work with those of us who term out in a year and a half?

Mayor Holman: I don't know this absolutely, but I would think that if a Council Member is termed out while serving a term on Bay Area Water Supply and Conservation Agency (BAWSCA), that you could also supplement with somebody else. It doesn't mean the same person has to serve, does it?

Molly Stump, City Attorney: Council Members, I believe that this is an unusual type of appointment that does not expire on leaving office in Palo Alto.

Mayor Holman: Meaning that someone else could step in or not step in?

Ms. Stump: Meaning that the person could continue to serve.

Mayor Holman: You continue to serve even after leaving office.

Ms. Stump: Yes. Although, I believe that the Council does have the authority to make an alternative appointment.

Council Member Kniss: It's why Council Member Klein is still serving, ex-Council Member.

Mayor Holman: Council Member Burt, did you get your question answered?

Council Member Burt: Yeah.

Council Member Wolbach: I was just going to point out as you'll see on Page 791 of the Packet, this person does not even need to be a member of our City Council.

Council Member Filseth: I was going to say the same thing Cory said.

Mayor Holman: Do we have any offers for...

Council Member Scharff: I'll be the alternate.

MOTION: Vice Mayor Schmid moved, seconded by Council Member Scharff to appoint Vice Mayor Schmid to the Board of Directors and Council Member Scharff as Alternate of the Bay Area Water Supply and Conservation Agency and the Bay Area Regional Water System Financing Authority.

MOTION PASSED: 9-0

Council Member Questions, Comments and Announcements

Council Member Wolbach: I'll make this brief. Last week as Liaison to the Palo Alto Housing Corporation, I attended the Palo Alto Housing Corporation's annual meeting. It was a good meeting. A couple of things out of that. One, there is a new organization starting in the region called Silicon Valley at Home, focused on advocacy and education around affordable housing in particular. Also a couple of comments from members of the Board of the Palo Alto Housing Corporation. In relation to Planned Community coming back to Council for discussion, at least one member of the Palo Alto Housing Corporation Board pointed out that in their opinion affordable housing is a public benefit. They also discussed density rules and the need to have a certain level of density in order to successfully have financing for affordable housing. If something like that or density allowances aren't allowed in the future for affordable housing, they suggested at least exploring ideas of something like an affordable housing overlay to allow for higher density for affordable housing, if it's not done through something like the Planned Community process. Also, I know we are still working on our own aspects of Buena Vista, but there was some discussion of possible temporary or relocation sites on properties owned by the Palo Alto Housing Corporation. Lastly, just anecdotally, they're also

working on a project in Mountain View where the City of Mountain View came back to them and asked them to add higher density to an affordable housing project which was an interesting juxtaposition.

<u>Adjournment</u> :	The meeting was adjourned at 11:17 P.M.
ATTEST:	APPROVED:
City Clerk	 Mayor

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