



# City of Palo Alto

## City Council Staff Report

(ID # 7441)

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**Report Type: Action Items**

**Meeting Date: 11/14/2016**

**Summary Title: Carbon Neutral Gas Portfolio**

**Title: Finance Committee Recommendation That Council: (1) Adopt a Resolution Approving a Carbon Neutral Natural Gas Plan to Achieve a Carbon Neutral Gas Portfolio by Fiscal Year 2018 With no Greater Than 10¢/Therm Rate Impact; and Terminating the Palo Alto Green Gas Program; and (2) Provide Direction to Staff Concerning Aspects of Plan Implementation**

**From: City Manager**

**Lead Department: Utilities**

### **Recommendation**

Staff and the Finance Committee recommend that Council:

1. Adopt a Resolution that:
  - a. Approves the Carbon Neutral Gas Plan, enabling the City to achieve a carbon-neutral gas supply portfolio starting in Fiscal Year (FY) 2018 with a rate impact not to exceed ten cents per therm (10 ¢/therm); and
  - b. Terminates the PaloAltoGreen Gas program established by Resolution 9405; and
2. Direct Staff to:
  - a. Develop an implementation plan for the Carbon Neutral Gas Plan;
  - b. Provide an option for Council to consider prioritizing local offsets; and
  - c. Prioritize maximizing carbon reduction within the 10 ¢/therm rate impact cap.

### **Executive Summary**

The proposed Carbon Neutral Natural Gas Plan is designed to achieve carbon neutrality for the gas supply portfolio by FY 2018 using high-quality environmental offsets at a cost not to exceed a maximum rate impact of 10 ¢/therm. At current rates, this equates to about a 10% gas rate increase. The additional cost of a 10 ¢/therm gas rate increase will cost about \$43 per year for the median residential customer usage.

At current costs for environmental offsets and biogas, staff estimates that a 100% carbon neutral gas portfolio can be achieved for 4 ¢/therm if offsets are used to cover 100% of the gas use of Palo Alto customers. Alternately, a 100% carbon neutral gas portfolio can be achieved for 10 ¢/therm if offsets are used for 95% of the gas needs and biogas is purchased for 5% of the gas needs.

In August 2016, the Utilities Advisory Commission (UAC) recommended that Council approve a plan to maximize the use of biogas while still achieving 100% carbon neutrality. In October, the Finance Committee recommended that Council maximize carbon reduction within the 10 ¢/therm rate impact cap, which argues for purchasing only environmental offsets, and no biogas, to achieve the maximum carbon reductions per dollar spent.

### **Background**

The PaloAltoGreen Gas (PAG Gas) program was launched in December 2014. PAG Gas is a voluntary program providing customers with the option to negate the impact of greenhouse gas (GHG) emissions associated with their natural gas usage by purchasing environmental offsets. Engagement by some community members interested in accelerating the reduction of the City's natural gas carbon footprint led to a proposal to make the gas portfolio carbon neutral.

The plan presented to and recommended by the UAC included a portfolio of both physical biogas and environmental offsets. However, the Finance Committee preferred maximizing the carbon reduction for the money spent, or using only the less expensive offsets and no biogas as a mechanism for achieving carbon neutrality in the natural gas portfolio.

### **Discussion**

[Staff Report 7284](#) for the October 18 Finance Committee meeting provides detail on the proposed Carbon Neutral Gas Plan (Attachment B).

To design and implement a carbon-neutral gas portfolio plan, several inter-related variables must be considered, including:

1. Rate impact.
2. Supply source (environmental offsets or biogas).
3. Timeframe over which carbon neutrality is achieved
4. Percentage of the portfolio to be made carbon-neutral.

With respect to each of the variables above, the Finance Committee recommends:

1. Rate impact: No greater than 10¢/therm annually
2. Supply source: Environmental offsets.
3. Timeframe over which carbon neutrality is achieved: By FY 2018
4. Percentage of portfolio made carbon neutral: 100% or greater

### **Rate Impact**

Staff recommends that Council make a clear determination of maximum acceptable rate impact for a carbon-neutral gas portfolio. A rate impact of 10 ¢/therm is equal to approximately a 10% rate increase based on current gas rates and assuming a commodity rate, which fluctuates monthly with market prices, of 30 ¢/therm.

### Supply Source

An environmental offset is a reduction in emissions of greenhouse gases (GHGs) made in order to compensate for or to offset an emission made elsewhere. For example, installation of manure management systems on dairy farms reduces methane emissions thus generating offsets. The California Air Resources Board protocols provide robust methods to quantify and report the GHG reductions.

Biogas, on the other hand, is methane produced from the decay of organic matter. A dairy farm that generates offsets by preventing methane from entering the atmosphere can also sell the biogas as a renewable fuel. The price of biogas is currently driven by the federal renewable transportation fuel program and is at least 28 times more costly than offsets on a dollar per carbon dioxide equivalent (\$/CO<sub>2</sub>e) basis.

The current cost of offsets is about \$8/ton of CO<sub>2</sub>e, which is equivalent to 4 ¢/therm. If environmental offsets were purchased today for 100% of the City's gas usage, all customers would experience a rate increase of approximately 4%. A median residential customer's winter bill would increase by about \$2 per month (about \$0.75 in the summer).

### Summary of Proposal

The Finance Committee recommended a plan using high-quality environmental offsets to achieve a carbon-neutral gas portfolio by FY 2018. Rates are anticipated to increase by 4 ¢/therm and will increase by no more than 10 ¢/therm.

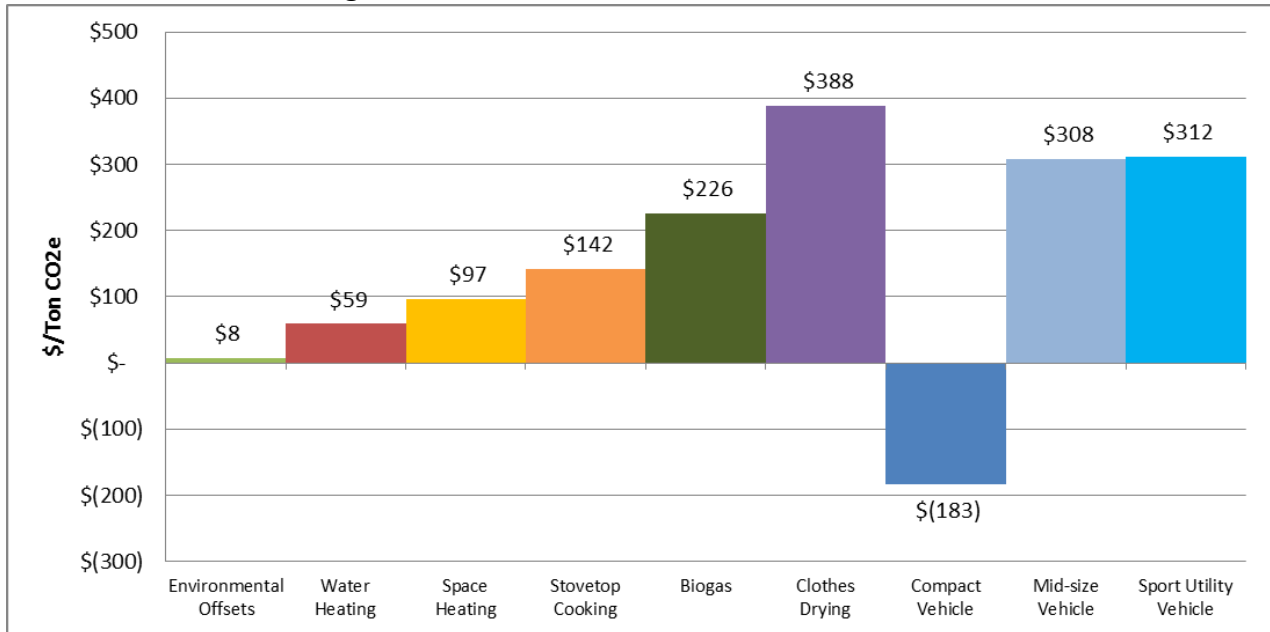
### Cost-effectiveness of a Carbon-neutral Gas Portfolio Compared to Electrification

Staff completed a cost effectiveness study for abating GHG emissions by electrifying building appliances and passenger vehicles. The report was provided to Council in August 2015 ([Staff Report 5971](#)). Figure 1 shows the societal costs of carbon from that study compared to the carbon cost of environmental offsets and biogas. Environmental offsets currently cost \$8/ton of CO<sub>2</sub>e compared to the cost of carbon of \$226/ton of CO<sub>2</sub>e for biogas<sup>1</sup>.

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<sup>1</sup> Biogas is estimated to cost \$1.50/therm, or \$1.20/therm more than fossil fuel-based natural gas, resulting in an incremental cost of carbon of \$226/ton of CO<sub>2</sub>e.

**Figure 1: Incremental Societal Abatement Cost**



As shown in Figure 1, environmental offsets are a much less expensive way to achieve carbon reductions compared to most electrification options<sup>2</sup>. When the Finance Committee reviewed these data, its members questioned the use of biogas since it is so much more costly per ton of CO<sub>2</sub>e reduced.

Proposed Offset Criteria for Carbon-neutral Gas Supply

For the PAG Gas program, Council approved the use of high-quality environmental offsets from protocols approved by the California Air Resources Board ([Staff Report 4596](#), [Resolution 9405](#)). The approved protocols currently include forestry, livestock, landfill, coal mine methane, urban forestry, ozone depleting substance and rice cultivation projects. Offsets used for PAG Gas do not need to be certified by CARB as it is an extra expense and only necessary if offsets are to be used for a regulatory compliance obligation. Staff proposes to apply the same standards to offsets used for the Carbon Neutral Gas Plan including a preference for California and local projects. One possible local offsets source may be an urban forestry project in Palo Alto.

In addition to researching the use of local offsets, staff will also continue to review the extent to which fugitive methane emissions from natural gas production, transportation, and distribution can be attributable to provision of service to Palo Alto customers. There is currently no definitive answer on this point, but should the amounts attributable to individual customers become more concrete and clearly associated with the cost of providing service to Palo Alto customers, staff will consider whether such fugitive emissions would also fall under the auspices of the plan.

<sup>2</sup> The study concluded that (after federal and state incentives) it is cheaper to own and operate a compact electric car (Nissan Leaf) than a similarly sized gasoline vehicle (Honda Civic) resulting in a negative incremental abatement cost.

### **Committee Review and Recommendation**

At its October 18, 2016 meeting, the Finance Committee reviewed the recommendation from staff and the UAC that Council approve a Carbon Neutral Gas Plan that would use a combination of physical biogas and high-quality environmental offsets to achieve a carbon-neutral gas supply portfolio starting in FY 2018 such that the amount of biogas included in the portfolio would be maximized with a rate impact not to exceed 10 ¢/therm.

The Finance Committee, however, voted to maximize carbon reduction within the 10 ¢/therm rate impact cap, rather than include the more expensive biogas as part of the portfolio. Purchasing enough offsets to cover the volume of natural gas burned in the City (30 million therm or 159,000 tons CO<sub>2</sub>e per year) results in a rate increase of about 4 ¢/therm.

The Finance Committee also discussed the proper venue for the discussion of the policy elements of the plan versus the financial impacts of the plan with the Chair of the Finance Committee opining that the Finance Committee's charge is limited to review of the financial impacts. One Finance Committee member advocated for using local projects such as gasification projects that could convert local waste to biogas.

After discussion of the differences between—and relative values of—biogas and offsets, the Finance Committee voted to support the staff recommendation, but to maximize the carbon reduction with the money spent. Staff interprets this, under current economics and until other options are available, as a preference for offsets over biogas. As the market changes, the plan provides flexibility for staff to change that prioritization as well, provided staff adheres to the goal of maximizing carbon reduction. In addition, the Finance Committee recommended that Council direct staff to provide Council with an option to “prioritize” local offsets. Staff noted that local offsets would need to go through the proper certification protocols so that the carbon neutral claims for the gas portfolio could be verified by an independent party. The Finance Committee's vote was 2-1 with Chair Filseth and Wolbach voting yes, Vice Mayor Schmid voting no and Holman absent. The minutes for the October 18, 2016 Finance Committee meeting are provided as Attachment C.

### **Resource Impact**

If only offsets are purchased to cover gas burned in the City, rates are expected to increase by about 4 ¢/therm or approximately 4%. With an additional cost of 4 ¢/therm, the median residential customer's bill will increase about \$17/year.

At the maximum amount under the rate cap of 10¢/therm, implementation of a carbon-neutral gas portfolio will increase retail rates (and revenues) and the gas commodity budget. At the rate impact limit of 10 ¢/therm, commodity costs will increase by about \$3 million, from \$9 million to \$12 million, per year. The retail rate revenue will likewise increase by about \$3

million. If the program is approved, the increased cost and revenues will be reflected in the FY 2018 budget request.

For the median residential customer using 18 therms per month in the summer and 54 therms per month in the winter, the bill impact will be \$1.80/month in the summer and \$5.40/month in the winter, or about \$43 per year with the additional 10 ¢/therm rate impact

### **Policy Implications**

The Council-approved Utilities Strategic Plan includes an objective to offer programs to meet the needs of customers and the community.

Strategy 4 in the Council-approved Gas Utility Long-term Plan (GULP) states:

Reduce the carbon intensity of the gas portfolio in accordance with the Climate Protection Plan by:

- a. Designing and implementing a voluntary retail program using reasonably priced non-fossil fuel gas resources; and
- b. Purchasing non-fossil fuel gas for the portfolio as long as it can be done with no rate impact.

Implementation of a carbon-neutral gas portfolio represents a departure from GULP Strategy 4 because the voluntary program will be eliminated and there will be a rate impact resulting from non-fossil fuel gas resources being purchased for the portfolio. GULP will need to be revised accordingly should Council approve a carbon-neutral gas portfolio.

A carbon-neutral gas portfolio would, however, be an important part of meeting Council's aggressive sustainability goal to reduce the City's GHG emissions by 80% by 2030.

### **Next Steps**

If Council approves the Carbon Neutral Gas Plan, staff will execute enabling agreements with qualified counterparties for purchasing environmental offsets. In addition, new rate schedules will be developed and brought to the UAC and Finance Committee for recommendations and to the Council for approval. Staff anticipates that this can be achieved such that the gas portfolio can be implemented in FY 2018.

Because implementation of a carbon-neutral gas portfolio represents a departure from the Council-approved GULP strategies, GULP will need to be revised before the program is put into place.

Cancelling PAG Gas will require communication with the customers, repeal of the rate schedule via resolution, and removal of the charge on participating customers' bills by the carbon-neutral implementation date.

**Environmental Review**

The Council's adoption of this Resolution, which approves a Carbon Neutral Natural Gas Plan and terminates the PAG Gas program does not meet the definition of a project, pursuant to section 21065 of the California Environmental Quality Act (CEQA). Offset, biogas and other potential project developers will be responsible for acquiring necessary environmental reviews and permits as those projects are developed.

**Attachments:**

- Attachment A: Resolution Carbon Neutral Gas Portfolio (PDF)
- Attachment B: Finance Committee Staff Report Regarding the Carbon Neutral Natural Gas Portfolio Plan (PDF)
- Attachment C: Excerpted Draft Minutes of October 18, 2016 Finance Committee Meeting (PDF)

NOT YET APPROVED

Resolution No. \_\_\_\_\_

Resolution of the Council of the City of Palo Alto Approving a Carbon Neutral Natural Gas Plan to Achieve a Carbon Neutral Gas Supply Portfolio by Fiscal Year 2018 with No Greater than 10¢/Therm Rate Impact; and Related Termination of the Palo Alto Green Gas Program

## R E C I T A L S

A. In December 2007, Council adopted the City's Climate Protection Plan which set aggressive greenhouse gas (GHG) emission reduction goals to be achieved by the year 2020.

B. In March 2013, this Council approved Resolution 9322 directing staff to achieve carbon neutrality for the electric supply portfolio by 2013 through the use of a combination of hydroelectric resources, long-term renewable resources and short-term renewable energy resources and/or renewable energy certificates ("RECs").

C. On September 9, 2013, this Council approved Resolution 9372 modifying and suspending portions of the PaloAlto**Green** Program, and directing staff to develop a PaloAlto**Green** Gas (PAG Gas Program) Program.

D. On April 21, 2014, this Council approved Resolution 9405 establishing the voluntary PAG Gas Program to provide the opportunity for residential and commercial customers to economically reduce or eliminate the impact of GHG emissions associated with their gas usage through the purchase of certified environmental offsets.

E. In April 2016, this Council adopted a GHG reduction goal of 80% by the year 2030. GHG emissions associated with natural gas use were 135,000 metric tons of carbon dioxide equivalent, or 27% of the City's GHG emissions, in 2015.

F. Staff initially proposed a Carbon Neutral Natural Gas Plan that would use a combination of physical biogas and high-quality environmental offsets to achieve a carbon-neutral gas portfolio by fiscal year 2018 by maximizing the amount of biogas in the portfolio while holding the rate impact at a maximum limit of ten cents per therm (10 ¢/therm).

G. On August 31, 2016, the Utilities Advisory Commission voted 6-1 to recommend Council approve a Carbon Neutral Gas Plan using a combination of physical biogas and high-quality environmental offsets to achieve a carbon-neutral gas portfolio and terminate the PAG Gas Program.

H. On October 18, 2016, the Finance Committee voted 2-1 to instead recommend that Council:

(i) Adopt a resolution that (a) approves a Carbon Neutral Natural Gas Plan that would enable the City to achieve a carbon-neutral gas supply portfolio starting in Fiscal Year (FY) 2018 with a rate impact not to exceed ten cents per therm (10 ¢/therm); and (b) terminate the PAG Gas Program established by Resolution 9405; and



NOT YET APPROVED

(ii) Direct staff to: (a) develop an implementation plan for the Carbon Neutral Natural Gas Plan; (b) provide an option for Council to consider prioritizing local offsets; and (c) prioritize maximizing carbon reduction within the 10 ¢/therm rate impact cap.

The Council of the City of Palo Alto RESOLVES as follows:

SECTION 1. The Council hereby adopts a resolution:

1. Approving a Carbon Neutral Natural Gas Plan, enabling the City to achieve a carbon-neutral gas supply portfolio starting in fiscal year 2018 with a rate impact not to exceed ten cents per therm (10 ¢/therm); and

2. Terminating the PAG Gas program established by Resolution 9405.

SECTION 2. The Council’s adoption of this Resolution, which approves a Carbon Neutral Natural Gas Plan and terminates the PAG Gas program does not meet the definition of a project, pursuant to section 21065 of the California Environmental Quality Act (CEQA). Offset, biogas and other potential project developers will be responsible for acquiring necessary environmental reviews and permits as those projects are developed.

INTRODUCED AND PASSED:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

\_\_\_\_\_  
City Clerk

\_\_\_\_\_  
Mayor

APPROVED AS TO FORM:

APPROVED:

\_\_\_\_\_  
Senior Deputy City Attorney

\_\_\_\_\_  
City Manager

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Director of Utilities

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Director of Administrative Services



# City of Palo Alto

## Finance Committee Staff Report

(ID # 7284)

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**Report Type: Action Items**

**Meeting Date: 10/18/2016**

**Summary Title: Carbon Neutral Natural Gas Portfolio Plan**

**Title: Utilities Advisory Commission Recommendation that Council Adopt a Resolution Approving a Carbon Neutral Natural Gas Portfolio Plan to Achieve Maximum Carbon Neutrality Using a Combination of Offsets and Biogas in the Gas Supply Portfolio by Fiscal Year 2018 with No Greater than 10¢/Therm Rate Impact; and Related Termination of the Palo Alto Green Gas Program**

**From: City Manager**

**Lead Department: Utilities**

### **Recommendation**

Staff and the Utilities Advisory Commission (UAC) recommend that the Finance Committee recommend Council:

1. Adopt a resolution (Attachment A) that:
  - a. Approves the Carbon Neutral Gas Plan, enabling the City to achieve a carbon-neutral gas supply portfolio starting in fiscal year (FY) 2018 with a rate impact not to exceed ten cents per therm (10 ¢/therm); and
  - b. Terminates the PaloAltoGreen Gas program established by Resolution 9405; and
2. Direct staff to develop an implementation plan for the Carbon Neutral Gas Plan.

### **Executive Summary**

The proposed Carbon Neutral Gas Plan will achieve carbon neutrality for the gas supply portfolio by FY 2018 with a combination of high-quality environmental offsets and physical “biogas” or “biomethane”. The proposed cost cap to implement the plan is 10 ¢/therm. Based on current rates, this equates to about a 10% gas rate increase. For the median residential customer usage, the additional cost of a 10 ¢/therm gas rate increase is about \$43 per year.

The PaloAltoGreen Gas (PAG Gas) program was launched in December 2014. PAG Gas is a voluntary program providing customers with the option to negate the impact of greenhouse gas (GHG) emissions associated with their natural gas usage by purchasing environmental offsets. Implementation of a carbon-neutral gas portfolio renders the voluntary program redundant, therefore, termination of PAG Gas is recommended when implementing the Carbon Neutral Gas Plan.

The UAC reviewed the proposed Carbon Neutral Gas Plan on August 31, 2016 and voted to recommend that Council approve the proposed plan.

**Background**

City’s GHG Emissions from Natural Gas

Table 1 below, based on data from the 2016 Earth Day report ([Staff Report 6754](#)), shows the estimate for City and community GHG emissions for 1990, 2005, 2012, and 2015.

**Table 1**

**Palo Alto Community and City Greenhouse Gas Emissions (in 000’s of Metric Tons of CO2e)**

Emissions Category	1990	2005	2012	2015
Natural Gas Use	194	166	160	135
Electricity Use	186	160	75	0
Mobile Combustion *	332	372	320	330
Other **	68	54	36	36
<b>Total</b>	<b>780</b>	<b>752</b>	<b>591</b>	<b>501</b>

\* Consultant estimate based on population, employment, vehicle miles travelled and vehicular emission profiles

\*\* Includes landfill, refuse and Regional Water Quality Control Plant emissions

As shown in Table 1, GHG emissions from natural gas use in 2015 were reduced by 4,406 tons due to the PAG Gas program. The bulk of the reduction in emissions associated with natural gas use is associated with reduced natural gas use (from 37.2 million therms in 1990 to 30.1 million therms in 2012 to 25.5 million therms in 2015).

Gas Utility Long-term Plan (GULP) and Early Evaluations of Alternative Gas Supplies

In November 2009, the UAC reviewed an analysis of physical biogas as a resource for the gas supply portfolio.<sup>1</sup> At that time, staff determined that physical biogas cost about 50 ¢/therm more than natural gas, or about \$100 per ton of carbon dioxide equivalent (CO2e)<sup>2</sup> and would increase a residential customer’s gas bill by 35%.

GULP includes a strategy to evaluate a voluntary green gas program and evaluate purchasing non-fossil fuel gas for the gas portfolio. The City Council last approved updates to GULP in April 2012 ([Staff Report 2522](#), [Resolution 9244](#)), including GULP Strategy 4:

- Reduce the carbon intensity of the gas portfolio in accordance with the Climate Protection Plan by:
  - a. Designing and implementing a voluntary retail program using reasonably priced non-fossil fuel gas resources; and
  - b. Purchasing non-fossil fuel gas for the portfolio as long as it can be done with no rate impact.

<sup>1</sup> <http://www.cityofpaloalto.org/civicax/filebank/documents/17514>

<sup>2</sup> 1 ton/2204.16 lbs \* 116 lbs CO<sup>2</sup>e/1 MMBtu CH<sub>4</sub> \*1 MMBtu/10 therms = .0053 tons/therm

In response to the GULP strategies, in April 2013, staff presented alternatives for a PAG Gas program to the UAC<sup>3</sup> including the use of physical biogas for the program, but found that it would cost about \$1 per therm more than natural gas based on responses to a request for proposal issued by the Northern California Power Agency. In addition, the long-term contracts required for biogas project developers to secure financing were, and are still, not conducive to the potentially volatile demand associated with a voluntary green gas program.

### PAG Gas

The PAG Gas program was modeled after the highly successful, voluntary PaloAltoGreen (PAG) program, which allowed participants to receive 100% renewable energy and eliminate the GHG emissions associated with their electricity use. Participation rates in PAG were the highest among similar programs throughout the nation earning recognition for the City and creating a sense of community pride around sustainability efforts. In 2012, approximately 20% of CPAU's customers participated in PAG, representing 8% of the City's total electric usage.

By 2013, the City's aggressive Renewable Portfolio Standard (RPS) goal combined with its carbon-free hydroelectric resources rendered the electric supply portfolio largely carbon neutral. In March 2013, City Council approved the Carbon Neutral Plan committing CPAU to pursue only carbon neutral electric resources beginning in calendar year 2013 ([Staff Report 3550](#), [Resolution 9322](#)). In September 2013, City Council suspended PAG and directed staff to develop a new voluntary PAG Gas program to afford participants the opportunity to eliminate the GHG emissions associated with their natural gas use ([Staff Report 4041](#), [Resolution 9372](#)).<sup>4</sup>

In April 2014, City Council approved the establishment of a voluntary PAG Gas program ([Staff Report 4596](#), [Resolution 9405](#)) using high quality offsets to back the program. All offsets purchased to date have been from a livestock methane capture project. The PAG Gas rate is 12¢/therm, which equates to an avoided GHG emissions cost of approximately \$22 per ton of CO<sub>2</sub>e.

The PAG Gas program goal is a 20% participation rate by 2020 with a corresponding GHG reduction of 16,000 tons of CO<sub>2</sub>e per year. The 2020 goal represents a 10% reduction in the City's total GHG emissions associated with natural gas consumption. The reductions are achieved by purchasing high quality environmental offsets, with a preference for California projects, on behalf of participants in order to reduce or eliminate the impact of GHG emissions associated with each participating customer's gas usage. All customers can sign up for PAG Gas

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<sup>3</sup> <https://www.cityofpaloalto.org/civicax/filebank/documents/33744>

<sup>4</sup> In June 2014, since the PAG (electric) program is redundant with the Carbon Neutral Plan, Council eliminated the PAG program for residential customers ([Staff Report 4718](#), [Resolution 9422](#)). At the same time, Council also reactivated the program for commercial customers since some customers (including City facilities) desire to participate in a voluntary green electric program to achieve environmental recognition and certifications in line with their own corporate sustainability goals including participation in the U.S. Green Building Council Leadership in Energy and Environmental Design (USGBC LEED) Program and the U.S. EPA Green Power Partnership Program.

for their entire gas usage; commercial customers also have the option of participating in the program for part of their natural gas usage.

Since the program launch in December 2014, roughly 4% of the City’s residential natural gas customers have participated in PAG Gas accounting for approximately 3,200 tons of GHG emissions per year. City facilities began participating in PAG Gas in July 2015 and account for GHG emissions reductions of approximately 6,000 tons per year. For a typical residential customer participating in PAG Gas, the cost is approximately \$5 per month for an average use of 42 therms per month. After the June 1, 2016 UAC meeting, staff began to evaluate carbon neutral gas supply options and suspended active marketing of the program, resulting in decreased participation in the program.

Figure 1 below shows the trajectory of PAG Gas participation for January 2015 through July 2016.

**Figure 1: PAG Gas Program Participation**

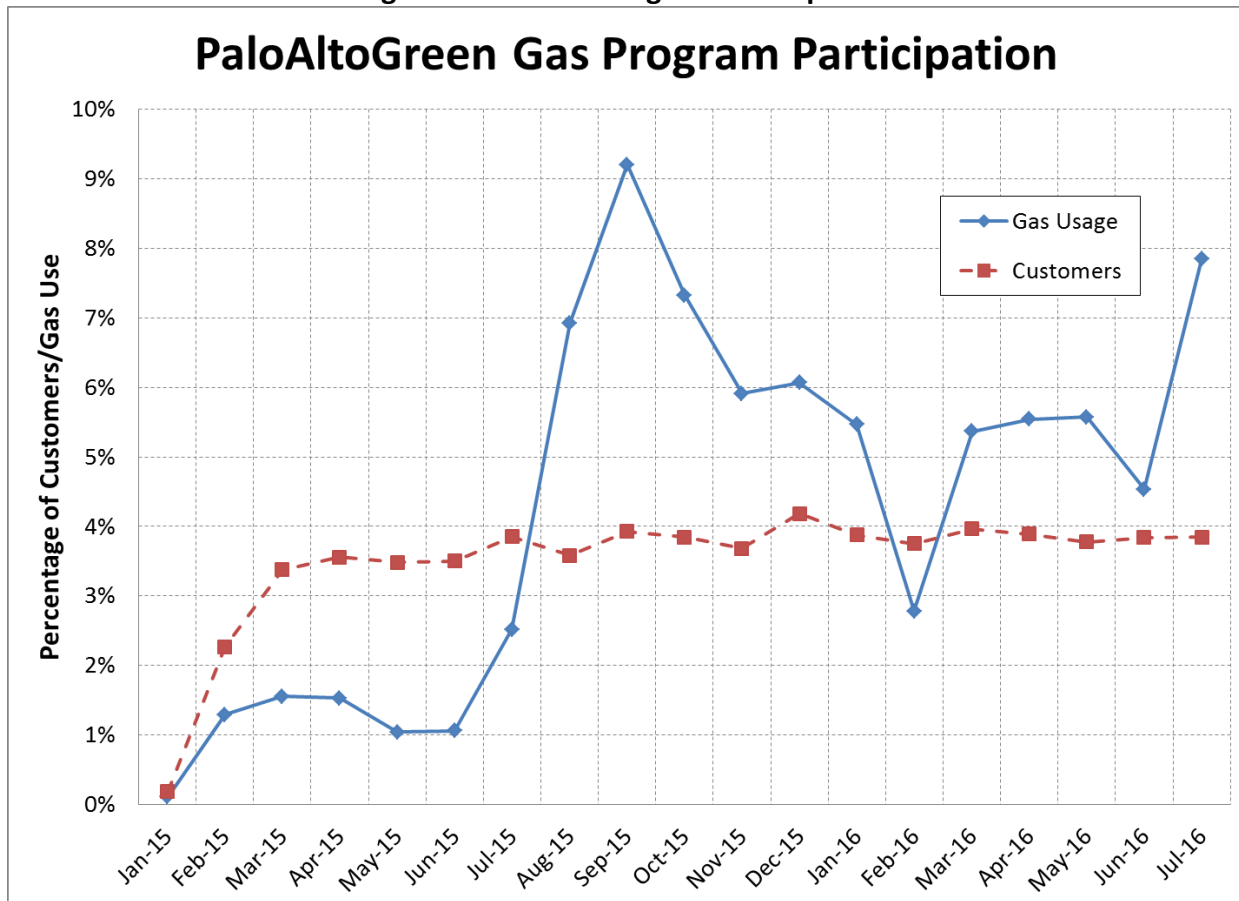
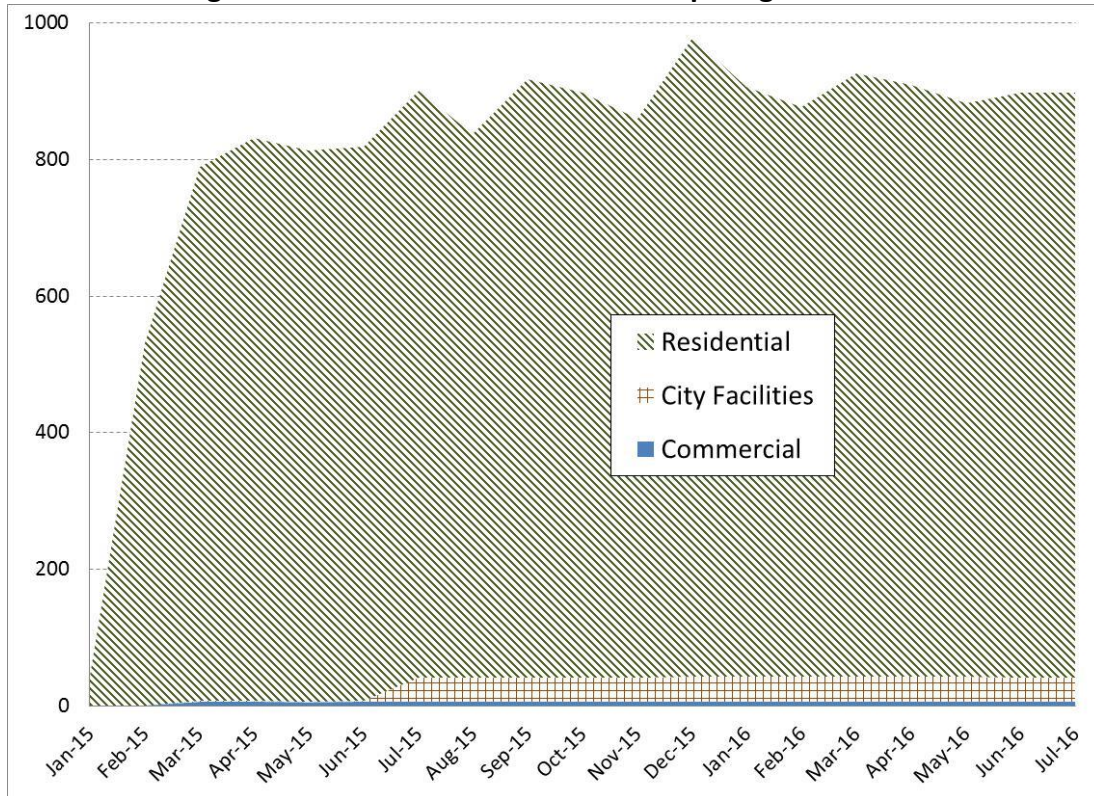


Figure 2 below shows the number of PAG Gas participants by customer type. Figure 3 shows the percentage of total gas usage by customer type. As shown, the vast majority of participants are residential customers—as was the case with the PAG (electric) program. The bulk of the

participation in terms of gas usage is for City facilities. Very few commercial customers have participated in the program to date.

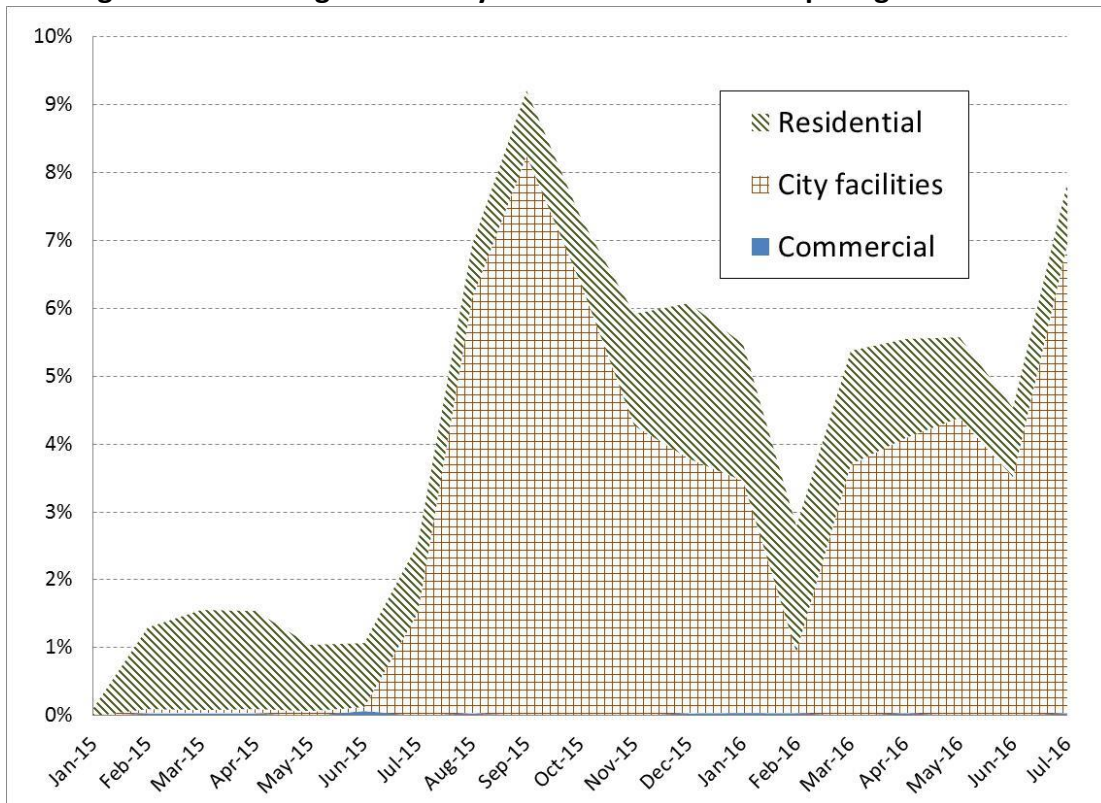
Approximately 4.1% of the City's residential natural gas customers have signed up for PAG Gas as of the end of June 2016. In July 2015 all City facilities began participating in the program for 100% of their gas usage.

**Figure 2: Number of Customers Participating in PAG Gas**





**Figure 3: Percentage of the City’s Total Gas Load Participating in PAG Gas**



Utilities Advisory Commission Discussions

At its October 7, 2015 meeting the UAC heard public comment on, and discussed the merits and drawbacks of, an opt-in versus an opt-out structure for the voluntary PAG Gas program. The minutes from that meeting are provided as Attachment B. At its June 1, 2016, meeting the UAC was presented with an overview and high-level analysis of several options for reducing the carbon impact of natural gas use in the City including converting the voluntary program to an opt-out model (meaning all customers would be automatically enrolled in the program, but could voluntarily leave the program at any time) and adopting a carbon neutral portfolio for all customers using either environmental offsets or physical biogas. The four main options discussed by the UAC at its June 1, 2016 meeting are summarized in Table 2 below.

**Table 2: Alternatives for Gas Portfolio GHG Reduction**

	<b>Pros</b>	<b>Cons</b>
<b>Opt-in Program</b>	<ul style="list-style-type: none"> <li>• Consistent with CPAU’s past practices of providing program and service options for those who want them.</li> <li>• Allows participants to feel proud that they are doing more to help the environment</li> </ul>	<ul style="list-style-type: none"> <li>• Requires significant and continuing outreach effort to maximize participation—and minimize administrative costs—by capturing all customers who would participate in the program if they knew about and understood it</li> </ul>

	<b>Pros</b>	<b>Cons</b>
<b>Opt-out Program</b>	<ul style="list-style-type: none"> <li>• Much greater reductions in GHG emissions associated with natural gas usage could be achieved sooner and at a lower cost</li> <li>• After start up, easy and low cost to administer</li> </ul>	<ul style="list-style-type: none"> <li>• Risk of harming CPAU’s reputation as the program can be viewed by customers as “slamming” or even taking advantage of customers who are not paying attention even after being notified of right to opt-out</li> <li>• Requires ongoing outreach to notify customers of their ability to opt-out at any time</li> <li>• Requires development of detailed program rules and processes to allow for opting out/in, securing refunds and identifying potential sources of funds for such refunds.</li> </ul>
<b>Gas Portfolio Backed by Offsets</b>	<ul style="list-style-type: none"> <li>• Maximum reductions in GHG emissions associated with natural gas usage</li> <li>• Minimal administrative costs</li> <li>• No need for complicated program terms and conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Could be perceived as an overreaching mandate</li> <li>• Small rate increase for all customers</li> <li>• Cost varies with the cost of environmental offsets</li> </ul>
<b>Gas Portfolio Backed by Green Gas</b>	<ul style="list-style-type: none"> <li>• Maximum reductions in GHG emissions associated with natural gas usage if for 100% of the gas portfolio</li> <li>• Minimal administrative costs</li> <li>• No need for complicated program terms and conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Could be perceived as overreaching</li> <li>• Large rate increase for all customers, especially if for 100% of the gas portfolio</li> <li>• Cost varies with the cost of green gas</li> </ul>

Opt-In versus Opt-Out Alternative

Staff provided further analysis for the June 1, 2016 UAC discussion comparing opt-in and opt-out designs including the cost comparison between the two approaches as shown in Table 3.



**Table 3: Opt-in versus Opt-out Program Cost Estimates**

	Units	Opt-in Program		Opt-out Program	
		Current	Post-2020	First Year	Subsequent Years
Participation	% of gas usage	6%	10%	90%	80%
GHG emissions reduced	tons <sup>1</sup>	9,000	15,000	135,000	120,000
Offset Cost	\$/ton <sup>2</sup>	9.25	9.25	9.25	9.25
	¢/therm	4.4	4.4	4.4	4.4
Administrative cost	\$/year	\$120,000	\$85,000	\$400,000 <sup>3</sup>	\$40,000
	\$/ton	13.16	5.66	2.96	0.33
	¢/therm	7.0	3.0	1.6	0.5
Total Cost	\$/ton	22.46	14.91	12.21	9.58
Retail Rate	¢/therm	12	8	6	5
Residential Bill Impact <sup>4</sup>	\$/month	4.32	2.88	2.16	1.80

Notes:

1. GHG emissions based on projected gas usage of 28.5 million therms per year (150K tons CO<sub>2</sub>e)
2. Offset costs will adjust with market conditions
3. Communication activities and billing system changes
4. Median residential customer gas use: 54 therms in winter month and 18 therms in summer

A comparison of anticipated customer reactions to the two approaches was also presented and is shown in Table 4.

**Table 4: Anticipated Customer Reactions to Opt-in and Opt-out Programs**

Customer	Opt-In Program	Opt-Out Program
Active Supporter	Participates in PAG Gas	Supports, would not opt out
Passive Supporter	Intend to opt in, but have not prioritized signing up	Supports, would not opt out
Unaware Supporter	Would opt-in, but have not heard about it	Would not opt out
Ambivalent	Don't pay attention, or care either way	Unlikely to opt out
Unaware Opponent	Would not opt in	Prefers to opt out, but not paying attention to the City's messaging or the resulting changes to their utility bills
Passive Opponent	Would not opt in	Doesn't support the program, but unlikely to prioritize opting out
Aware Opponent	Would not opt in	Really don't want to participate but feel guilty or embarrassed about opting out, especially if the program is characterized as being environmentally friendly
Active Opponent	Would not opt in	Would opt-out of the program

### UAC Action on June 1, 2016

On June 1, 2016, the UAC discussed the alternatives to continuing PAG Gas as a voluntary opt-in program and generally agreed that the current opt-in model was the least desired option.

The UAC discussed the incremental cost of biogas and the availability of environmental offsets and said that, if the long-term goal was to have a carbon neutral gas portfolio, it would not be advisable to first convert the program to an opt-out program and then move to a carbon neutral portfolio since it would look like there was an opt-out option, but then that option would be taken away. One suggestion was to start with a portfolio that is not 100% carbon neutral and transition to 100% carbon neutral over time. Another suggestion was to start with offsets first and move to add more biogas over time. However, at the June 1, 2016 meeting, the UAC was not presented detailed costs for the different alternatives.

One commissioner expressed support for converting to an opt-out program and advised against introducing a new program that costs more when gas rates are increasing as shown in the long-term Gas Financial Plan.

At its June 1, 2016 meeting, the UAC voted 6-1 (with Chair Cook, Vice Chair Danaher, and Commissioners Ballantine, Forssell, Johnston and Trumbull voting yes and Commissioner Schwartz opposed) to recommend that Council adopt a carbon neutral gas portfolio and direct staff to develop an implementation plan. The minutes from the UAC's June 2016 meeting are provided as Attachment C.

### Discussion

To design and implement a carbon-neutral gas portfolio plan, several inter-related variables must be considered, including:

1. Rate impact.
2. Supply source (environmental offsets or biogas).
3. Timeframe over which carbon neutrality is achieved
4. Percentage of the portfolio to be made carbon-neutral.

With respect to each of the variables above, staff makes the following recommendations:

1. Rate impact: No greater than 10¢/therm annually
2. Supply source: Combination of environmental offsets and biogas, with exact mix designed to maximize carbon neutrality within established rate impact limit. Staff estimates approximate ratio of offsets (95%) to biogas (5%) at the outset of the program.
3. Timeframe over which carbon neutrality is achieved: By FY 2018
4. Percentage of portfolio made carbon neutral: 100%

### Rate Impact

Staff recommends that Council make a clear determination of acceptable rate impact for a carbon-neutral gas portfolio. Council took such a step with respect to Carbon Neutral Plan for electricity where rate impacts, for a variety of reasons, were expected to be less significant than those potential impacts from a carbon free gas portfolio. The rate impact of achieving carbon neutrality for the electric portfolio is quite small (on the order of 1-2%) because the incremental cost to get to carbon-neutrality is diminished by the significant RPS requirement and the fact that carbon-free hydroelectric supplies provide about half of the City's energy requirements in a normal year. The rate cap for the carbon neutral electric portfolio established by Council is 0.15 cents per kWh ([Staff Report 3550](#), [Resolution 9322](#)).

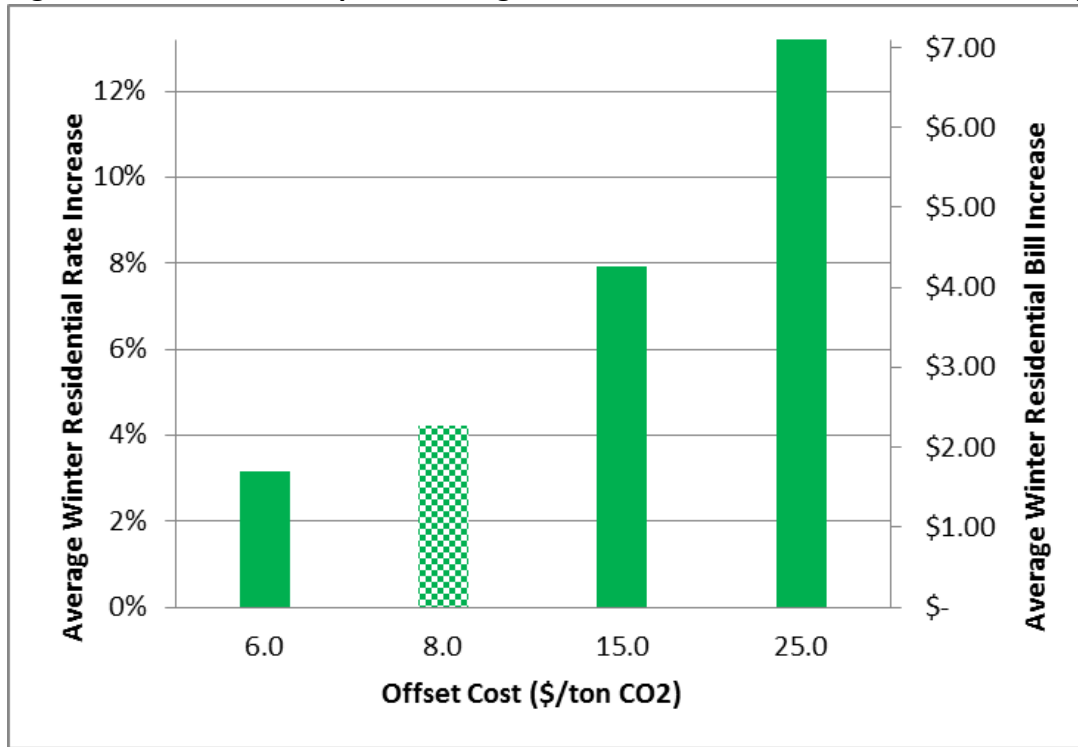
By contrast, the costs associated with a carbon neutral gas supply and associated rate impacts are not likely to be as low. The gas portfolio is currently supplied 100% by a fossil fuel source, whereas the electric supply portfolio includes a large fraction of carbon-free hydroelectric supplies and is subject to the State requirement for renewable supplies to meet a minimum of 33% (now 50% by 2030) of the City's needs. A rate impact of 10 ¢/therm is equal to approximately a 10% rate increase based on current gas rates and assuming a commodity rate, which fluctuates monthly with market prices, of 30 ¢/therm.

### Supply Source

#### *Offsets as Supply Source*

Using environmental offsets to neutralize the GHG emissions of the gas portfolio is significantly less expensive than buying biogas. If environmental offsets were purchased today for 100% of the City's gas usage, all customers would experience a rate increase of approximately 4%. A residential customer's winter bill would increase by about \$2 per month (about \$0.75 in the summer). A range of potential offset costs were analyzed and are presented in Figure 4 below. The current cost of offsets is about \$8 per ton of CO<sub>2</sub>e, which is equivalent to 4 ¢/therm.

**Figure 4: Rate and Bill Impact of Using 100% Offsets to Achieve Carbon-Neutrality**



*Biogas as a Supply Source*

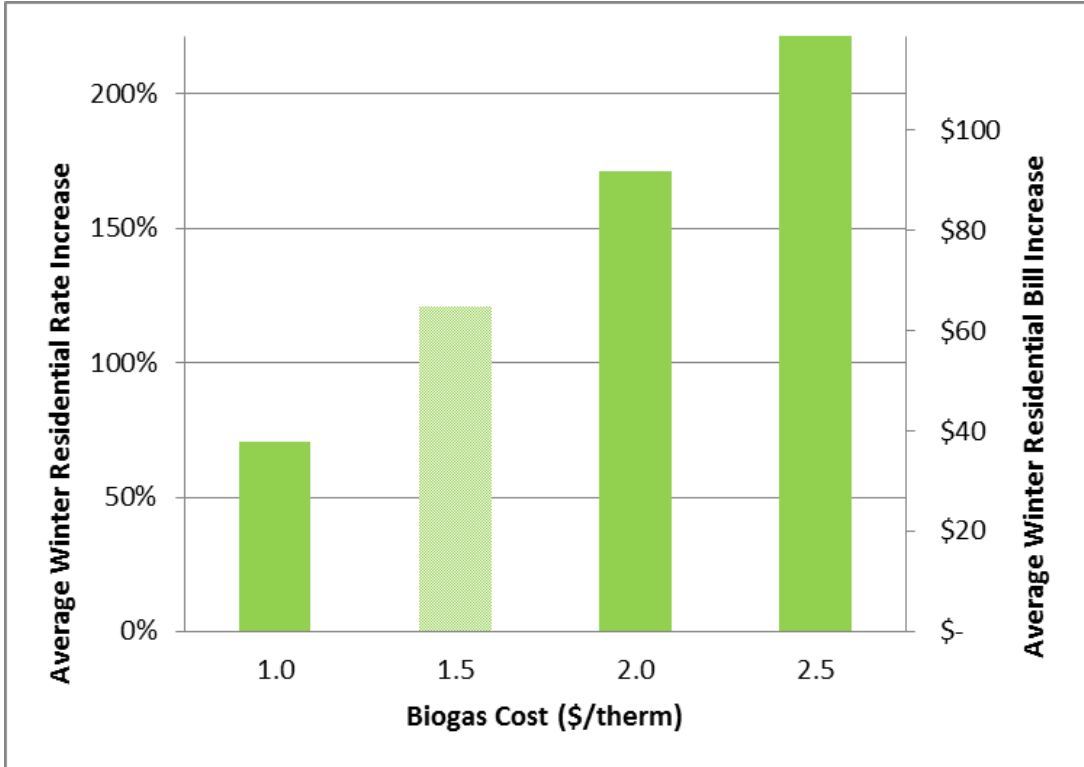
Alternatively, the City’s gas needs could be met with renewable physical biogas, a much more expensive option.

Biogas is a product of organic conversion (from cow manure at a dairy farm or from a landfill, for example). Most biogas produced in the United States is used as either a transportation fuel or to generate electricity. Biogas is most valuable as a transportation fuel due to the Federal Renewable Fuel Standard program and the state regulations like California’s Low Carbon Fuel Standard (LCFS) and Renewable Portfolio Standard (RPS). Biogas converted to electricity may be used to meet California’s RPS compliance obligations for electric utilities. State regulation and pipeline interconnection costs have largely kept biomethane projects out of California, but out-of-state supply sources are available.

The short-term price for biogas is in the \$2-\$3 per therm range due to the transportation fuel-driven demand mentioned above. For a longer-term fixed-price commitment (5-7 years), prices are discounted to around \$1.50 per therm. Two things eliminated the consideration of biogas for the City’s voluntary PAG Gas program: (1) the cost and the incompatibility between a voluntary program with uncertain demand; and (2) the biogas project developers’ need long-term commitments. While cost is still an issue, if it decided to pursue a carbon-neutral portfolio for the long term, the City would be in a position to make a long-term commitment for biogas. At a biogas price of \$1.50/therm (or \$1.20/therm over the projected \$0.30/therm cost for natural gas), supplying 100% of the portfolio with biogas results in about a 120% rate increase

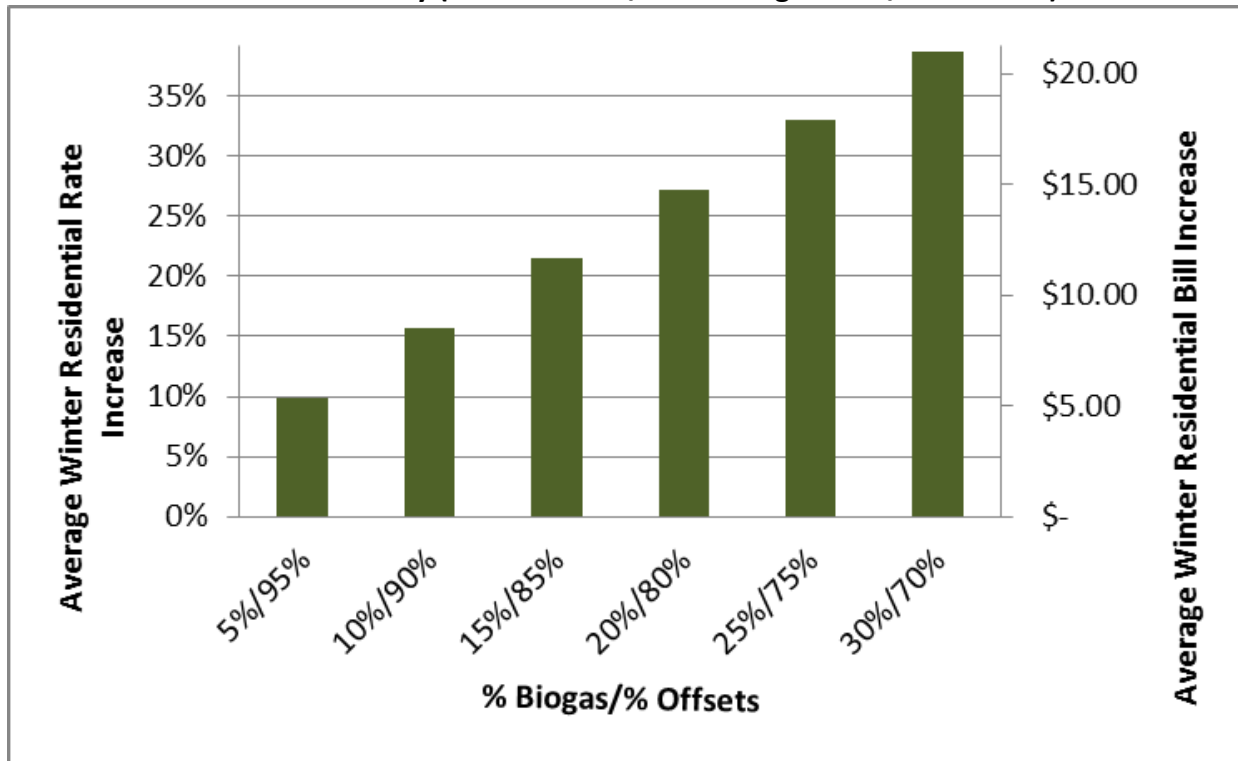
or about \$65 more per month on an average residential customer’s monthly winter bill (or about \$22 per month more in the summer when average residential use is 18 therms/month). Figure 5 shows both the rate and bill impacts at various biogas prices.

**Figure 5: Rate and Bill Impact of Using 100% Biogas to Achieve Carbon-Neutrality**



The two supply sources, environmental offsets and biogas, could be combined to achieve carbon-neutrality. However, even a ratio of 5% biogas and 95% environmental offsets results in a rate impact greater than 10%. Figure 6 shows the rate and bill impacts for different percentages of the two supply resources using biogas costing \$1.50/therm and environmental offsets costing \$8 per ton.

**Figure 6: Rate and Bill Impact of Using a Combination of Biogas and Offsets to Achieve Carbon-Neutrality (Assumes \$1.5/therm Biogas & \$8/ton Offsets)**

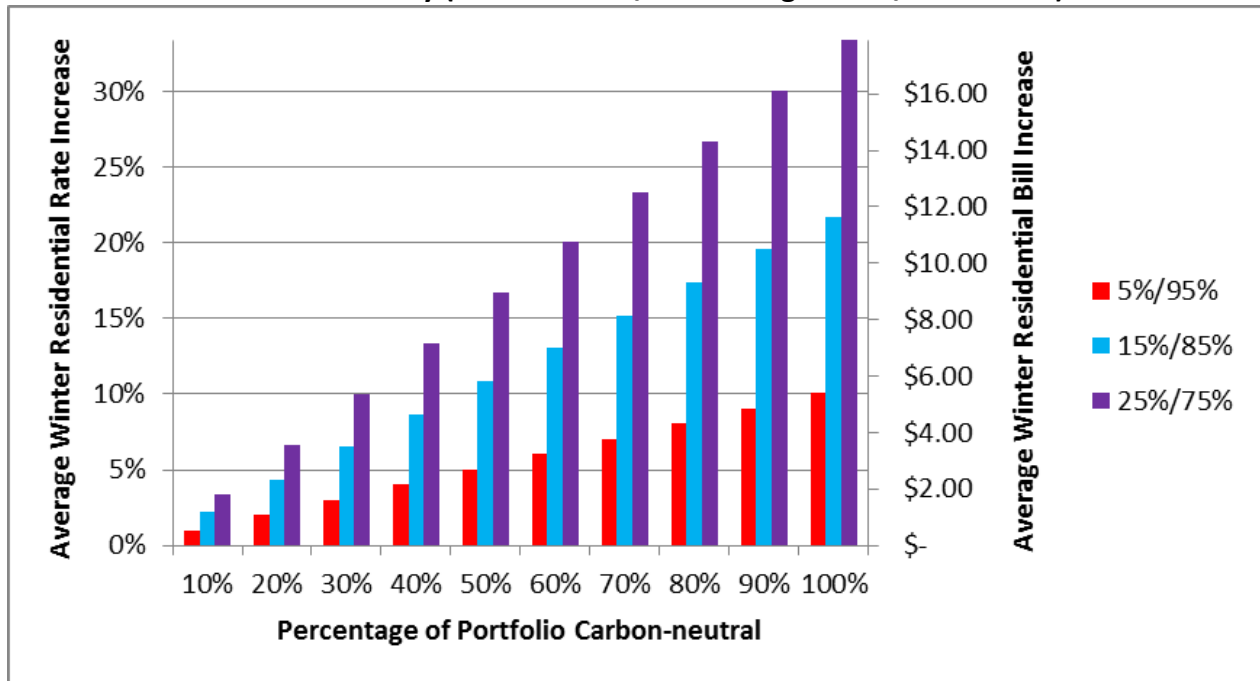


Carbon Neutrality: Portfolio Percentage & Timeframe

Two other variables may be adjusted when designing a carbon neutral plan. To reduce the cost impact of buying green gas for the gas portfolio and the GHG emissions reductions only a portion of the portfolio could be made carbon neutral. Alternately, or in addition, a green gas portfolio standard could increase over time (e.g. start at 10% in FY 2018 increasing to 100% by FY 2021).

Figure 7 shows the rate and bill impacts of various biogas to offset ratios if less than 100% of the portfolio is carbon-neutral. Again, a \$1.50/therm biogas price and an \$8 per ton environmental offset price are assumed.

**Figure 7: Rate and Bill Impact of Using a Combination of Biogas and Offsets to Achieve Partial Carbon-Neutrality (Assumes \$1.5/therm Biogas & \$8/ton Offsets)**



Summary of Proposal

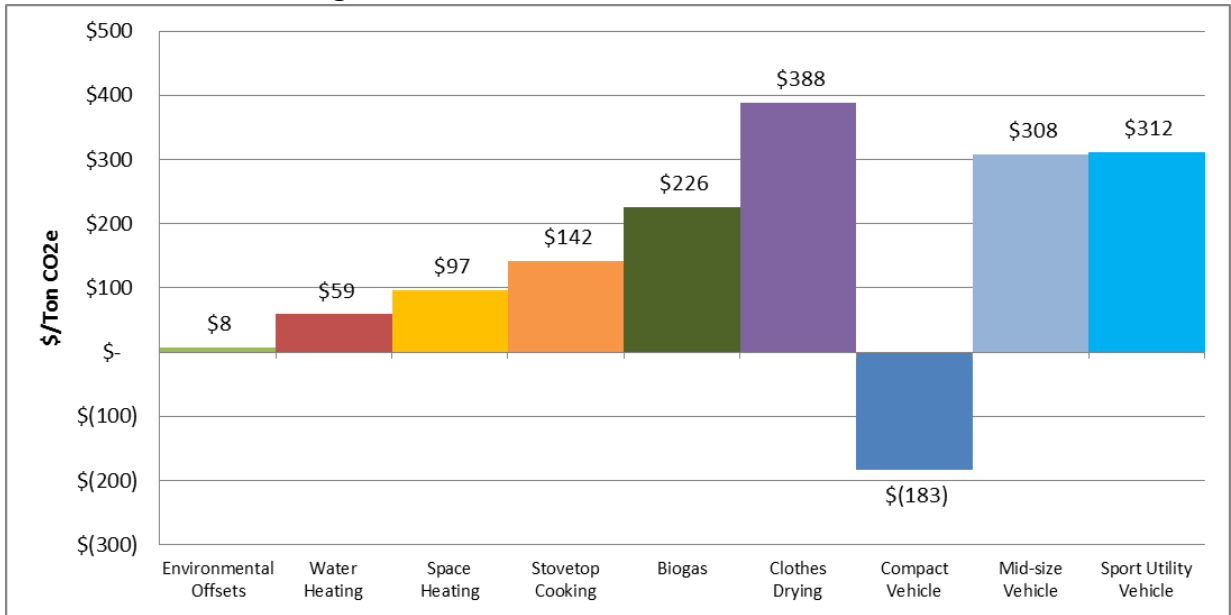
The proposed plan will use a combination of physical biogas and high-quality environmental offsets to achieve a carbon-neutral gas portfolio by FY 2018. The amount of biogas included in the portfolio will be maximized while causing rates to increase by no more than 10 ¢/therm. Given the 10 ¢/therm rate impact cap and current market prices, approximately 5% of the City’s portfolio can be met with biogas with the remaining 95% neutralized with environmental offsets.

If the price of offsets increases, the portfolio may need to comprise up to 100% offsets, or the portfolio may be less than 100% carbon neutral. On the other hand, if the price of offsets decreases, the proportion of biogas will increase. Purchasing biogas for less than 5% of the total portfolio demand may be too small for a transaction. In that case, the portfolio will be comprised of 100% offsets, and the rate impact will be significantly less than 10 ¢/therm.

Cost-effectiveness of a Carbon-neutral Gas Portfolio Compared to Electrification

In May 2015, the UAC reviewed a cost effectiveness study for abating GHG emissions by electrifying building appliances and passenger vehicles. The report was provided to Council in August 2015 ([Staff Report 5971](#)). Figure 8 shows the societal costs of carbon from that study compared to the carbon cost of environmental offsets and biogas. The estimated cost of \$1.50/therm for biogas, or an incremental cost of \$1.20/therm relative to brown gas, results in an incremental cost of carbon of \$226 per ton of CO2e. Environmental offsets are assumed to cost \$8/ton of CO2e.

**Figure 8: Incremental Societal Abatement Cost**



As shown in Figure 8, environmental offsets are a much less expensive way to achieve carbon reductions compared to most electrification options<sup>5</sup>. Biogas, however, results in higher abatement costs than converting from natural gas-fired water and space heaters to electric heat pump water and space heaters and converting from a gas stovetop to an electric stovetop.

**Proposed Biogas and Offset Criteria for Carbon-neutral Gas Supply**

*Offset Criteria – Same as Approved for PAG Gas*

For the PAG Gas program, Council approved the use of high-quality environmental offsets from protocols approved by the California Air Resources Board. The approved protocols currently include forestry, livestock, landfill, coal mine methane, urban forestry, ozone depleting substance and rice cultivation projects. Offsets used for PAG Gas do not need to be certified by CARB as it is an extra expense and only necessary if offsets are to be used for a regulatory compliance obligation. Staff proposes to apply the same standards to offsets used for the Carbon Neutral Gas Plan including a preference for California and local projects ([Staff Report 4596](#), [Resolution 9405](#)).

*Biogas Criteria – “Displacement” Concept Allowed*

Biogas is generated from an organic source such a waste from a dairy farm, other agricultural waste or from a landfill. Very little biogas is produced in California, but the Environmental Protection Agency’s (EPA) Renewable Fuel Standard Program is driving the development of projects in other states. The EPA recognizes two things: (1) molecules of biogas go into the pipeline and rarely end up being burned by the purchaser of that gas and (2) gas transportation

<sup>5</sup> The study concluded that (after federal and state incentives) it is cheaper to own and operate a compact electric car (Nissan Leaf) than a similarly sized gasoline vehicle (Honda Civic) resulting in a negative incremental abatement cost.



can add significant costs if a biogas purchaser is forced to move gas long distances. The EPA, therefore, allows for “displacement” whereby biogas is purchased at a point near the project site and the environmental attributes of that gas are attached to brown gas delivered at a different location. California’s RPS program, on the other hand, requires entities to contract for gas transportation from the biogas source to the end use, adding significant cost to the gas.

Because the City is seeking ways to reduce its GHG emissions and is not using offsets or biogas to meet a compliance obligation, the City has latitude to establish its own criteria for biogas use and eligibility under the City’s carbon-neutral gas supply program. Staff recommends utilization of the EPA’s approach, which allows for displacement of biogas in one location for brown gas in another location under the City’s carbon-neutral gas program.

### Alternatives

There are many alternatives to the proposed program, which can be described by varying the key determinants. The following examples are ways in which the plan can be modified.

1. Rate impact: A rate impact higher than 10 ¢/therm would result in more biogas versus offsets being part of the portfolio. If the rate impact limit was reduced, the portfolio may not be able to be 100% carbon neutral. As another alternative, the rate impact could increase over time—for example, starting out at 5 ¢/therm and increasing to 10 ¢/therm in five years.
2. Supply: The proposed plan includes a combination of biogas and offsets such that the amount of biogas is maximized while limiting the rate impact to a set amount (10 ¢/therm). Instead of a rate impact measure, the program could be developed with a prescribed ratio of biogas to offsets. In this case, the rate impact would depend on the cost of the offsets and the biogas and could change year to year.
3. Carbon-neutral coverage of the portfolio: The proposed plan uses the full 10 ¢/therm to get up to 100% carbon neutrality with the expectation that most (95%) of the supply will be environmental offsets with the balance being biogas. However, the goal could be less than 100% carbon neutral supplies—for example, the goal could be to achieve 50% carbon neutral supplies while under the 10 ¢/therm rate impact, which would allow for purchases of biogas for about 8% of the gas needs and offsets for about 43% of the gas needs given current prices for offsets and biogas supplies.
4. Timing: The most aggressive implementation schedule, by FY 2018, is recommended. Carbon-neutrality could be staged over any number of years with changing rate impact or changing proportion of offsets to biogas.

These program attributes could be combined in any number of ways to develop a program as shown in Table 5 below.

**Table 5: Proposed Carbon Neutral Gas Plan and Alternatives**

	Rate Impact Limit (¢/therm)	Expected Supply <sup>1,2</sup>		Carbon Neutral Portfolio
		Offsets	Biogas	
<b>Proposed Program</b>	10	95%	5%	100%
<b>Lower Rate Impact</b>	5	100%	0%	100%
<b>Higher Rate Impact</b>	15	90%	10%	100%
<b>No Offsets</b>	5	0%	4%	4%
	10	0%	8%	8%
	15	0%	13%	13%
<b>25% Carbon Neutral Portfolio</b>	5	21.5%	3.5%	25%
	10	17.5%	7.5%	
	15	13%	12%	
<b>50% Carbon Neutral Portfolio</b>	5	47.5%	2.5%	50%
	10	43.25%	6.75%	
	15	39%	11%	
<b>75% Carbon Neutral Portfolio</b>	5	73.5%	1.5%	75%
	10	69%	6%	
	15	65%	10%	

Notes: 1 Assumes current prices for environmental offsets and biogas

2 Biogas volumes of less than 5% of the portfolio are likely too small to transact

**Commission Review and Recommendation**

Staff presented the proposed Carbon Neutral Gas Plan to the UAC at its August 31, 2016 meeting. Commissioners asked if the gas that would be neutralized by buying offsets or replaced with biogas accounts for all the gas the City uses in addition to whatever is leaked from source to transportation to the distribution system. Staff explained that the gas needs were determined by what the City buys at the Citygate and it includes any gas leaked in the City’s gas distribution system, but not any leaks in the gas transportation system or at the gas source. The greenhouse gas emission calculation is based on accounting for the gas at the Citygate as if it was 100% burned and not leaked as methane.

Commissioners generally indicated they liked the flexibility of the proposed program since it provides for a higher amount of biogas as the cost comes down and it supports the development of a biogas marketplace. Commissioners also discussed whether carbon neutral gas would dampen the enthusiasm for electrification and asked if carbon neutral electricity has dampened the penetration of rooftop solar.

After discussion and hearing public comment, the UAC voted to recommend Council approve the plan (6-1 with Chair Cook, Vice Chair Danaher, and Commissioners Ballantine, Forssell, Johnston, and voting yes and Commissioner Schwartz voting no). The minutes from the UAC’s August 31, 2016 meeting are provided as Attachment D.

## **Resource Impact**

Implementation of a carbon-neutral gas portfolio will increase retail rates (and revenues) and the gas commodity budget. The recommendation is to cap the rate impact at 10 ¢/therm. At that level, commodity costs will increase by about \$3 million, from \$9 million to \$12 million, per year. The retail rate revenue will likewise increase by \$3 million. If the program is approved, the increased cost and revenues will be reflected in the FY 2018 budget request.

A rate increase of 10 ¢/therm will increase rates by approximately 10%. For the median residential customer using 18 therms per month in the summer and 54 therms per month in the winter, the bill impact will be \$1.80/month in the summer and \$5.40/month in the winter, or about \$43 per year.

## **Policy Implications**

The Council-approved Utilities Strategic Plan includes an objective to offer programs to meet the needs of customers and the community.

Strategy 4 in the Council-approved GULP states:

Reduce the carbon intensity of the gas portfolio in accordance with the Climate Protection Plan by:

- a. Designing and implementing a voluntary retail program using reasonably priced non-fossil fuel gas resources; and
- b. Purchasing non-fossil fuel gas for the portfolio as long as it can be done with no rate impact.

Implementation of a carbon-neutral gas portfolio represents a departure from GULP Strategy 4 because the voluntary program will be eliminated and there will be a rate impact resulting from non-fossil fuel gas resources being purchased for the portfolio. GULP will need to be revised accordingly should Council approve a carbon-neutral gas portfolio.

A carbon-neutral gas portfolio would, however, be an important part of meeting Council's aggressive goal to reduce the City's GHG emissions by 80% by 2030.

## **Next Steps**

Several tasks must be completed before implementing the proposed Carbon Neutral Gas Plan. For example, existing gas purchasing agreements may be used to procure biogas with details about the biogas added to the transaction confirmations. Environmental offsets for the current PAG Gas program are included in the City's agreement with the program administrator, so new contracts may need to be developed to purchase offsets for the carbon-neutral portfolio. If the Carbon Neutral Gas Plan is approved by Council, staff will execute enabling agreements with qualified counterparties for purchasing environmental offsets.

In addition, new rate schedules will be developed and brought to the UAC and Finance Committee for recommendations and to the Council for approval. Staff anticipates that this can be achieved such that the gas portfolio can be implemented in FY 2018.

Because implementation of a carbon-neutral gas portfolio represents a departure from the Council-approved GULP strategies, GULP will need to be revised before the program is put into place.

Cancelling PAG Gas will require communication with the customers, repeal of the rate schedule via resolution, and removal of the charge on participating customers' bills by the carbon-neutral implementation date.

### **Environmental Review**

The Council's adoption of a resolution implementing a carbon-neutral gas portfolio and terminating the PaloAltoGreen Gas Program does not meet the definition of a project, pursuant to section 21065 of the California Environmental Quality Act (CEQA). Offset and biogas project developers will be responsible for performing necessary environmental reviews and acquiring permits as offset and biogas projects are developed.

### **Attachments:**

- Attachment A: Resolution Approving Carbon Neutral Gas Portfolio (PDF)
- Attachment B: Excerpted Final Minutes of October 7, 2015 UAC Meeting (PDF)
- Attachment C: Excerpted Final Minutes of June 1, 2016 UAC Meeting (PDF)
- Attachment D: Excerpted Draft Minutes of August 31, 2016 UAC Special Meeting (PDF)

## NOT YET APPROVED

## Resolution No.

Resolution of the Council of the City of Palo Alto Approving a Carbon Neutral Natural Gas Portfolio Plan to Achieve Maximum Carbon Neutrality Using a Combination of Offsets and Biogas in the Gas Supply Portfolio by Fiscal Year 2018 with No Greater than 10¢/Therm Rate Impact; and Related Termination of the Palo Alto Green Gas Program

## R E C I T A L S

A. In December 2007, Council adopted the City's Climate Protection Plan which set aggressive greenhouse gas (GHG) emission reduction goals to be achieved by the year 2020.

B. In March 2013, this Council approved Resolution 9322 directing staff to achieve carbon neutrality for the electric supply portfolio by 2013 through the use of a combination of hydroelectric resources, long-term renewable resources and short-term renewable energy resources and/or renewable energy certificates ("RECs").

C. On September 9, 2013, this Council approved Resolution 9372 modifying and suspending portions of the PaloAlto**Green** Program, and directing staff to develop a PaloAlto**Green** Gas (PAG Gas Program) Program.

D. On April 21, 2014, this Council approved Resolution 9405 establishing the voluntary PAG Gas Program to provide the opportunity for residential and commercial customers to economically reduce or eliminate the impact of GHG emissions associated with their gas usage through the purchase of certified environmental offsets.

E. In April 2016, this Council adopted a GHG reduction goal of 80% by the year 2030. GHG emissions associated with natural gas use were 135,000 metric tons of carbon dioxide equivalent, or 27% of the City's GHG emissions, in 2015.

F. The Carbon Neutral Gas Plan uses a combination of physical biogas and high-quality environmental offsets to achieve a carbon-neutral gas portfolio by fiscal year 2018 by maximizing the amount of biogas in the portfolio while holding the rate impact to ten cents per therm (10 ¢/therm).

G. On August 31, 2016, the Utilities Advisory Commission voted 6-1 to recommend Council approve the proposed Carbon Neutral Gas Plan and terminate the PAG Gas Program.

The Council of the City of Palo Alto RESOLVES as follows:

SECTION 1. The Council hereby adopts the resolution:

NOT YET APPROVED

1. Approving a Carbon Neutral Gas Plan, enabling the City to achieve a carbon-neutral gas supply portfolio starting in fiscal year 2018 with a rate impact not to exceed ten cents per therm (10 ¢/therm); and
2. Terminating the PaloAltoGreen Gas program established by Resolution 9405.

SECTION 2. The Council's adoption of this Resolution, which implements a carbon neutral gas portfolio and terminates the Palo Alto Green Gas program does not meet the definition of a project, pursuant to section 21065 of the California Environmental Quality Act (CEQA). Offset and biogas project developers will be responsible for acquiring necessary environmental reviews and permits as those projects are developed.

INTRODUCED AND PASSED:

AYES:

NOES:

ABSENT:

ABSTENTIONS:

ATTEST:

\_\_\_\_\_  
City Clerk

\_\_\_\_\_  
Mayor

APPROVED AS TO FORM:

APPROVED:

\_\_\_\_\_  
Senior Deputy City Attorney

\_\_\_\_\_  
City Manager

\_\_\_\_\_  
Director of Utilities

\_\_\_\_\_  
Director of Administrative Services



## EXCERPTED FINAL MINUTES OF THE OCTOBER 7, 2015 UTILITIES ADVISORY COMMISSION MEETING

### ITEM 2. DISCUSSION: Conversion of the PaloAltoGreen Gas Program From an Opt-In to an Opt-Out Program

Chair Foster noted that this item is on the agenda due to support for the idea expressed from members of the community.

#### **Public Comment**

Sandra Slater commended the commission for keeping sustainability on the agenda. She said that it's time to move the needle now. She noted that research shows that participation will be much higher if the program was converted to an opt-out program. She said that the program could be changed to make the program supportable by all income levels. Converting the program to an opt-out program is something the City could do that would have an immediate, positive impact.

Lisa Van Dusen said that the program is not perfect since it is backed by offsets, but we shouldn't let the perfect be the enemy of the good. We could pay even more by purchasing more aggressive offsets. There could be mechanisms to get out of the program during an "amnesty period" and low income customers on the Rate Assistance Program could be retained as opt-in customers. She said that there was so much staff effort for the PaloAltoGreen (electric) program just to achieve 24% participation and that there would be savings from lower marketing and administration costs in an opt-out program.

Chair Foster said that the money paid by PaloAltoGreen Gas (PAGG) program participants fund offsets that pay to convert waste into methane that is burned to produce renewable electricity at a dairy farm in Wisconsin and that this wouldn't be done without the revenue from the offsets. Assistant Director Jane Ratchye indicated that this is correct. She said that the offsets that back this program are very high quality as they are selected only from those protocols that have been certified for use in the state's cap-and-trade auction by the California Air Resources Board. One of the requirements of those protocols is that the offset be "additive", or from a project that would not have been done without the monetary support from the sale of the offsets. Chair Foster said that he supports an opt-out program and that the additional cost is only \$5 to \$6 per month for the average resident.

Commissioner Ballantine noted that there are ongoing costs to maintain an anaerobic digester. He said that people who opt-in are causing something real to happen. The greenhouse gas

emissions reductions from those sources would not otherwise happen without programs like PAGG.

Vice Chair Cook noted that the PaloAltoGreen (PAG) Electric program was effectively converted to cover everyone via the carbon neutral program and was a great way to transfer the new goal. He asked why PAGG was not made an opt-out program originally. Vice Chair Cook added that Community Choice Aggregation (CCA) programs were successful because they were opt-out programs. Ratchye replied that the carbon neutral electric supply is not the same as PAG and that it was not developed as a transition from PAG. She noted that PAG purchased Renewable Energy Certificates (RECs) for 100% of a residential customer's load at a cost of 1.5 cents/kWh, or about 12% more than the normal electric rate. On the other hand, the carbon neutral electric supplies consist of about half carbon-free hydroelectric supplies, renewable supplies that are eligible under the state's Renewable Portfolio Standard (RPS) and that RECs are purchased for the balance of the needs. It is expected that by the end of 2016, the City's RPS will be 57% and with hydro supplies (given a normal hydro year), no RECs will be needed for carbon neutral electric supplies. She said that the state's new goal for an RPS of 50% would result in carbon neutrality anyway at no additional cost in a normal hydro year. However, the increased cost of PAGG for participants is 12 cents per therm, or about 12% more than the normal gas rate of about \$1 per therm. She said that the additional cost for PAGG was a consideration for making the program an opt-in program like PAG when the program was originally conceived. In addition, the program was just launched in January 2015 (and has yet to roll out a comprehensive marketing campaign for the program) and staff was hoping to determine the community's appetite for the program. Ratchye agreed that CCAs are successful opt-out programs, but that they are generally no more costly than the alternative from the local utility so participants are not paying any extra to be "slammed" into a CCA.

Vice Chair Cook said that our rates are allowed to go up with the carbon neutral electric supplies and asked what the threshold is for an opt-out versus an opt-in program.

Chair Foster replied that the comparison of PAGG to the carbon neutral plan is different—like apples and oranges—since the carbon neutral electric supplies is not an opt-out, or opt-in, program, but is the electric supply for all customers. The percentage increase in cost to electric rate payers by going carbon neutral is small compared to the percentage increase to a customer by paying for participation in PAGG. He said that PAGG should be compared to the PAG electric program.

Chair Foster asked if there is any legal reason that City Council could not adopt an opt-out program. Senior Deputy Assistant City Attorney Jessica Mullan said that a legal analysis would have to be completed and the answer may depend on the program design.

Commissioner Schwartz asked if the point of the program was to reduce gas use or raise revenue. Chair Foster responded that neither of those options is the point, but that the objective is to reduce greenhouse gas (GHG) emissions associated with customers' gas use.



Commissioner Schwartz said that she agreed that more people will do an opt-out program, but that we need to make sure that participants truly want to participate. We need to provide a very easy way for people to opt-out and not be penalized for any of the months they were enrolled if they don't want to be. A good outreach campaign could be a good way to increase awareness of the issue and it could have an impact of increasing customers' awareness. She said that the program could be a bridge for people to become more conscious of using energy and would not just be a way to buy ourselves out of the problem.

Commissioner Hall suggested that we not act too hastily, but develop a program like this over time, similar to the carbon neutral portfolio adoption. He said that he suspects that there would be a percentage of consumers that would find out later that they were enrolled in a "voluntary" program and feel cheated. A way forward could be to develop a carbon negative plan and start with a surcharge that would fund a solution to global warming. He said it could be a program that would be broadly advertised to ensure that everyone would be aware of the program.

Commissioner Schwartz noted that she had seen an effective "cow power" video, which is an example of how the communication can be done in a playful way that would let people understand that we are in this together, which is a compelling message for many people. She added that it would be a good messaging experiment.

Commissioner Eglash thanked the public commenters. He also complimented the UAC for placing the item on the agenda and allowing this discussion to take place. Commissioner Eglash said that when he weighs the advantages and disadvantages of opt-in versus opt-out, he would like to avoid disgruntled customers and any worry about customer satisfaction. The greatest danger of an opt-out plan is potential customer dissatisfaction. We devote a lot of time to customer satisfaction with the utility. He said it is more risky in this respect and as the price becomes significant, the danger becomes worse. He said that, with a full marketing campaign, is it still plausible that people would not be in the program that wouldn't want to be. He added that perhaps a very successful campaign would result in the same participation of an opt-out and an opt-in program. Commissioner Eglash indicated that he is leaning towards maintaining PAGG as an opt-in program. He added that there should be no action on the item at this time since there is no staff analysis, no fiscal analysis or legal analysis completed at this time. The discussion is conceptual at this point; there is no proposed design for an opt-out program.

Chair Foster indicated that he disagrees that the participation rates for opt-in versus opt-out will converge with a great marketing campaign. He added that this is a discussion item on the agenda tonight so no action can be done.

Commissioner Schwartz said that customer satisfaction depends on transparency. The fact that CPAU cares about being green will show that an opt-out program is consistent with the brand. She added that safeguards to allow folks to opt-out will be consistent with transparency.

Commissioner Eglash said that many people in Palo Alto take pride in the City's environmental efforts. He stated that safety, reliability, and low cost are primary considerations and to impose a greener solution that costs extra money is hazardous and must be done carefully.

Commissioner Ballantine noted that offset resources are finite and that pressures from supply and demand will eventually bite us as the price for offsets will increase as demand increases. He added that an opt-out program would require sufficient offsets to be supplied.

Commissioner Danaher said that the PAGA program has an environmental benefit, a psychological benefit, and a moral benefit. He said that the best idea is to make the program neither opt-in or opt-out, but our gas supply for everyone. He added that an opt-out program still allows people to opt-out easily since it could be very easy to go to the website and opt out.

Commissioner Hall said that we could conduct a poll to see what the customers' response would be to an opt-out program. He said that we should want to have this information before making a decision.

Commissioner Schwartz advised against a poll as it would defeat the purpose of communicating the benefits of an opt-out program. Commissioner Danaher added that the poll would only be answered by the small number of people who read and respond to email.

Commissioner Foster said that the program could be designed so that anyone who failed to opt-out early enough could still get their money back. He asked if the UAC could make a motion to recommend that the Council direct staff to develop an opt-out program. Director Fong stated that it can be added to the rolling calendar. Mullan added that the item is agendaized as a discussion item and that the Commission can add it as a future item to be agendaized under Item 4 on this meeting's agenda.

Vice Chair Cook thanked the public commenters. Commissioner Hall added his appreciation of the input from the public commenters, even if some commissioners disagree.



## EXCERPTED FINAL MINUTES OF THE JUNE 1, 2016 UTILITIES ADVISORY COMMISSION MEETING

### ITEM 2. ACTION: Utilities Advisory Commission Discussion on Alternatives to the Existing Voluntary Opt-In PaloAltoGreen Gas Program Including an Opt-Out Mechanism and a Carbon-Neutral Natural Gas Portfolio

Senior Resource Planner Karla Dailey summarized the written report.

Commissioner Schwartz asked why it was so expensive just to convert from opt-in to opt-out since the rate is not being changed. Dailey explained that changes to the billing system made up the bulk of costs. Dailey pointed out that, after the initial investment, administrative costs drop significantly for the opt-out program. Commissioner Schwartz stated that the cost estimate seemed very high and questioned the advisability of making changes to the billing system, which is planned for replacement.

Interim Director Shikada said the timing of an opt-out program should take into account the legacy billing system.

Commissioner Trumbull asked about the bill impact. Dailey confirmed the bill impact is only for those customers in the voluntary program.

Commissioner Ballantine asked about the customer breakdown. Dailey said 50% is residential, 30% is small commercial and 20% is large commercial.

Commissioner Forssell asked about the variability for a typical residential customer. Dailey said some residential customers probably have much higher bills.

Dailey described the types of customers with respect to an opt-out program structure: active supporters, passive supporters, unaware supporters, ambivalent customers, unaware opponents, passive opponents, aware opponents and active opponents. Dailey said staff is concerned about the customers who would be opposed to an opt-out structure, but do not opt-out right away for whatever reason leading to resentment and poor customer relations at a later date as well as issues around refunding the PAG Gas fee should a customer demand that.

Commissioner Schwartz said that bill impact was so small that it shouldn't cause harm to most customers and, if it was easy to opt-out, an opt-out program shouldn't be a problem for anyone. If there were customers that found out later and were mad, the program could be

designed to allow for refunding those customers. Dailey said that this is problematic. Commissioner Schwartz said that the risk to consumer attitude seems not to be a large issue.

Continuing with the presentation, Dailey said that another option is to convert all, or a portion of, the natural gas portfolio to carbon neutral supplies.

Commissioner Johnston asked if there would be any mechanical issues with running biogas through the pipeline. Dailey said that there would be no problem since biogas must meet the pipeline quality standards. Commissioner Ballantine added that the quality requirements depend on whether the gas is used for generation directly, or put in the pipeline—and the biogas can be mixed with natural gas to meet the pipeline quality standards.

Chair Cook asked how the \$1/therm incremental cost of biogas compared to the cost of natural gas. Dailey said that the current commodity cost of natural gas is about 20 cents per therm.

Commissioner Johnston asked if there were limits to the number of offsets available. Dailey said that there would be sufficient offsets for our portfolio.

Chair Cook asked staff to describe the offsets. Dailey said that the protocols for the offsets are all California Air Resources Board approved although the offsets themselves are not CARB certified. She explained the extra CARB certification would be needed for offsets used for compliance purposes rather than a voluntary program.

#### Public Comments

Sandra Slater stated that she and Lisa Van Dusen have prepared a letter with comments on the issue. She said that she supports the opt-out program, but her favorite is to have the gas portfolio carbon neutral. She said that climate change is a huge problem and time is getting short. She said that offset purchases can be a bridge in a plan to purchase biogas. She said that the success of the PaloAltoGreen program proves that there is large support for such a program. She also referenced the 80% GHG reduction goal by 2030 Council directive. She advised that we need to wean ourselves off of fossil fuels and move to electrification. She said there will be a few people, maybe as many as a hundred, who will be opposed, but a small number of people should not dictate the direction of the utility. She said that it would be nice to have local offsets, but supporting methane capture projects outside of Palo Alto is valuable since we have a global problem.

Lisa Van Dusen said that the main point is that there is fundamental responsibility to take control of the impact caused. She advised that the City should take a bold action, noting that nothing is perfect. The goal is to maximize carbon reductions, minimize the potential for grumbling customers, minimize the impact to ratepayers, and allowing customers to have a choice. She said that higher gas prices also acts to encourage additional gas use efficiency.

Commissioner Johnston said that the City should move away from the opt-in program design and advised that it should be easy for customers to opt out of the program.

Commissioner Ballantine supported the option of moving to a carbon neutral gas portfolio, rather than transitioning to an opt-out program. He said that during the rate adjustment process, the larger users had a smaller percentage impact than the lower using customers, which is due to the fixed costs to operate the system. He said that it is not free to have a carbon neutral electric portfolio. He said that the move to electrification may be problematic if the electric portfolio is carbon free, but the gas portfolio isn't.

Commissioner Forssell asked if the program would only apply to residential customers only. She asked if we first go to an opt-out program and allow customers to opt out, then transition to a portfolio could be a problem since you first allow them out, then force them in. She said that we could start with carbon neutral portfolio that is not 100%, but could transition there over time.

Commissioner Schwartz said that all points of view are represented in Palo Alto. She said that she is in favor of an opt-out program since this is an opportunity to practice how to do that. If there is no way to opt out, this could be a problem for some customers who will create a large issue in the community as it has been elsewhere with respect to having smart meters.

Commissioner Trumbull said he did not opt-in to the current program. He was also concerned about opt-out as a transition to carbon-neutrality.

Vice Chair Danaher said he stated at the prior UAC meeting on the subject that he was supportive of a carbon neutral gas portfolio and, after seeing the analysis, he is even more supportive of that option. Danaher asked if there was any negative feedback for the carbon neutral electric portfolio. Assistant Director Jane Ratchye said that there was no negative feedback that she knew of regarding the carbon neutral electric portfolio. Vice Chair Danaher said that there could be a cost for morality and that he supports moving to a carbon neutral portfolio rather than moving to an opt-out program.

Chair Cook asked Chief Sustainability Officer Gil Friend whether the choices would support the City's carbon goals. Friend noted that natural gas represents 25% of the City's GHG emissions.

Interim Utilities Director Ed Shikada noted that there was no staff recommendation for this item and views this discussion as one of values. He said that a survey of the community could be done to determine the community's view on the issue.

Chair Cook noted that staff did not provide a recommendation as it usually does and said he thought that this was appropriate in this case. He stated that we are talking about this at a time when gas rates are very low and also at a time when rates across the board are rising significantly this year. He said that he had not heard any protest regarding carbon neutrality for electric supplies, but says that a transition to carbon neutral gas can start and increase over time. It would be perhaps most advisable to start with offsets first and move to renewable

biogas over time. He would recommend #3 and move to #4 by 2030. He would like to see the costs for these options.

Commissioner Schwartz said that the issue with smart meter rollout happened when there were many missteps caused by a rate increase, very hot weather and the new meters were blamed. She said that rising rates are not a good time to introduce a new program that costs more. The downside is that the program could fail spectacularly if it becomes the rallying point for complaints.

Commissioner Schwartz advised that a survey could be taken to determine the level of support.

Chair Cook said he appreciated the additional options presented by staff. He pointed out that gas prices are currently very low and rates in the five utilities are increasing. Chair Cook said he was not prepared to adopt a carbon-neutral program supplied with only biogas. He said the rate impact would be less than the opt-in or opt-out options for a carbon-neutral portfolio. Dailey confirmed that administrative costs for the portfolio are near zero. He said he prefers starting with offsets and slowing adding biogas to the carbon-neutral portfolio. Chair Cook recognized that there will be some complaints but said the rate impact is low and the impact of a carbon-neutral portfolio is high.

Commissioner Trumbull stated that he was supportive of having more detail available for a program before going to Council with a final recommendation.

**ACTION:**

Vice Chair Danaher made a motion that the UAC recommend that Council adopt a carbon neutral gas portfolio and direct staff to develop an implementation plan. Commissioner Trumbull seconded the motion. The motion passed (6-1) with Chair Cook, Vice Chair Danaher, and Commissioners Ballantine, Forssell, Johnston and Trumbull voting yes and Commissioner Schwartz opposed.

Vice Chair Danaher left the meeting at the conclusion of the discussion of item #2.



## EXCERPTED DRAFT MINUTES OF THE AUGUST 31, 2016 – SPECIAL MEETING UTILITIES ADVISORY COMMISSION MEETING

**ITEM 2. ACTION:** Recommendation that Council Approve a Carbon Neutral Natural Gas Portfolio Plan to Achieve Maximum Carbon Neutrality Using a Combination Of Offsets and Biogas in the Gas Supply Portfolio by Fiscal Year 2018 with No Greater than 10¢/Therm Rate Impact; and Related Termination of the Palo Alto Green Gas Program

Senior Resource Planner Karla Dailey provided a presentation summarizing the written report.

Chief Sustainability Officer Gil Friend said that the Sustainability/Climate Action Plan (S/CAP) includes a plan to get to a carbon neutral utility and an aspirational goal of a carbon neutral city. He said that moving to an electrified city will be a long and complex process. He said the proposed program is a bridge to using less natural gas and that a comprehensive approach including offsets, biogas, efficiency and electrification will be necessary to achieve the city's long-term goals. He pointed out that buying offsets provides capital for more projects in the U.S. and potentially locally.

### Public Comment

Sandra Slater said that proposal is an interim strategy to get to carbon neutrality as soon as possible and offsets are a good tool to use for the time being. The price signal that the program cost provides will encourage gas efficiency and electrification of gas appliances. She suggested the money currently used to market the voluntary program could be redirected to efficiency and fuel switching programs. Offsets are not a "pass" for consumers as evidenced by the fact that Palo Altans continue to conserve electricity despite the carbon neutral electric supplies.

Lisa van Dusen said that we must do everything and the beauty of this is that it can be done now and shows an intention to reduce carbon emissions in the long term. We have policies in place such as the 2009 proclamation to include environmental externalities and the S/CAP goal to reduce greenhouse gas (GHG) emissions by 80% by 2030. It may be faulted as not enough or too much, but it's a good move in the right direction.

Vice Chair Danaher said that the UAC received a comment from a member of the public who pointed out the proposed offset purchases do not cover fugitive methane losses from natural gas production and transportation. Vice Chair Danaher added that methane is as bad as coal due to the fugitive emissions. Commissioner Ballantine said that that position is not reflected in any DOE report that he searched for. Commissioner Schwartz agreed that the coal and natural gas are not considered to be equally bad by industry experts.

Vice Chair Danaher said the proposed program is a good starting point and asked about the value of purchasing biogas. Dailey confirmed biogas is more expensive than offsets and it is Council's prerogative to decide whether biogas is worth including. Commissioner Danaher asked where the methane comes from. Dailey explained the gas comes from landfills and agriculture, mainly dairy farms.

Commissioner Ballantine said that if the source is dairy farms, then avoided methane emissions need to be considered. Dailey explained that offsets are generated by preventing methane from entering the atmosphere and the resulting biogas is a renewable fuel. A specific project can produce both offsets and renewable biogas.

Commissioner Trumbull said that the request is fine, but he would like to get off gas as soon as possible. He suggested that rather than buying biogas, extra funds be used for electrification.

Commissioner Johnston asked about the monthly bill impact of the 10 cent per therm rate increase. Dailey answered that an average residential customer's winter bill would increase by a little more than \$5 per month and pointed to a chart in the written report with the detail.

Commissioner Forssell clarified the proposed amount of carbon to be covered by offsets is only that combusted in town and does not include methane leakage from the production fields or leaks in the transportation system. Assistant Director Jane Ratchye said leakage in the distribution system is covered. Commissioner Forssell asked about leakage data, and Ratchye said we know the difference between purchases and sales, but that some of the difference is due to mechanical meters operating slowly and not measuring all the gas flow so that the difference cannot all be attributed to leaks.

Commissioner Schwartz pointed out that the strategic plan says customers should be offered choices for managing their environmental footprint, but this proposed program does not offer consumers choices and asked if the strategic objective needs to be changed. Ratchye said that the supply source is a Council decision similar to the decisions made regarding the composition of the electric supply portfolio. Commissioner Schwartz disagreed. She said where the electricity comes from is irrelevant, but if she is being told she can't have an electric stove, that is a problem. Ratchye explained again that the proposal is about the gas supply portfolio and not about electrification.

Commissioner Forssell observed there may be confusion between electrification efforts versus the proposed carbon neutral gas portfolio.

Commissioner Schwartz asked if we need to change the strategic plan. Interim Director Ed Shikada said that the strategic plan will be updated.

Commissioner Schwartz said biomethane is not very hard to come by. She said Apple can't find biogas to serve its facilities. Dailey replied there is biogas available but very little in California.



She explained that the plan is to get gas elsewhere and displace it in accordance with the federal renewable fuels rules. She said she has talked to all of the City's regular gas suppliers and there is biogas available. She explained the some biogas producers are interested selling a portion of their production for at a longer term at a fixed price discounted to the spot price in order to diversifying their sales portfolios.

Commissioner Schwartz said if we are pushing everyone to electrify, we should talk about that in the future.

Commissioner Ballantine said he likes the flexibility of the proposal that allows more biogas to be included as it becomes available. Natural gas infrastructure is more resilient than electric infrastructure. He said that, if and electric outage occurs, it would be a dark day in Palo Alto if all is electric. He said the proposal is good because it includes biogas at a modest rate increase while we start to work on initiatives to improve the resilience of the electric grid. He added that this action helps to support a biogas marketplace and level the playing field for other ways to get heat, including solar thermal heating. He also noted that energy efficiency and the incentive to reduce local leaked gas is valued more.

Vice Chair Danaher said he likes the flexibility of the proposal to maximize biogas.

Chair Cook said he likes the staff proposal and appreciates the public comment. He pointed out Carbon Free Palo Alto's caution that it will be a distraction from the real goal of electrification to reduce GHG emissions and might discourage fuel switching. He noted the differences between the carbon neutral electric portfolio and the proposed carbon neutral gas portfolio but suggested we test the hypothesis by determining whether the carbon free electricity dampened the penetration of rooftop solar. He said helping to build a biogas market may lead to lower prices as has happened with renewable electricity, and this program signals a move away from the GHG emissions associated with natural gas usage.

Commissioner Schwartz asked if staff has done an analysis of where the electricity comes from with electric used for heating, positing that additional electric load may cause the use of more gas to power electric generation. Dailey answered that this proposal has nothing to do with electric generation or increased electric usage.

Commissioner Ballantine asked if we electrify, would we increase our GHG footprint without realizing it. Ratchye said that a discussion about electrification will happen at a later date.

**ACTION:**

Vice Chair Danaher made a motion that the UAC recommend that Council approve a Carbon Neutral Gas Plan to achieve a carbon-neutral gas supply portfolio starting in Fiscal Year 2018 with a rate impact not to exceed ten cents per therm; and terminate the PaloAltoGreen Gas Program established by Resolution 9405. Commissioner Forssell seconded the motion. The motion passed (6-1) with Chair Cook, Vice Chair Danaher and Commissioners Danaher, Forssell, Johnston, and Trumbull voting yes and Commissioner Schwartz voting no.



## ATTACHMENT C

# FINANCE COMMITTEE EXCERPT MINUTES

Special Meeting  
Tuesday, October 18, 2016

Chairperson Filseth called the meeting to order at 7:00 P.M. in the Community Meeting Room, 250 Hamilton Avenue, Palo Alto, California.

Present: Filseth (Chair), Schmid, Wolbach

Absent: Holman

2. Utilities Advisory Commission Recommendation That Council Adopt a Resolution Approving a Carbon Neutral Natural Gas Portfolio Plan to Achieve Maximum Carbon Neutrality Using a Combination of Offsets and Biogas in the Gas Supply Portfolio by Fiscal Year 2018 With No Greater Than 10¢/Therm Rate Impact; and Related Termination of the Palo Alto Green Gas Program.

Chair Filseth: Welcome. So next item on the Agenda is the Utilities Advisory Commission (UAC) Recommendation for Carbon Neutral Gas Portfolio Plan and I guess there is a Staff presentation, at which point we'll do public comment after that and then Committee questions and comments. Okay.

Ed Shikada, General Manager for Utilities: Just a quick intro that Karla Dailey will report for Staff. We also have two of our UAC Commissioners here present if the Committee is interested for additional feedback.

Chair Filseth: Super. Thanks for coming. Please proceed.

Karla Dailey, Senior Resource Planner: Good evening. Thank you. My name is Karla Dailey. I'm a Senior Resource Planner in Utilities, and I do, as we said, have a short presentation for you. This is just a quick outline of what we're going to talk about. So we've been doing a number of things over the past years to address the carbon footprint of our gas utility. I wanted to point out a couple of policies that are in place right now. The gas utility long-term plan, which was last revised and approved by Council in 2012 has a

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strategy, it happens to be Number 4, that says, Reduce the Carbon Intensity of the Gas Portfolio in accordance with the Climate and Protection Plan by: 1) designing and implementing a voluntary program; and secondly, purchasing non-fossil fuel gas as long as it can be done with no rate impact. So that's what the current policy in place as far as the long-term plan looks like. So, because of that policy there was designed and implemented a Palo Alto Green Gas Program that was modeled very closely after the Palo Alto Green Program, which I know you are all very aware of. It was a very successful program, won lots of awards, 20 percent participation, kind of a model for similar programs around the country. The current participation in the gas program is about four percent of residents, 100 percent of City facilities and that results in about six percent of the City's total gas demand. We supply that program with high quality environmental offsets with a preference for California projects, but we did go back earlier this year and take a really close look with our UAC Commissioners at the current program, looked at the possibility of converting it from an opt-in program to an opt-out program, but also presented the UAC with some other alternatives to that and the UAC supported, instead of converting that program to something like an opt-out program, moving to a completely carbon neutral gas portfolio. So that's how we came to work on the program that is being proposed this evening. Natural gas use accounts for about 27 percent of Palo Alto's greenhouse emissions, and you can see that while mobile combustion is by far and away the largest culprit, since the electric utility is carbon neutral, the largest, second largest remaining chunk is attributed to the gas portfolio. The recommended program achieves 100 percent carbon neutrality with these four sort of constraints. The rate impact being no greater than 10 cents/therm, proposing to use a combination of the same type of offsets that are used currently for the voluntary program, but trying to incorporate some biogas into that portfolio as well, as much biogas as possible without exceeding that 10 cent/therm rate impact. The time frame proposed is Fiscal Year (FY) 2018 and again, we are proposing that 100 percent of our portfolio be covered. Now, of course, for all four of those constraints, any one of them or any combination of them could be changed to come up with a slightly different program, really a continuum in all directions, but this table shows you some discrete options for different rate impacts, different combinations of offsets in biogas and different amounts of the portfolio that could be covered in a carbon neutral fashion. Of course, the time frame could be, achieving any of these benchmarks, could be done within any time frame as well. So, just to talk about the rate impact a little bit more, I think it's important to think about the electric program, the electric carbon neutral program rather than the Palo Alto green program and compare that to what Staff is proposing on the gas side. The electric portfolio was quite different. We had a renewable portfolio standard requirement that was quite

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significant prior to moving to a carbon neutral electric portfolio, and the combination of that RPS requirement and our large amount of hydro supplies really resulted in a largely carbon-free content of the electric portfolio already, and so in order to move from that to a 100 percent carbon neutrality there was a very small rate impact to do that, one to two percent for a few years, and then almost zero after that. The gas portfolio, on the other hand, is 100 percent fossil fuel with no renewable aspect to it. Ten cents/therm is about a 10 percent rate increase based on today's rates and, again, part of why that 10 percent or 10-cent number was anchored on in the proposal is that we could include some biogas in the portfolio at that level. If you get much lower than a 10 cent/therm rate impact to biogases, it's too expensive to include in it. So...

Jane Ratchye, Assistant Director of Utilities: Can you go back one Slide, point out the Pacific Gas and Electric (PG&E) rate.

Ms. Dailey: Oh yeah, down at the bottom of that Slide you can see the difference between Palo Alto's rates and PG&E's bundled rates. So for residential customers Palo Alto's rate is significantly lower.

Council Member Wolbach: Is that gas only, or is that gas plus electricity?

Ms. Dailey: Just gas.

Chair Filseth: And is commercial and large commercial the other way? Am I reading that right?

Ms. Dailey: It's very close for commercial and we are slightly higher for large commercial. So should the program be approved ultimately by Council, our next steps would be to execute enabling agreements for purchasing environmental offsets. Right now, even though we are purchasing some for the voluntary program, we are doing that through a turn-key contract with our marketing consultant, so we are not directly buying those. We would need to develop new rate schedules for Council approval, given the gas utility long-term plan that says we won't do anything that has any rate impact whatsoever, we would have to go back and revise the gas utility long-term plan, and we would need to do some communication and outreach with the existing Palo Alto green gas participants and perform some fairly insignificant administrative tasks to terminate the program. The request before you this evening is from the UAC and Staff to adopt a resolution approving the Palo Alto, the proposed carbon neutral gas plan and terminating the Palo Alto green gas program established by Resolution

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(Reso) 9405, and secondly, to direct Staff to develop an implementation plan for getting to carbon neutrality for the gas portfolio. And that's all the official presentation I have. We can take questions or public comment.

Chair Filseth: Okay. Thank you very much. I think the next step is we should do public comment, so the first speaker, there are six speakers, I think, so you will each have three minutes. The first speaker is Sandra Slater.

(crosstalk)

Chair Filseth: Ah, let's see. Should we have the UAC. Actually, why don't we do that. Is that okay, the Chair of the UAC speak. Sorry Sandra.

James Cook, Chair, Utilities Advisory Commission: I was last to arrive and did not fill out a card, so sorry. James Cook. I'm currently the Chair of the Utilities Advisory Commission, and I live at 730 College Avenue. So I just wanted to briefly run down how we looked at this. We voted 6-1 in favor of the Staff recommendation, as we thought this was a great way to reduce greenhouse gas emissions for the City. You know, obviously, natural gas is, at least for the utilities, is the next big hurdle to overcome in terms of greenhouse gas emissions, the biggest greenhouse gas emitter for the gas utilities and a big part of what the City does. So we thought this was a great way to raise awareness and take some action on the issue, and also a great way to replace the Palo Alto green gas, and at the same time to replicate the success we've seen in the carbon neutral portfolio on the electrical side. They are not the same thing. The carbon neutral electricity is based on having actually, if the market system is a lot more open to inexpensive electricity that is green, so it's not the same thing. Here you're facing a market situation where there really isn't a market for the biogas, or there is a very small one, but it gives, I think it gives a good market signal for that industry possibly to develop in a greater way. Also, the offset, using offsets versus Renewable Energy Certificates (RECS) are not the same thing. So it's not considered, I would consider it not as high quality a way to offset your emissions, but it is what the green gas system uses right now is offsets. There is also a cool opportunity to use local, potentially local offsets because the system isn't as clearly defined as RECS are. You know, there is a possibility you can fight climate change and reduce greenhouse gases here locally with those offsets, so I like that possibility. Also, I think we liked it as a good policy to improve what we're doing, and it's a policy that can be adjusted over time, so if, you know, we tried, like the carbon neutral electrical side we tried to cap it. I think that came from the Staff, but it was replicated, certainly a good part of the policy on the carbon neutral

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electricity. But it also says, recognizes that biogas isn't ready now, but it might be in the future, or there might be other ways to do it, so I like that it sort of establishes this framework, gets everyone involved in it right away as opposed to your four or five or six percent or whatever who are involved now in the green gas. And, so I think we like this as a great way to take action locally to do something different than we've been doing in a much greater way and reduce greenhouse gases. So I think there wasn't that much debate at the UAC level. The question really was, are these quality, is this one-time or I think I'm on different sides from our friends at, Zero Carbon Palo Alto, what's is it?

Chair Filseth: Carbon Free Palo Alto.

Mr. Cook: Carbon Free Palo Alto, thank you very much. You know, we talked about this and we don't see it as a problem with, if the City were to try to push for a greater electrification, which would be a real great way to also reduce greenhouse gas emissions, it looks like, we don't see that this is in conflict with that, and we also don't see that would take any energy away from that, so we did discuss that. Obviously you guys can decide whether or not you feel that's true or not, but that was the other thing we wanted to consider when we were looking at this policy. But I think as far as we were concerned, that we did spend a lot of time discussing this. This has been a long discussion. Obviously, it started back in 2013 really, and I think what Staff ended up with is really, we felt like this was the best option of the things we've seen over the last three years. Thanks very much.

Council Member Schmid: Question.

Chair Filseth: Let's see, so how should we do this? I mean if we have questions for the UAC do we do that now?

Council Member Wolbach: I'd say, since we are saving questions for Staff till later, let's also save questions for the UAC till later and hear from the public.

Chair Filseth: You'd like to ask them now.

Mr. Cook: I'd be happy to stay, so...

Council Member Wolbach: I have a million questions for Staff and UAC but I'd kind of like to...

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Chair Filseth: I've got a few too. Let's see.

Council Member Schmid: It's your decision.

Chair Filseth: Yeah, um. If you've got a million questions for Staff and UAC, then we'll probably have Steve up here for a long time.

(crosstalk)

Chair Filseth: So why don't we, if Greg only has one, why don't we let Greg ask his question, this will be a little bit of a hybrid here, let's have Greg ask his question, then we'll do public and you and I can ask all ours.

Council Member Schmid: There was one dissenting vote on several meetings. Could you articulate what the...

Mr. Cook: Yeah, sorry, I was going to bring that up too. So Commissioner Schwartz had a dissenting vote on this and on when we were discussing the, I think it was the Green Gas Program. I think her concerns centered around whether or not, I think she is not so concerned about gas, natural gas, and I also think she felt like, she did have one concern, remember Karla, one time she was bringing up to you like that she thought that there might be, if you, and I think this is, it gets, I think some of her thoughts were sort of led off into more on the electrification question, but she was concerned that if we encourage more electrification would that possibly somehow lead to higher use of gas, because you are using some gas in the grid that is being used in order to create electricity and that we have the carbon neutral portfolio.

Lisa Forsell: If I may.

Mr. Cook: Commissioner Forsell.

Lisa Forsell: My recollection of her opposition was concern for rate payers.

(crosstalk)

Lisa Forsell: Lisa Forsell, also Utilities Advisory Commissioner. If I recall, Commissioner Schwartz was mainly concerned about the impact to rate payers and she favored the opt-out program because it gave customers choice and her dissenting vote wasn't that she didn't, you know, want the

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carbon neutral gas portfolio is that she wanted to maintain choice for the rate payers.

Mr. Cook: Yeah, that's a more articulate and short (crosstalk). There were a couple of other things that she had brought up, but her probably number one concern was choice, whether or not you were forcing people to do something or not. And, again, one of the things we discussed was, of course, we did that we did that on the electrical side.

Chair Filseth: Which is one of your options up here.

Mr. Cook: That's right. So it was more, and it was also when we were talking about opt in and opt out in previous meetings as well.

Chair Filseth: Okay, why don't we do the public comments now and then we'll come back and if you guys, especially if you guys will still be able to be here, okay? So first public speaker is Sandra Slater.

Sandra Slater: Thank you Council and Staff for all your hard work and for allowing me the opportunity to address you this evening. I got to expand on a letter that Lisa VanDusen and I wrote to the UAC back in August, which is on the record. You can take a look at that, and we're very grateful for the support of both the UAC and Staff for the green gas program. Natural gas was originally considered as a way to wean the country off of coal and it was touted as sort of a cleaner bridge to a renewable energy future, and we were, frankly, I think, misinformed. Natural gas is an extremely potent greenhouse gas. In fact, according to the Union of Concerned Scientists, "the drilling and extraction of natural gas from wells and its transportation and pipelines results in the leakage of a methane that is 86 times stronger a greenhouse gas over 20 years." In addition, the calculations we were initially given regarding natural gas versus coal does not take into account the fugitive emissions from extraction and you can think of the Porter Ranch leak that was so pernicious just last year, which produced 1,200 tons of methane every day, and in terms of greenhouse gas output per month it "compares to the equivalent effluvia of 200,000 cars a year". So preliminary studies in field measurements show that these so-called fugitive emissions are just the tip of the iceberg. They occur not only in extraction, but in the transporting of gas right here in Palo Alto even, there are fugitive emissions in our gas pipelines. This is no clean energy bridge to a renewable future. It's imperative that we wean ourselves from fossil fuels as quickly as possible, and in the meantime, purchasing a biogas in offsets is basically, as far as I can see, the least we can do. It's not a panacea, but it's a great step



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in the right direction. Palo Alto has a set goal of reducing our Greenhouse Gases (GHGs) by 80 percent by 2030 and this green gas initiative supports that effort and will send a signal to Palo Altos that we are using all the tools in our toolbox to try to reach that goal. Green gas offers an interim strategy of carbon offsets that can be used as a bridge to get us weaned off of gas entirely, something that's going to take quite a few years, if not a decade or more. I'm a firm believer in an all of the above strategy to get us quickly to carbon neutrality as possible. We need quick and effective efficiency programs. We need a fuel switch to cleaner sources for our cars and our homes, and we need a real tax on carbon, but all these things take time. The program Staff outlined will begin to place a price signal to consumers that gas is something that should be used sparingly, if at all. It makes efficiency that much more attractive, because the more expensive the gas, the more attractive efficiency measures will be and electrification will become. So this is not an infrastructure investment or spend. We can dial the cost up or down and efficiency is certainly the low-hanging fruit. This is not giving a pass to Palo Altos to use as much gas as possible. The Electric Utility I see Palo Altos every day trying to reduce their electric usage and we have a carbon neutral electricity, so I think Palo Altos want to do the right thing if they can so this is a roadmap, interim tool, what we got. Thank you.

Chair Filseth: Thank you. Next speaker Catherine Martineu.

Catherine Martineu: Thank you. Good evening. I'm the Director of Canopy, which is an urban forestry organization based here in Palo Alto. I'm here actually to talk about another maybe more fun aspect of this project, which is the potential for local carbon offsets. There is a group of people, a climate action reserve, who are working right now on a new protocol for urban forestry carbon offsets that will, should allow a city like Palo Alto to use local tree planting programs, such as for example, tree plantings in South Palo Alto, which is something that we want to do to bring South Palo Alto tree cover at parity with North Palo Alto to use these type of programs and with this new protocol and obtain the offsets. So obviously, then you get the cake and you get the revenue as well, because we can get the offsets, all of the extra benefits of a healthy tree canopy and we get to keep the revenue to fund the program itself. So this is something that is being worked on right now. This replaces an older protocol that was basically not practical to use, it was very onerous to administer. This one uses new technology such as remote sensing, which makes it cost effective, so I'm very hopeful. And it looks like probably in the spring of 2017 we will see this protocol sent to the ERB and other agencies for validation and then vetting and so forth, and we might see potential program by the end of 2017. We are very lucky that

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Walter Passmore, our urban forester, is one of the advisors on the carbon action reserve team. So there is absolutely no risk that either he or I would forget to let you know when the protocols are available, but I wanted to make sure, and I think actually, Commissioner James Cook mentioned that the program that Staff is recommending allows for local programs. But I just want to make sure that when the time comes, it is a possibility, that it is evaluated as part of the carbon offset portfolio.

Chair Filseth: Thank you very much. The next speaker is Bruce Hodge.

Bruce Hodge: Hello. I'm Bruce Hodge from Carbon Free Palo Alto. I'll be speaking on what we view as problematic aspects of this plan, and my colleague, Bret Anderson, will explain our alternative proposal. Carbon Free Palo Alto does not support this plan. The use of offsets and biogas are nonscaleable solutions that don't address the root cause of our natural gas emissions. The plan is a stand-alone effort that doesn't serve as a bridge to more robust solutions. It is an underpriced green washing approach that will most likely be hard to move away from when required additional investments and real solutions are proposed in the future. Many local community stakeholders, likely the majority, prefer directly addressing natural gas problem without using offsets. Other entities, such as the innovative Sacramento Municipal Utility District (SMUD) Utility are very interested in Palo Alto's approach to reducing the use of natural gas and will not be impressed with an offset solution. Instead, Palo Alto should be advising innovative solutions that are scaleable and affordable. An offset solution was vigorously debated during lead up to the Sustainability and Climate Action Plan (S/CAP) and offsets were eventually dropped from the S-CAP 80 by 30 plan because of opposition to them. Solving the natural gas situation here at home is crucial. Offsets will result in approximately \$3 million a year leaving the community, money that could be spent more wisely on investing in our own infrastructure. The use of offsets is essentially a green washing approach for several reasons. Number one, the market has failed to price carbon emissions realistically and hence offsets based on an unrealistically low cost of mitigation was not grounded in reality. And secondly, offsets only count the combusted emissions from gas and discount the real cost by as much as 50 percent by ignoring the impact of fugitive emissions of natural gas itself, as Sandra mentioned earlier. Just to be clear, the cumulative emissions from natural gas are estimated to be approximately double the reported figure. This means that in Palo Alto natural gas accounts for about half of our total emissions and that reduces the transportation percentage from two-thirds down to about half. We object to the use biogas as well. Biogas is not a scaleable solution, supplies are likely to remain limited because of lack of feed stocks and it just perpetuates

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the use of a leaky gas infrastructure with fugitive emissions. Lastly, the plan is presented in isolation, with no linkage to other efforts that will be occurring in the same time frame. The proposed expenditure is somewhat arbitrary and there is no way to compare the potential costs (inaudible) to other approaches. We urge a more comprehensive approach.

Chair Filseth: Thank you. The next speaker is, you already know that, Bret Anderson.

Bret Anderson: So I'm also a member of Carbon Free Palo Alto. I'm going to explain a little bit about what we are proposing as an alternative. What we think of this alternative is that it's really Plan A. This is what we should be doing to reduce gas use in Palo Alto and Plan B could be offsets, but we should only do that if we have a full comprehensive plan for what plan A really entails. We're talking about efficiency measures, electrical equipment upgrades and upgrades to the electric panels in our homes and in our businesses and amid infrastructure upgrade to Palo Alto's grid. So these are the things that we must do. We know we're on the path to do them, but we have not yet, from our Utility Staff, a comprehensive plan that addresses how we're going to get these adopted, these measures adopted. So we need to flush that out. That's, goal number one would be to lay that plan out, look at how much it costs, how much it's going to take from Staff to develop and run that program, how much would it take to fund that program. The key to all of this is the high up-front cost of these measures. We know these measures are tough and they're going to be mostly done in a retrograde situation, so we have to come up with a way to finance this. The utility mode for financing using on-bill financing, tariff based financing is the best pass forward to get adoption rates high in a retrofit situation, which is really what we're dealing with in an 80/30 scenario for reducing gas use in Palo Alto. So we really have to look at the way we're going to get on-bill financing for single measures like a large meter or Heating, Ventilation and Air Conditioning (HVAC) or efficiency or a whole-house upgrade where we could finance \$30,000 or \$20,000 worth of upgrades for a home and have that billed over ten years or whatever it takes to make that flow for the customer. It should be a check-the-box decision for the customer as an opt in, but we need to do all the thinking beforehand and the financing beforehand using the Utility Financing Mode, which is low cost to capital and a very easy understood relationship with the end-user customer. We need to define that funding mechanism is a plan drawn up by Staff where we would love to work with Staff as Carbon Free Palo Alto to flush that plan out, but we also need to enumerate the (inaudible) benefits of this kind if a program, doing it ourselves to the rest of the community to sell the fee, maybe a use fee, that funds this effort, to sell it to our community, because we're talking

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about improving our infrastructure, our resiliency, benefits for the environment for not using fracked natural gas. We've got local jobs to create using these measures, or implementing these measures and I'd also add the home value that is improved by investing in the infrastructure, so you can improve the value of your home when you make this investment so offsets really represent a rent moving, exporting our problem outside of Palo Alto, whereas our own program, if we fund that through (inaudible) financing is an investment in our own community. Thank you.

Chair Filseth: Thank you very much. The next speaker is Lisa VanDusen.

Lisa VanDusen: Good evening. Thank you for considering this issue and I just want to say that Sandra Slater and I have been having these conversations with the UAC and with others for a while, yes, some years at this point, so it's great to have come this far. I just want to comment a little bit on the remarks that these folks made, and I just want to say that all sounds great and it's not entirely clear to me how that's separate and not combinable with what we're doing here. So I would hope that would be and I would contend that this does not slow us down or prevent us from moving in that direction at all. So great work, both of you. So first, also I want to say how much the Staff has done a really excellent job of flushing out the specifics of this, Karla and Jean, in particular. So I think the benefits you've heard, but I just want to reiterate that this program is really flexible. It can flex with the marketplace, with what's available, with the tide of where we are with efforts like that or anything else. It really does, as James said, create a framework and allow us to really move around with availability, with rate payer concerns, with sustainability targets, with progress and cost. So the second thing is that, and I think you also said this, that it sends a signal. It sends various kinds of signals. It sends a price signal that, in fact, natural gas should not be less expensive than electricity. It is not the direction we want to go, so it sends the signal that way. It sends a market signal to tell the world and the marketplace that we want alternatives to natural gas. And it tells consumers, rate payers here and elsewhere that we are doing what we can to move in the right direction. And when I think, you know, maybe East Bay Municipal Utility District (MUD) is looking at us, but I think others the world over are looking at what we're doing and I agree with the "all of the above" strategy that Sandra mentioned. So the fact that, I want to just speak to the concern that Commissioner Schwartz had, which was that the matter of choice and the importance of that and, in fact, we have competing things. We have consumer choice, but we also have a mandate and really a moral calling right now to do everything that we can, and the City has already adopted the 20 by 2020, 80 by 2030 goal and we have also the proclamation from 2009, the Council said we wanted to be considering

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externalities in our decisions as we do business, so I hope that you will go forward with this and take this to the Council and we can all move forward quickly with this. Thank you.

Chair Filseth: Thank you very much. And our final speaker tonight is Lisa Forsell.

Lisa Forsell: Hi. Lisa Forsell, UAC Commissioner, although tonight I'm not representing the UAC but I just wanted to share my own thoughts as to why I support the proposal. A lot of things have been said tonight that I will try not to rehash at length. I see it as a transition strategy, not the permanent strategy, that we shouldn't go like, "okay, we're done now, our gas portfolio is carbon neutral, no more work to be done". It's a way to start having an impact now while we implement the long-term electrification strategy. I like the current proposal because it's flexible, so Council, there was a good slide about it, can decide how much appetite you have for rate impact, and if you feel it is too high you can go with five cents/therm or, you know, another number, or if you have a great appetite for rate impact, more physical biogas could be added to the portfolio. I might also throw in there that, you know, Carbon Free Palo Alto has also raised a very legitimate concern about fugitive emissions and if I recall, Staff isn't quite sure what's the appropriate estimate for Palo Alto fugitive methane emissions, but one could attempt to purchase offsets against the fugitive emissions as well, if that was something that we wanted to pursue. And finally, just a couple of thoughts about the opt out, because when we started the conversation at the UAC meeting in June, we did spend a lot of time talking about opt out and one of the reasons that I was against an opt out program was because a lot of the rate impact actually went to administrative costs to operate the opt out program and all the sort of complicated corner cases about what if you only noticed it six months later and you wanted retroactive opt out and all these things, so it felt like, for the money rate payers were spending, I'd rather that money go to the offsets and the physical biogas than to a big administrative burden for staff. And I also felt that if we went with an opt out, that could not be a transition to a full portfolio because we then had, you know, let members, let rate payers who did not want to be part of the program identify that they didn't want to be in and then it's quite rude to pursue upon them later and I felt it was better for the community to just take a stand and go with the whole portfolio. Thank you very much.

Chair Filseth: Thank you. I have a couple of procedural comments. Do you have a question?

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Council Member Wolbach: Actually a procedural question for you.

Chair Filseth: Okay.

Council Member Wolbach: Do you want take five before we get into questions? I just want to go grab a cup of coffee before we get into the rest of this. If we're going to lose quorum (crosstalk) Take a couple of minutes to absorb the comments.

Chair Filseth: Yeah, let me make a couple of procedural comments and then maybe... Is two minutes enough?

Council Member Wolbach: Sure.

Chair Filseth: A maximum of five. Okay. So thank you very much everybody who came. My question for you guys. I guess what you guys are suggesting is that we should proceed straight to figuring out how to move to electrification, get rid of gas and what's the financing strategy for that. Did I get that right? That's, I'm going to guess, is beyond the scope of our agenda tonight, and it's something that would be sort of a complex agendized process, so we're probably not going to dive into that. Is that accurate?

Terence Howzell, Principal Attorney: That is accurate.

Council Member Wolbach: Can I ask (inaudible) to that one?

Chair Filseth: Yes.

Council Member Wolbach: To the degree that one program might be an opportunity, present an opportunity cost that deprives us of funds or Staff resources to pursue another program, we can talk about, you know, the fact that, we can talk about it in that context, correct?

Mr. Howzell: In passing.

Council Member Wolbach: In passing.

Chair Filseth: Okay. So the second one is, and there may be some disagreement a little bit on this side, which is okay, right? But it seems to me that what we're talking about here is sort of a long and complicated decision for the City, right. Are we going to move to sort of a different way

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of doing gas? It seems to me that the heavy lifting on that decision should be borne by the UAC and by the full Council, right. So the question is, what is our role here in the Finance Committee, because obviously we could cover a lot of territory. It seems to me that our role in these kinds of things in the Finance Committee is not, for example, to go back and revisit policy, so I don't think the Finance Committee should say, "no, we think it should be option number 3 instead of Option Number 4", right. It seems to me that sort of the center of gravity, what we should be doing is looking at is, you know, is the City going to go broke trying to do this, right. I mean, it's our money to do this. And to a lesser extent, maybe get into the issue of is the City getting its money's worth from this kind of program, right. It seems to me that's sort of the space that we ought to spend most of our time today. Do you guys agree generally with that or disagree?

Council Member Schmid: Disagree a little bit.

Chair Filseth: Okay.

Council Member Schmid: I think the function of the committees are to look in detail at what the consequences of decisions might be. Primarily financial but I don't think exclusively financial.

Chair Filseth: Primarily financial would be my comfort zone for this Committee, because the Utilities Advisory Committee is another committee another Council Committee that looks at this, and this is their job, to set rate and things like that seems to me is the purview of the Utilities Advisory Committee and we can look at that, right, but it doesn't seem to me that we, they ought to be going one way and we ought to be going the other and they ought to provide the guidance on this.

Council Member Schmid: The difference between the UAC and a Council Committee is we also are elected and have to go in front of the voters, and so we should be taking into account the public more maybe than the UAC.

Chair Filseth: Sorry. Maybe I haven't been clear on that. I think as members of the full Council, I think we are going to be very, very interested in that. So, I mean, I sort of see myself as having two hats, one is Finance Committee and the other is, I'm very interested, I mean, I'm going to be interested in a lot more aspects of this when it comes to Council than on this Committee. That sort of has been my thought process. But I don't want to constrain you from going outside that, to be too narrow. I want to go outside that somewhat, and I think have at it. But I think my guidance on this would

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be the heavy lifting on policy issues ought to be borne by the UAC and the full Council when it comes to this. Okay. But as members of the full Council we're going to see this thing again, so it's not completely divorceable. With that, why don't we take a couple of minutes break, two minutes.

The Committee took a break from 8:04 P.M. to 8:08 P.M.

Chair Filseth: Okay, with that let's do Finance Committee comments and questions and why don't we do both at once. Council Member Wolbach.

Council Member Wolbach: So a few questions at the moment. I'll probably have more later. I guess a good place to start for me would be if somebody from Staff or UAC perhaps provide just a quick reminder of the difference between offsets and RECS, first.

Ms. Dailey: So a REC is only associated with Renewable Electric Energy, so when you generate electricity from a renewable resource, there is an attribute attached to that electron that is a renewable energy credit. So it doesn't make sense to use, you can't use that for gas. Those are particular to energy, not to natural gas. An offset is generated by an action to prevent greenhouse gases from going to the atmosphere by, for instance, planting trees to sequester carbon, if it's an additive tree-planting operation. So trees that are just sort of hanging round town don't generate offsets, but a program that is financed by being able to collect revenue for the offsets in order to achieve that carbon reduction generates offsets.

Council Member Wolbach: So RECS are not an option for natural gas I heard you say.

Ms. Dailey: Yes, that's correct.

Council Member Wolbach: So they're off the table and that's why it's not part of this discussion.

Ms. Dailey: That's right.

Council Member Wolbach: Thank you for clarifying that question. Okay, I can move on from there. Next question, there seems a clear emphasis on biogas over offsets aside from the concerns about costs, biogas being very



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expensive. Just for our edification, maybe a real quick summary why there is the emphasis on biogas over offsets?

Ms. Dailey: Well, I think because offsets are kind of a more esoteric product, there has been an emotional leaning toward liking biogas, but it is a very expensive resource and Staff felt like the rate impact of achieving carbon neutrality just with biogas would be unacceptable, and so tried to strike a middle ground. It's a matter of personal preference, but...

Council Member Wolbach: Any input from the UAC on that one? See if there are any further thoughts from the recommending body.

Mr. Cook: No, I think that captures it pretty well. I think there is a sense of biogas as preferable to the existing stock of natural gas, but this is still seen as a bridge or some sort of transition to using less gas because it does have the methane emissions, most of the people who have talked from the public have said. So I think that, you know, we are seeing either that if there is more biogas you might have an increased percentage of biogas usage in the program or if there is some other way to transition away from... You know, I think ultimately may want to transition away from gas, but it's just that they don't have a better explanation. Karla is the real expert on gas, so maybe she... But I think there is much more to it.

Council Member Wolbach: Okay, next question. On Slide 8 of tonight's presentation, Palo Alto's gas rates are compared to PG&E gas rates, and I just want to be clear. These are our current gas rates, correct? And I was hoping to see a quick side-by-side, if it's available, of... Are we facing some expected increases in our gas rates anyway? Aren't we planning to increase our gas rates already or and if so...

Ms. Ratchye: Yeah, in the long-term plan, the Financial Plan, we had an 8 percent expected increase for Fiscal Year, the next Fiscal Year.

Chair Filseth: And that goes on for a few years, right?

Ms. Ratchye: Yeah, I can't remember the whole trajectory, but next year we did and I think there are a couple of years.

Ms. Dailey: But these rates do include a big rate increase that we experienced as a result of a lot of the money that's being spent on safety in

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the PG&E system. It gets passed straight through to us from all the work they are doing.

Council Member Wolbach: Okay, so we're including some of that.

Ms. Dailey: Oh yeah.

Council Member Wolbach: But this does not include the potential 10 percent rate increase from this proposal?

Ms. Ratchye: That's correct.

Council Member Wolbach: So we could... And you said there was also an 8 percent that we're going to be increasing this coming year anyway, correct?

Ms. Ratchye: That was the expectation that we had in the long-term Financial Plan, that next year for FY'18 so July 1 it would be 8 percent.

Council Member Wolbach: That's what I thought. And so I want to make sure I did my math right here. Looking at just Tier 1 residential, which is currently we're at 0.8707 and multiplying that by 1.18, so adding 10 percent and another eight percent.

Ms. Dailey: Ten cents is the proposed.

Council Member Wolbach: Oh, I'm sorry, it's 10 cents. We're not looking at 10 percent.

(crosstalk)

Council Member Wolbach: But it says it's about a 10 percent rate increase.

Ms. Ratchye: On a winter bill, yeah, there's a little apples and oranges.

Council Member Wolbach: So estimating a little bit, so we're still looking at less than a PG&E bill. So that would be still under Tier 1, for residential Tier 1.

Ms. Dailey: Right.

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Council Member Wolbach: And for, so that would be 0.952. Sorry I'm taking long doing the math, but doing the same for Tier 2, it would also still be cheaper, again anyone can check my math here, Tier 2 would still be cheaper than PG&E at 1.663. Again, these are estimations. So I just want to get kind of apples to apples what we would be looking at. And I appreciate the PG&E information being included in this report so we can do a comparison. As a quick comment on that, one of the most important things I think about our electricity portfolio which is carbon neutral, is that we are substantially cheaper than PG&E and being able to stay cheaper than PG&E on our gas, I think, is also important.

Ms. Ratchye: I want to point out one thing about the gas rates when you're making these comparisons, PG&E doesn't have a fixed charge for residential and so these rates are the volumetric rates shown, plus you have to add in this monthly service charge too.

Council Member Wolbach: I got you, thanks.

Ms. Ratchye: So there is another part of it that does kind of effectively bump up our rates.

Council Member Wolbach: Right but that's just a fixed \$10.32, right?

Ms. Ratchye: Yes.

Council Member Wolbach: And that's a good reminder. I guess I'm still kind of sorting out my thoughts about all the public comments we have heard, so I'm happy to turn it over to colleagues for questions, as I continue to mull over the different pieces we've heard.

Chair Filseth: Very good. Council Member Schmid.

Council Member Schmid: I think there is no question that it is an important issue and something we've got to act on. The opt out decision is a big one. It's striking that the Palo Alto Green got four percent of the customers jumping in and the green electricity had, what, 24 percent? So maybe one question is, why are there different perceptions out there in the customer land between gas and electricity.

Ms. Dailey: You know, one answer, and I'll let Jane chime in too, is we didn't market it very heavily, and part of what was going on was so much drought

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messaging over the last couple of years, particularly last year, that there is some limit to the number of messages that are going out to customers, so a lot of focus was placed on the drought and not so much on this program. Do you want to add anything else about why?

Ms. Ratchye: No, I think that's true. We didn't market it, and then we started having all these conversations about, are we going to change it, and then we're like, let's not market it heavily now and then switch it up really quickly, and so we stopped kind of actively marketing it. The other aspect is, we did achieve a tremendous number of fraction of customers who joined the Palo Alto Electric Green Program, but that still amounted to less percentagewise total electric use than this program, which was not marketed as a fraction of gas use, and that's because residential was the bigger number of participants and so it's a bigger part of the gas use. So we actually had more participation in this program, however poorly marketed, in terms of percentage of gas use than we did after ten years of marketing the Palo Alto Electric Program.

Chair Filseth: Can I chime in on that briefly? I would concur with that, so I mean, this focus group of one here, okay, you know we were one of the earliest adopters of Palo Alto Green, so I asked my spouse, "so are we doing this?" She said, "no, I don't know much it". So... There wasn't much information about it so I'm concurring with sort of the, not a lot of investment in the marketing.

Council Member Schmid: The thought process is a little different. I think the electricity comes easy to jump on. So my question is, you know, what's an offset? Talk to me a little bit about what offsets are. You're going to depend for 95 percent of your program on offsets. What is an offset? People have said gas is worse than electricity in terms of...

Ms. Dailey: Right. An offset is a credit generated from a project that keeps a greenhouse gas from entering the atmosphere.

Ms. Ratchye: Can you give an example.

Ms. Dailey: For instance, urban forestry, it's a large planting of trees that stay in the ground for 100 years and are verified to be there year after year.

Council Member Schmid: I guess offset in electricity is easy. You buy solar power made in the desert. It doesn't come to Palo Alto, but it substitutes for what you're getting.

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Ms. Dailey: That's a Renewable Energy Credit.

Council Member Schmid: Okay, what's an offset?

Ms. Ratchye: Can you do the cow farm thing?

Ms. Dailey: Right, so if you have a, say you have a dairy farm that obviously cows leave a lot of manure that emits methane into the atmosphere. You can take that methane and generate electricity with it. That electricity has a Renewable Energy Credit associated with it, because it was generated with a renewable resource. But if you are just capturing that methane and not letting it go to the atmosphere, that's generating an offset. So you can actually have an offset, you can have offset generation and renewable energy credit generation from the same project.

Council Member Schmid: Okay, but cows in California might offset 1 percent of our natural gas usage. Where are the other 99 percent of offsets?

Ms. Dailey: So you're buying offsets from a specific project. Are you saying there are not enough dairy farm projects in California? Yeah, so they're coming from other parts of the country. I mean, the biggest sources are landfills, but also dairy projects in other parts of the country as well.

Council Member Schmid: So we are shifting our offset to somewhere else, not to the central Sierras that are most important to us?

Ms. Dailey: Well, I mean, the atmosphere is the atmosphere I would argue, and you know, we're concerned about global warming, not necessarily Palo Alto warming.

Council Member Schmid: There was some discussion earlier about landfill, garbage being turned into through conversion technologies into gas. Is that an offset?

Ms. Dailey: If a project is preventing methane from a landfill from going into the atmosphere, that would generate an offset.

Mr. Cook: If it's a new program.

Ms. Dailey: If it's a new program and it's not required by some existing regulation.

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Council Member Schmid: Right, but stopping garbage going into landfill would, of course, stop it for the next 50 years.

Ms. Dailey: There's no protocol for that type of project developed yet.

Council Member Schmid: Why not?

Ms. Dailey: Um.

Council Member Schmid: There are such conversions going on. There is a big debate in Sacramento about it, so why wouldn't that be effective? We're dumping thousands of tons a year.

Ms. Dailey: Well, we've only proposed to use offsets from protocols that are approved by the California Air Resources Board and...

Council Member Schmid: and so far it's just cow farms.

Ms. Dailey: Sorry?

Council Member Schmid: So far it's just cow farms?

Mr. Cook: No, it could be planting trees.

Ms. Dailey: Yeah, I think it's in the Staff Report actually.

Chair Filseth: Forestry, livestock, landfill, coal mine methane, urban forestry, ozone depleting projects and (inaudible) projects.

Ms. Dailey: Those are all the Comprehensive Air Resources Board (CARB)-approved protocols right now.

Council Member Schmid: Yeah, I guess my point about those, that list, is that list would not deal with California's gas problem. It might deal with two percent, three percent, but...

Ms. Dailey: That's right, it's Greenhouse Gas Prevention Protocols. Not necessarily natural gas and they are different.

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Council Member Schmid: Los Angeles is working very hard to try to get landfill gas conversion technologies and they feel it's the only way they can really get offsets.

Ms. Dailey: Let me put it another way, I mean, you as an individual could go out and buy an offset for your airline travel, if you wanted to, to counteract it. Or you could go out and buy offsets to counteract the gasoline that you are burning in your car, assuming you don't have an electric vehicle. So an offset can be used to cover many different types of greenhouse gas emissions. It's not, as opposed to biogas, which is a physical commodity that could be used in place of natural gas.

Council Member Schmid: I guess I thought landfill conversion into gas is a biogas.

Ms. Dailey: It is, absolutely, so that's the other product that we're proposing to use in this. So we're proposing to use two things to get to carbon neutrality. One is biogas and the other is offsets, and they are separate.

Council Member Schmid: I guess conversion of waste is not technically biogas because it uses a broader set of inputs than biogas?

Ms. Dailey: Conversion of waste to methane is biogas, yes.

Council Member Schmid: Okay, I worked it out earlier, and it's not included on most biogas lists, and I think for that reason it has been difficult to get approval in Sacramento for it. Let me ask another question...

Chair Filseth: Before you leave that one, I actually had a question on exactly the same thing.

Council Member Schmid: Okay, good.

Chair Filseth: Would you mind? So, yeah, I was looking at your example of offsets that pay to convert waste into methane and was used by a dairy farmer in Wisconsin I think was one of the examples, right? That sounds like biogas to me.

Ms. Dailey: There is also biogas that's generated from the same project, so if you're preventing the methane from going into the air, that generates an

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offset. If you're using the methane from the dairy farm, that's biogas, if you're buying the molecules.

Chair Filseth: So why is the offset only worth 12 cents/therm, but the biogas is \$2/therm?

Ms. Dailey: You know, all these different environmental parks have different markets that they're being traded in, and biogas can be used for the Federal Clean Fuels Program. You can't use an offset for the Federal Clean Fuels Program, and so that program is driving the (crosstalk).

Chair Filseth: So there's a limited supply of biogas and it's bid up by these other programs? That's not fair. Got it. I'm sorry, go ahead.

Council Member Schmid: On Packet Page 29, Figure 8.

Council Member Wolbach: Staff Report Page 15?

Council Member Schmid: Page 15 of the Report. You have the environmental offsets very cheap at the moment. Things like infrastructure, water heating, space heating, stoves, get more expensive, biogas very expensive. Then you have compact vehicles pay for themselves. What do you mean by that?

Ms. Ratchye: What this is is the societal abatement cost for the carbon equivalent ton, so what that's basically saying if you bought, this is a Nissan Leaf instead, I can't remember what it is, a Civic...

Chair Filseth: A Honda Civic.

Ms. Ratchye: A Honda Civic, then it's cheaper for society just to do that alone, so if you say that it's a negative cost divided by how many therms of carbons you saved, it's a negative amount. That's how all the things on this graph are done.

Chair Filseth:...your cost right, because you have a bunch of government credits and so forth, right? Isn't that what it says?

Ms. Ratchye: No, this is the societal one. We do have also the customer, the participant cost.



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Council Member Schmid: So why don't we spend our \$3 million per year in buying Nissan Leafs?

Ms. Ratchye: This is actually the electrification analysis that we did, and Council has seen this. So, is your question, yeah, that's like the most cost-effective way to get carbon reductions.

Council Member Schmid: Yeah, as Chair pointed out, the role of the Finance Committee is to try to find the best financial option. Are you saying that we should be spending our \$3 million per year to buy Nissan Leafs?

Ms. Ratchye: Well, it might be a better investment for society to make, but the problem is, who is going to be making this expenditure is the gas rate payers. So I don't know if you had anything to add to that.

Council Member Schmid: I mean, you can spend it on Wisconsin cows or...

(crosstalk)

Ms. Ratchye: It becomes a Proposition (Prop) 26 issue.

Council Member Schmid: But you want to spend it on cows in Wisconsin, and you say, "oh, that's good". I mean, why should we be spending it on cows in Wisconsin instead of, say, replace the bike program with a Nissan Leaf program? Put Nissan Leafs all over town bought by the City and drive (crosstalk) save \$183.

Ms. Dailey: Bought by the City would be fine.

Mr. Shikada: Is there a protocol for that?

Chair Filseth: He's tugging on an interesting thread here. Go ahead.

Mr. Shikada: Jane, is there a protocol there for hybrid cars that would allow us to do that?

Ms. Ratchye: It wouldn't be an offset, not an offset. I mean the problem is this program is to buy something for the entire portfolio for all gas rate payers. And buying Nissan Leafs, there would be...

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Council Member Schmid: I don't get what the difference is between a cow in Wisconsin and a Nissan Leaf in Palo Alto.

Chair Filseth: She's saying it's a Prop 26 issue, is that right.

Ms. Ratchye: I mean, what this electrification analysis basically shows is everyone should have a Nissan Leaf, absolutely shows that.

Council Member Schmid: I guess we're looking at it from the point of view of the City, how can the City take money from the rate payer and get the most productive use out of it. And if you are going to have an opt-out program, you want to be able to say, we are using this money effectively.

Ms. Ratchye: We're not proposing an opt-out program.

Chair Filseth: UAC's proposal was to make it mandatory, not opt out. Mandatory for everybody, right.

Council Member Schmid: Well, even more so then, you have to convince people if you're taking \$43 from every citizen of Palo Alto, that you are using it in the most effective way.

Chair Filseth: He's tugged on an interesting cord here, right, which is, Prop 26 says that we're allowed to pass the cost of the gas onto the consumer. We're not allowed to just tax it and go off and use it to buy park space or something like that, okay. But what if we spend it on something that reduces co2 more efficiently than cows in Wisconsin? Is that legal under Prop 26?

Council Member Wolbach: There has to be a protocol. We need a (CARB) Comprehensive Air Resources Board approved protocol for the offset. It will have one for car sharing, for electric vehicles, which would be interesting, but it will have one you just said, right?

Mr. Shikada: Or even like more broadly than the protocol itself is the question of the legitimacy of the use of the funds, and is...

Mr. Perez: What is the benefit to the gas rate payer...

Council Member Schmid: Okay, let me go a step further then.

Chair Filseth: The benefit to the gas rate payer is less emissions, right?

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Council Member Schmid: People earlier said a more effective use of the money would be to start dealing with heating in the homes, heating water, warming homes, would that be (crosstalk)

Ms. Ratchye: That's the same answer.

Council Member Schmid: But it's not, you cannot justify it?

Ms. Ratchye: You can't use all rate payer funds to benefit just particular individuals who are going to do an electrification of their water heating or space heating or whatever.

Chair Filseth: But the benefit to rate payers by this program you're proposing is that they produce less carbon dioxide when they cook their Ramen, okay, it reduces carbon dioxide, and so if you have some other program that reduces carbon dioxide even more when they cook that Raimen, how is that not a benefit to rate payers? If the first one is a benefit to rate payers?

Council Member Schmid: Let me pursue...

Ms. Ratchye: It's a use of the funds. It's basically a Prop 26 issue. It's, when you're buying these offsets or biogas, that is something you're doing for the entire customer, all customers.

Council Member Schmid: Let me pursue then the other issue of opt in and opt out. Wanting to leave the opt out in, and you get rid of 26.

Council Member Wolbach: Is that true?

Council Member Schmid: No one has to do it. It's their own volition. So Prop 26 is not relevant, then you could spend it on the most effective thing for Palo Alto.

Mr. Shikada: Again, the nature with the opt out or opt in is the administrative costs, and effectively running a program that allowed that choice.

Ms. Ratchye: I'm just trying to contemplate, I mean, we could do that. That is an option to change the Palo Alto Green Gas opt in program to an opt out

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program. I'm trying to imagine a marketing campaign for it that says pay a little bit more for somebody who might get (crosstalk).

Council Member Schmid: You would have to effectively convince the people, which is exactly what you want to do. You don't have to convince all of them. You say convince 90 percent of them. And that's what politics is, so that's what we should be doing.

Ms. Ratchye: And as you see, if you're looking at this graph, the only thing that's cost effective is the Nissan Leaf, that's it. Heat pump water heaters, no, unless you value carbon at \$59 a ton.

Chair Filseth: Well, you're valuing it at \$8 a ton here.

Ms. Ratchye: Offsets, that's the cost of that.

Council Member Schmid: A question to the Chair, keep on finances?

Chair Filseth: Yes, we are still on, we are in the zone of is the City getting its money's worth.

Council Member Schmid: Okay, good. That's the questions I had.

Chair Filseth: That was yours. Well, you took all the good ones. So I have a couple of procedural questions and sort of my questions sort of come back in sort of the some of the same zone, although not as clever as Greg. If we proceed with this program, there is basically a 10 percent rate hike, right, does all that go to the commodity price or is there an expansion of sort of, it's going to, you know we're going to have to have... You know, the administration of it is going to take some resources, and so forth, is some going to go to overhead, or...

Ms. Dailey: No, that's just the commodity price and we would just, I mean, it's just kind of the normal course of business. We could certainly buy biogas from the contracts we already have in place for brown gas and have a one time set up some enabling agreements for offsets, but it's a very low administrative cost program.

Chair Filseth: I assume what we're talking about here is legal with respect to Prop 26?

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Mr. Howzell: It is. And the appropriate use of gas rate payer funds.

Chair Filseth: So the sense of the program is that we said, okay, we think a 10 percent rate increase is a reasonable thing for Palo Alto residents, you know, to move to a carbon neutral gas supply, okay? We think 10 percent is about appropriate. Now, we could do it for less than that if we, because we're doing, basically we're going to modulate the amount of biogas versus the offsets we do right? We could do it for less than that if we use less biogas and more offsets, or we could do it for more than that, if we said we're going to buy more biogas because we think biogas is a better thing than offsets. But I assume there is a range of quality of offsets, right? I mean, you pick, for example, one which is animal waste is going to be converted into methane and it's just going to be gone, as opposed to planted trees, which is a good thing, but in 100 years the trees going to fall down, the carbon is going to be released into the atmosphere again, right. So I assume there is a range of quality of offsets. Is that an accurate characterization?

Ms. Dailey: I don't believe so. I mean, we have placed that onto CARB and if the project meets the protocol that CARB has laid out, then it's an offset. So we're not going to place, we're not proposing the place some other layer of verification or scrutiny above and beyond what CARB says is a verifiable real offset.

Chair Filseth: Okay, I understand. So if I understand what you just said, it's, excuse me, as long as you stick to the CARB schedule, you're at the highest quality of offsets that there is?

Ms. Dailey: Right, and another reason for using CARB-certified protocols is because all those offsets could be used to meet an Renewable Portfolio Standard (RPS) compliance requirement, so in effect, by us purchasing them for our gas portfolio voluntarily, we're taking them off the market and retiring them so that someone else can't use them to pollute.

Chair Filseth: So I guess sort of the thing that I'm wondering about this is, you know, assuming the offsets are real, I mean we said well we think biogas is a higher quality thing than the offsets, why is that? I mean, Cory sort of tugged on that one a little bit. Why is that? I mean, the both get rid of carbon, right?

Ms. Dailey: Right. I mean I think we'd be naïve to say that there isn't some public perception that doesn't quite... Biogas is a very physical, definable

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thing. The offsets you have to have a bit more faith in the verification system and the CARB protocol, so again, it's a little bit of an emotional thing.

Chair Filseth: I mean, we're paying a non-negligible price for that emotional thing, right? So let me ask the question a different way, the way I'd really like to ask it. I mean given the immense difference in cost, okay, between biogas and the offsets, you know, let's say for the sake of argument, you went to 100 percent offsets and 0 percent biogas, okay, but you kept the 10 percent rate increase, okay, and used the difference to buy a whole lot more offsets, I mean, wouldn't you go from carbon neutral to massively carbon negative. It's like ten times as many, or 20 times as many carbon offsets as you're buying biogas. I mean wouldn't that be a better use of that investment? I mean, did you guys talk about that at all?

Council Member Wolbach: Can I chime in on this?

Chair Filseth: Okay, if they're done.

Mr. Cook: Yeah, let me just answer (crosstalk) The UAC did not consider that. I think it's an interesting thought exercise. That's primarily why you guys get paid the big bucks.

Chair Filseth: We're just the bean counters on this side. Go ahead.

Council Member Wolbach: I think we heard from members of the public some of the concerns around offsets are that they're, some people interpret offsets to be green washing. That perhaps CARB's protocols aren't as tight as they could be. Actually that's a quick question, do we know if CARB is considering those criticisms, and considering updating their standards to be more stringent around how they identify and measure offsets. I don't know if you've paid any attention to that. Maybe that's a question we should ask our...

Ms. Ratchye: I actually think they have the strictest there are. There are protocols developed by different agencies and then CARB certifies those for their own use and they only accept a fraction of what other people accept. They, because they do it for compliance, so they're pretty strict. I'd say they're the strictest.

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Council Member Wolbach: So if we did switch to more offsets and less biogas, that might help make up for any under valuation that was raised by members of Carbon Free Palo Alto.

Chair Filseth: Or leakage for example, etc.

Council Member Wolbach: And, I'm getting into comments. I'll let you finish your questions and I have a couple of comments.

Chair Filseth: I think we're (crosstalk), so...

Council Member Wolbach: Well then, since I've stolen the mike, that's a really interesting idea of maybe just focusing on offsets rather than biogas entirely and my hope is that, I think if we're talking about, you know, a plan not for just this year but setting up a process that will probably last a few years, CARB standards may continue to improve to address the concerns raised by members of Carbon Free Palo Alto that the offsets might not be as substantial as they should be, but if we've set up a system in saying we're going to buy offsets and maybe offsets continue to improve, I think the concept of offsets, well, that's the question, right, is the whole concept of offsets a joke, or is it just that the current system for evaluating them is not stringent enough? I don't know if we can ask members of the public who spoke earlier on this.

Chair Filseth: Well, that's sort of the rub, right, which is, do we believe in offsets or not. If you believe in offsets, why are we not looking. If we don't believe in offsets, why are we doing this, right?

Council Member Wolbach: Chair, may I, may we?

Chair Filseth: Yeah, you can ask them.

Council Member Wolbach: Let me ask either or both members of Carbon Free Palo Alto who spoke earlier who were critical of offsets, if you would like to come to mike and weigh in on this question. Is it impossible that offsets could be improved in the future through more stringent regulation?

Mr. Hodge: I think that the earlier comments that were made about CARB and the quality of the offsets is spot on. I think they are probably the highest offsets that are available, and because CARB has defined those offsets to be the equivalent of buying allowances so they are for compliance

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purposes. So I don't, I wouldn't expect that the quality of the offsets to somehow get measurably better over time.

Council Member Wolbach: So why is it still considered green washing in your view then?

Mr. Hodge: It's considered green washing, we would consider it green washing because it's not something which is scaleable. In other words, it's something that you can buy, there's a limited quantity of offsets that are out there. Certainly Palo Alto could go off and buy these offsets, right, and it would solve Palo Alto's problem, but clearly everybody cannot do that, and so one of the things that we have concentrated on as our group is to focus on innovative solutions that Palo Alto can deploy and serve as a leader for the region and state.

Council Member Wolbach: While we've got you up there, one other question, which is people who spoke after you during the public comment period on this topic expressed their view that this proposal and your ideas are not incompatible. I would be curious if you would have any further explanation about why you think this current proposal and your proposals are not compatible.

Mr. Hodge: I guess one of the things we're concerned about is this lost revenue. So that's the \$3 million a year we're estimated leaving the community where imagine that \$3 million spent on our infrastructure instead. Buying the offsets does absolutely nothing for our community except it's sort of a feel good thing, but it doesn't really address the issue that we have directly.

Council Member Wolbach: Did your proposal have a mechanism by which that same \$3 million would be turned around in our own community?

Mr. Hodge: We believe that we have a mechanism that's too complicated to describe now, but there are financing mechanisms that are out there that we believe where the cost actually can be in the same range of costs. In other words, for the amount of money that we would be spending on offsets, we believe for instance, that you can have electrification efforts for about the same price, depending on the driving factors.

Chair Filseth: Although then you may run afoul of Prop 26?



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Mr. Howzell: ...gas rate payer funds for those efforts, yes, a Prop 26 issue. And also we need to just be careful to say...

Chair Filseth: We're getting close to the edges we understand.

Mr. Howzell: Yes, we may be on the edge.

Chair Filseth: So we're getting close to the edge, we may be on the edge.

Mr. Anderson: Okay, at a simplistic level, we had the idea of a utility fee, a utility use fee. There's already one there for gas. You could replace that, you could put another one on, but that would be used to basically finance or fund programmatic improvement in the utility to allow your rate payers options to reduce their gas use through electrification and efficiency, so if you funded it at the same level as the offset proposal, then you could get some real work done in terms of getting those options out on the bill for customers. So you allow them choice to reduce their gas use through electrification, which allows them to benefit from that investment as a gas user. Just one additional point on the quality of offsets, so offsets by nature are difficult to measure. It's just the nature of the beast. You can put as many, as heavy a qualification and activity and protocol in place, but you can't get away from the fact that they have to be additive. The project that they promise happens, would not happen otherwise but for your purse with that offset. They have to be measurable also. Those things are just difficult to do. They will never be surety around that and there's always ways to cut corners and you have five years later saying, well, is it still in place, are they still monitoring it. So it's just a hard thing to kind of keep your arms around and it's prone to problems. So that's one of the difficulties in just, that's why they're suspect in terms of...

Chair Filseth: How are we going to manage that, who is going to be... Oh, I see, if we just use CARB, CARB manages it we don't have to worry about it.

Mr. Anderson: Yeah, so CARB's are reliable. There are third parties. There are watchdogs. We just trust them.

Council Member Wolbach: But you guys are saying don't trust them.

Mr. Anderson: Well, we're saying just the principal of offsets doesn't work in terms of we're trying to reduce gas use, not compensate and export that

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problem outside our community with something that is, by nature, suspicious.

Chair Filseth: Well, I mean if offsets don't work then we shouldn't do this. And if they do work, then we're sort of, what's the right mix of biogas versus offsets, right, you know, because you could go negative, you could compensate for, you know, losses, transmission losses and stuff like that. So what's the right, I mean, that's what we're grappling with, right? Mr. Cook.

Mr. Cook: Yeah. I just thought what Bret said last was the most important thing, and that's what I wanted to say when I raised my hand earlier. It's just that what we want to do is not generate greenhouse gases, right, and by burning gas we generate greenhouse gases, so where Carbon Free Palo Alto is going and where I'd love to see this City go ultimately through the mechanism of this policy, you know they're saying don't do this policy, do something else and I totally respect that. But we all agree on the core problem with the offsets is just that you're, you still are generating the greenhouse gases. Now you're offsetting that by reducing greenhouse gas emissions somewhere else, whether it's Wisconsin or wherever, it doesn't matter in the way that it's the globe, it's our planet. But is there, should the money be spent and the effort be spent locally to reduce the initial greenhouse gas emission by reducing the use of gas to do the things that we want to do every day, so can you cut straight to that, and I guess what I'm saying is and I think what the UAC is saying, and I think what, you know, what Sandra and Lisa are saying is, hey, let's do this as an interim step, as a transitional step to ultimately get to where we're reducing our greenhouse gas emissions, not an offset.

Chair Filseth: Can I, I don't think there's disagreement on that here.

Mr. Cook: So the question is with policy. How do you get to that point, and we're just saying this is the transition to that.

Chair Filseth: But we're not, that's not agendaized for tonight so we can't...

Council Member Wolbach: I hate to be asking so many questions, because we, I mean we're almost 2 hours in, but there was some discussion about the possibility of local offsets, and that does sound like keeping the money locally or making the investment locally to some certainty, to some degree. Can we get any more color on that concept?

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Ms. Ratchye: Any urban forestry project is absolutely welcome to go meet the protocol and get that done and we would then be able to buy those offsets, but it has to be verifiable. You know, it has to be those same high quality, and if the local project can actually achieve that, that would be awesome.

Council Member Wolbach: So when we move to a Motion, I'm not sure if it was already in the recommendation from the UAC to prioritize identifying local offset opportunities, if they're available, and if we move this forward to the Council, maybe that's something that we could tag on to say that as we're looking for offsets, it's, what's that?

Ms. Ratchye: At a premium price?

Council Member Wolbach: Maybe at a premium or...

Chair Filseth: It can't be as big a premium as biogas.

Mr. Hodge: Your trees, your urban forestry is not going to offset the total emissions from the canopy.

Council Member Wolbach: I would not expect any one item would be, would solve the problem, but to the degree that it's an option, maybe that's something we would include in directing the Staff to present an option or two to the full Council when it comes to Council.

Chair Filseth: I think the point here is that there's probably going to be a limited capacity, right, it's a nice thing to do so I'm not arguing against it. It's probably going to be limited.

Council Member Schmid: Let me state one possibility. Palo Alto dumps tens of thousands tons of garbage each year in landfill, which produces methane gas for 50 years. If there is a conversion technology that translated that into gas, biogas.

Chair Filseth: You'd like the anaerobic digester or something.

Council Member Schmid: No, conversion technology (inaudible). That would directly deal with two Palo Alto problems, the need for an offset and what we do to stop the creation of future methane gas. That's a double win.

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Chair Filseth: Let me pause for a second and ask our colleague from the Legal Department. Presumably we're going to do a Motion at some point, somebody brought it up, right, and the Motion is going to have to do with the Staff recommendation and the UAC recommendation adopting the Carbon Neutral Gas Plan. What does it mean for the Finance Committee to approve it, right? This is a policy issue that goes far beyond the purview of Finance, so I mean, let's say we adopt the Staff recommendation unanimous. The Council is going to go debate this again, right, and much more broadly, so it doesn't go on the consent calendar or something like that, right?

Mr. Howzell: It could, but there would be a further discussion as to whether it is appropriate to have it on the consent calendar and based on your comments suggesting that it really should be something that the Council would want to necessarily discuss and they will do what they will, what the recommendation, you know, a unanimous recommendation and interpret it as they will. But you raise an interesting issue.

Chair Filseth: Well, to me, I'm not comfortable having this Committee sign off on the whole program. I think it's beyond our scope, right, to do that. I think the whole Council should look on it before we just enact it into law, right.

Mr. Howzell: Well, we have to. (crosstalk) We legally can't.

Council Member Wolbach: That's the Staff recommendation?

Chair Filseth: I think in that context, so what is a Motion from us going to look like? It's going to look like we adopt this, we vote in favor of the Staff Motion, but we have these three comments, or what does it look like?

Council Member Wolbach: Can I give it a try?

Mr. Howzell: You could do it that way, or you could inform the full Council of what the nature of the discussion was. The limits on what your recommendation is.

Chair Filseth: Okay, right.

Mr. Perez: Let me see if I can add. You have, not necessarily this Committee, but the Finance Committee have added a condition that it be an

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Action Item. You know. So it could be heard and discussed by the full Council.

Council Member Schmid: I guess another option is we could ask either the UAC or Staff to come back with some amendments. (Inaudible) so we don't have to send it directly to Council without some adaptation.

Chair Filseth: We could.

Council Member Wolbach: I'll try my hand at a Motion. I'm just looking at the time. So I'll move the Staff recommendation with a couple of minor changes. Do you need me to read the Staff recommendation or... Okay, so the changes would be to provide an option for Council to consider to prioritize locally generated offsets or local offsets. That would be the first change. And the second one would be to prioritize offsets over biogas.

Chair Filseth: I would second that, but I guess I'd be more comfortable with language on the second piece. It doesn't specifically say, well I guess the Council could, maybe it works. The same discussion, prioritize offsets over biogas, but I'd like to see a discussion of the relationship between biogas, offsets and emissions. Because of it's cost, and I'd like to see, if we're going to spend rate payer money on reducing carbon, I'd like to see us reduce carbon as much as we possibly can, and I think that's kind of the discussion, I'd like to hear a little more discussion on that, between UAC and Council.

Council Member Wolbach: What if we, instead of saying prioritize offsets over biogas, say prioritize maximum carbon reduction within the 10 percent, I'm sorry, within the 10 cent/therm rate impact cap? And that allows flexibility.

Chair Filseth: Are you okay with that?

Council Member Wolbach: Well, I'll speak to that if I have a second.

Chair Filseth: So you can speak to it and I'd like to hear the response from the UAC and the...

Council Member Wolbach: Do I have a second?

Chair Filseth: Sure, I second it.

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**MOTION:** Council Member Wolbach moved, seconded by Chair Filseth to recommend the City Council:

- A. Adopt a Resolution that:
  - i. Approves the Carbon Neutral Gas Plan, enabling the City to achieve a carbon-neutral gas supply portfolio starting in Fiscal Year (FY) 2018 with a rate impact not to exceed ten cents per therm (10 ¢/therm); and
  - ii. Terminates the PaloAltoGreen Gas program established by Resolution 9405; and
- B. Direct Staff to develop an implementation plan for the Carbon Neutral Gas Plan; and
- C. Direct Staff to provide an option for Council to consider prioritizing local offsets; and
- D. Direct Staff to prioritize maximizing carbon reduction within the 10 cents per therm (10 ¢/therm) rate impact cap.

Council Member Wolbach: So that would allow the flexibility by the Utilities Department within the program to go with biogas or with offsets, understanding that their priority would be maximum carbon reduction and again, it also gives to Council the option to promote local offsets.

Chair Filseth: I see a frown over here. So you're worried about Prop 26?

Ms. Dailey: No, let me take those in two different chunks. The first one was prioritizing local projects. I mean, we do have a preference for California projects in here, which could be modified to local. We've never put a price on that. So we've never said we'd be willing to spend X more on a local California project. So we just put that out there that it's an undefined thing now and under your amendment it still stays undefined. As far as prioritizing offsets, to me that just changes the recommendation to use offsets and it changes it to spend 10 cents/therm and buy as many offsets as you can with that, no matter, without tying it to the gas burned.

Chair Filseth: The territory you'll get into is, well, actually if we did it all with offsets, it would only take a five percent rate increase.

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Ms. Dailey: Well, that's right and it's in your Staff report already, so you have that information.

Chair Filseth: But you come back and said if you spend 10 cents (crosstalk) Then we have Prop 26 issues, right? You're offsetting more carbon than you're actually producing, right? But you also get into the issue of the value of biogas versus offsets, right, and I think you need to grapple with that.

Council Member Wolbach: Can we ask the City Clerk to read back the Motion, just to make sure it was captured.

Jessica Brettle, Assistant City Clerk: Sure. Would you like me to read the full Staff recommendation as well?

Chair Filseth: I think so, yeah.

Ms. Brettle: I have a Motion by Council Member Wolbach, seconded by Chair Filseth to recommend the City Council adopt a Resolution that: A, approves the carbon neutral gas plan, enabling the City to achieve a carbon neutral gas supply portfolio starting in Fiscal Year 2018 with a rate impact not to exceed 10 cents/therm; B, terminates the Palo Alto Green Gas Program as established by Resolution 9405; C, to direct Staff to develop an implementation plan for the carbon neutral gas plan; D, to also provide an option for Council to consider prioritizing local offsets. And I think D, to prioritize maximizing carbon reduction within the 10 cents/therm rate impact cap.

Council Member Wolbach: Right, so it's not specifically saying prioritize offsets over biogas. It's saying whatever Staff is deciding, you know, within this, because this program does allow flexibility already, it was intended to and that was one of the benefits we heard by UAC and analyzed it. This would just provide a little bit more encouragement to Staff to really say, as you're working within that flexibility, rather than the emotional bias towards biogas, our emotional bias is towards maximum co2 reduction, however you do it.

Chair Filseth: Right. Let me try another slice, another view on it. I'm (crosstalk)

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Ms. Dailey: I'm just wondering what is it that we're, that we'll be looking at? What are the products. There's biogas, there's offsets. What other things are you thinking of that are going to reduce...

Council Member Wolbach: I'm just saying, when deciding what mix, rather than stipulating 90 percent and 95 percent, it's saying you can stay flexible on the percentages, depending on Staff's interpretation or, you know, if biogas improves, if something changes in the marketplace, if something changes in technology.

Chair Filseth: ...high quality offsets to buy.

Ms. Dailey: If there's no, I mean the way it's structured now is to include as much biogas as possible, staying within the 10-cent rate cap. If it's structured the opposite way, we will not buy any biogas, period. I think if that's what you're leaning toward, then it's a different plan that just says use offsets.

Chair Filseth: We didn't understand why there was a bias in favor of biogas versus offsets. That's one of the things I think all of came to understand here tonight, because we were all asking questions about it.

Ms. Dailey: Yeah, and I think, you know, again, over, the main discussions we've had at the UAC and some discussions at Council around the Climate Action Plan, there's never been a policy against offsets, but there has been a feeling about the preference for physical commodity, and so the plan that we developed was kind of the minimum rate impact you could possibly have and have any biogas in the portfolio at all.

Chair Filseth: I understand, and that's part of the reason I like this Motion, okay, as is. Because we're not telling, and as I read this Motion, we're not telling you to go with offsets and forget about biogas. What we're saying is, prioritize CO2 reduction, okay, and if you can translate that feeling into tons of carbon dioxide, then go for it. But if it's just a feeling and we really don't know, please wait rate payer money and CO2 reduction and go for the max CO2 reduction, do the 10 percent, you know, take care of Menlo Park carbon, that's fine. But prioritize that, because look at it this way, you're going to like this, right. You know, look at this Wisconsin example. The question we asked Greg and I sort of scrummed on earlier, right, said, well you converted waste into methane and then you're taking the gas and making electricity out of it and if you buy the offset, it's 10 cents/therm and if you buy the gas it's two bucks a therm, why is that? Well it's because



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other people are bidding on the gas. Well, I don't think rate payers in Palo Alto, I mean the value here is the offset, right, at least to this program, so it doesn't make sense to charge Palo Alto rate payers for these two other guys bidding against, bidding up the price of the gas, if that makes sense.

Ms. Dailey: Let me try it another way. Would it be, if we could, as we said somewhere in the Staff Report, cover the entire gas portfolio with offsets, with a rate impact of two cents, would you rather be there or would you rather spend 10 cents and do something beyond that?

Chair Filseth: Excellent question. I think that's a good question for the Council, not the Finance Committee.

Council Member Wolbach: So the Motion on the table is to spend up to the 10 cents and get as much CO2 reduction as you can within that 10 cent impact, 10 cents/therm.

Ms. Dailey: Actually, the proposal is to spend 10 cents and to incorporate as much biogas in that as you can.

Council Member Wolbach: Right and what we're saying is spend the 10 cents.

Chair Filseth: Spend up to 10 cents.

Council Member Wolbach: And get as much CO2.

Chair Filseth: I'll take it the way he's doing it.

Council Member Wolbach: It's to spend (crosstalk) and get as much CO2 reduction as you can, rather than saying buy as much biogas as you can.

Ms. Ratchye: That's getting 200 percent of the production.

Council Member Schmid: Let me suggest an alternative.

Chair Filseth: But you're going to have some flexibility here. You're going to have losses in our transmission system. You're going to have losses in the nationwide transmission system.

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Ms. Dailey: Right, I hear you.

Council Member Schmid: Can I make a suggestion.

Chair Filseth: Okay, go ahead.

Council Member Schmid: The pressure is to do it by Fiscal Year '18, 100 percent carbon neutral. It seems to me we're talking about two different things. You know, get that done, meaning offsets, or work toward a program that will achieve that with local offsets, and local offsets could involve things like infrastructure changes and conversion technology, so that says spend the 10 cents/therm, but let's use the money to have a plan, a strategic plan, to get us somewhere three, four or five years.

Chair Filseth: Yeah, give the difference to those guys. Figure out some way to do that.

Council Member Wolbach: Was that an Amendment, or is that, are you suggesting that's still plausible within the Motion as it's currently drafted. (crosstalk)

Council Member Schmid: I think we'd have to change A to read, enable the City to work towards a carbon neutral gas portfolio with the rate impact, and to add the local offsets, things like conversion technology and infrastructure.

Council Member Wolbach: We already have that in the Motion.

Council Member Schmid: Do we have those words?

Jessica Brettle, Assistant City Clerk: Do you want me to read it again?

Council Member Wolbach: Could you read just the things that we added.

Ms. Brettle: The two things you added were to provide an option for Council to consider prioritizing local offsets and to prioritize maximizing carbon reduction within the 10 cents/therm rate impact cap.

Council Member Schmid: Yeah, such as, I want to add after that local, such as infrastructure and conversion technology.

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Council Member Wolbach: I would actually not accept that Amendment. I don't think it's necessary. I think it's redundant, or I think it's getting too specific.

Chair Filseth: Wait a second. Can you repeat the second addition again.

Ms. Brettle: Sure. The second addition said, to prioritize maximizing carbon reduction within the 10 cents/therm rate impact cap.

Chair Filseth: Right.

Ms. Brettle: And Council Member Schmid added a friendly amendment, such as, or an amendment, "such as infrastructure and conversion technology".

Council Member Schmid: That would be under C.

Chair Filseth: What you'd really say is, potentially include infrastructure and conversion technology.

**AMENDMENT:** Council Member Schmid moved, seconded by Council Member XXX to add to Motion Part C "such as infrastructure and conversion technology."

Chair Filseth: But does that take us outside the place where we're not allowed to go tonight? I don't know.

Mr. Howzell: I think at this point I think you're fine and obviously the caveat on everything that you're talking about is that we will also work within the constitutional limitations of Prop 26 regarding the use of rate payer funds, won't go beyond the cost of service parameters.

Chair Filseth: So I don't have a problem with it the maker of the Motion has a problem.

Council Member Wolbach: Yeah, I'd prefer, I don't think it's necessary and again, you know, looking at the alternatives that are in the Staff Report on Page 16, I think that the tweaks we've made to the Motion reasonably fall within that range of alternatives. I think that goes a little bit further and I think that gets more towards other initiatives that should be agendized separately. I don't see how it would be accommodated into this effort.

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Chair Filseth: We're staring into space. You want to get the idea in front of Council on the Agenda that some of it could go to future mechanisms to reduce carbon?

Council Member Schmid: Yes, we could start working on things, won't deliver them in 2017, but would work to have a long-term global impact.

Mr. Howzell: And I would suggest that that is outside of what we are, the scope of what we are agendized for this particular meeting.

Chair Filseth: I think you're probably right.

Council Member Wolbach: And that's why I didn't accept it, even though I think it's an interesting idea.

Chair Filseth: Okay, your Amendment is not accepted, your friendly Amendment is not accepted. You can offer it as an unfriendly one.

## **AMENDMENT FAILED DUE TO THE LACK OF A SECOND**

Chair Filseth: Once the City Attorney weighs in (crosstalk). Okay, so we have a Motion.

Council Member Wolbach: Should we add also that we wanted to come on as Action rather than consent?

Chair Filseth: Yeah, I think it should go on Action.

Ms. Brettle: I'll add that on there.

Chair Filseth: Okay, I'm satisfied. All in favor? All opposed.

**MOTION PASSED:** 2-1 Schmid no, Holman absent

Chair Filseth: Okay, Motion carries with Council Members Filseth and Wolbach in favor, Council Member Schmid opposed and Council Member Holman not present. Thank you guys very much. We like it.

Council Member Schmid: Yeah, very important.

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Chair Filseth: Yeah, go look at the tradeoff between offsets and so forth.

ADJOURNMENT: The meeting was adjourned at 9:27 P.M.