Summary Title: Sustainability & Climate Action Plan Update

Title: Discussion of Potential Goals and Key Actions Related to the 2020 Sustainability & Climate Action Plan

From: City Manager

Lead Department: Utilities

Background & Summary
On April 13, 2020, City Council had an extensive discussion of the progress made on the seven Sustainability and Climate Action Plan (S/CAP) topic areas, and the process to develop key actions for the future to achieve the S/CAP goal of reducing the community’s greenhouse gas (GHG) emissions by 80% by 2030 (Annual Earth Day Report, #11168; Sustainability Work Plan 2020-21, #11201). During the discussion, staff briefed Council on the timeline and mapped out the process in developing goals and key workplan actions. These goals and actions will be formulated before the help of our consultants and with community input over the next six months.

At the meeting Council requested staff to return in June 2020 with the draft set of goals and key actions, before the consultants begin their work on assessing the cost, GHG reduction and sustainability benefits associated with the draft goals and key actions.

At the April 15, 2020 UAC meeting, City Council liaison to the UAC, Council member Cormack, requested that the UAC provide input on staff’s draft goals and key actions.

Recommended Topics for Discussion at the UAC Meeting
Attachment A provides the background on S/CAP, along with draft goals and key actions pertaining to the seven topics. Staff would like UAC’s input on the topics of energy, electric vehicles, and water, areas under UAC purview.

Attachment B is a summary of community input received between January 22, 2020 and April 22, 2020 on the 2020 S/CAP Update and the draft goals and key actions. These comments

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1 The seven S/CAP Implementation Plan (SIP) areas are: energy, mobility, electric vehicles, water, sea level rise, natural environment, and zero waste.
include feedback from the 2020 S/CAP Community Workshop Webinars, feedback submitted to Council for the April 13 Council Meeting, and feedback received from the Sustainability Website.

Documents discussed at the 04/13/2020 Council meeting are provided as weblinks below for additional perspective.

- Link to Annual Earth Day Report to Council (4/13/2020, #11168)
- Link to Sustainability Work Plan 2020-21 Report to Council (4/13/2020, #11201)

Resource Impact
Appropriate resources are already in place or being considered through the FY 2021 budget process to implement the actions described in the key work plan actions.

Policy Implications
The goals and key action related to S/CAP 2020 aligns with two of the top three Council Priorities for CY 2020: “Sustainability, in the context of climate change” and “Improving mobility for all.”

Stakeholder Engagement
Staff has developed a 2020 S/CAP Update Engagement Plan which identifies relevant stakeholders, proposed materials, and desired meeting milestones and outcomes.

Environmental Review
Discussion of goals and key actions does not constitute a project under the California Environmental Quality Act (CEQA). Individual items within the work plan will be evaluated consistent with CEQA prior to approval by the City.

Attachments:
- Attachment A: 2020 Sustainability and Climate Action Plan Potential Goals and Key Actions DRAFT
- Attachment B: Community Input on the 2020 SCAP Potential Goals and Key Actions Related to Energy-Mobility-Electric Vehicles-Water
- Attachment C: Item No 2 - SCAP - Presentation
2020 Sustainability and Climate Action Plan
Potential Goals and Key Actions
DRAFT

Last Updated March 26, 2020
Palo Alto has long been a leader in sustainability, making impressive progress towards reducing its carbon impacts, greenhouse gas emissions, and resource consumption since adopting a Sustainability Policy\(^1\) in 2001, reflecting the City’s intention to be a sustainable community - one which meets its current needs without compromising the ability of future generations to meet their own needs. Since then, the City has undertaken a wide range of initiatives to improve the sustainability performance of both government operations and the community at large, including: adopting one of the first municipal Climate Action Plans\(^2\) in the US in 2007; adopting a Sustainability and Climate Action Plan (S/CAP) Framework\(^3\) in 2016, which includes an aspirational goal of reducing Greenhouse Gas (GHGs) emissions 80 percent below 1990 levels by 2030\(^4\); providing 100 percent carbon neutral natural gas since July 2017 — making the City of Palo Alto Utilities the first utility in the world to provide carbon neutral electricity and natural gas as a standard to all customers — having provided 100 percent carbon neutral electricity since 2013; and, in December 2017 accepting the 2018-2020 Sustainability Implementation Plan (SIP) “Key Actions” as a summary of the City’s work program\(^5\). Sustainability is also embedded in the 2030 Comprehensive Plan\(^6\) (adopted in 2017), with 10 goals and over 50 actions outlined in the 2030 Comprehensive Plan Implementation Plan that are explicitly or implicitly related to sustainability.

While GHG emissions reduction is not the only goal of the S/CAP, it is a major one. To achieve an 80 percent reduction target by 2030, Palo Alto will need to meet a target “GHG reduction budget” of about 224,600 MT CO2e\(^7\). The analyses in the 2016 S/CAP Framework (conducted in 2014-2015) projected that more than half of the needed additional reductions (117,900 MT CO2e) could come from mobility related measures, just under half (97,200 MT CO2e) from efficiency and fuel switching measures (largely in buildings), and about four percent (9,500 MT CO2e) from continuation and extension of Palo Alto’s zero waste initiatives. These reduction targets are outdated and don’t include recent sustainability initiatives, actions, and projects. The analyses will

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1. [https://www.cityofpaloalto.org/civicax/filebank/documents/7856](https://www.cityofpaloalto.org/civicax/filebank/documents/7856)
2. [https://www.cityofpaloalto.org/civicax/filebank/documents/9946](https://www.cityofpaloalto.org/civicax/filebank/documents/9946)
5. [https://www.cityofpaloalto.org/civicax/filebank/documents/63141](https://www.cityofpaloalto.org/civicax/filebank/documents/63141)
6. [https://www.cityofpaloalto.org/civicax/filebank/documents/62915](https://www.cityofpaloalto.org/civicax/filebank/documents/62915)
7. MT CO2e = metric tons of CO2 equivalent
Overall, the performance of City Municipal Operations showed a 65.8 percent reduction in Scope 1 and Scope 2 emissions\(^8\) from the 2005 baseline year.

For the City to continue progress towards its climate and sustainability goals and targets, a 2020 S/CAP Update is necessary to further study the highest impact actions to take. While the SIP focused on two key concerns—CO2 emissions and Water—and four key areas of activity: Energy, Mobility, Electric Vehicles, and Water, the 2020 S/CAP Update will include Key Actions in the following areas: Energy, Mobility, Electric Vehicles, Water, Climate Adaptation and Sea Level Rise, Natural Environment, and Zero Waste. This document outlines the proposed goals and Key Actions that will be the foundation for the 2020 S/CAP. Some of the Key Actions can be readily implemented at a staff level; some will require review and approval by Council; and some may require environmental review, including under the California Environmental Quality Act (CEQA), prior to adoption and implementation. All of the Key Actions will go through an impact analysis, which will detail the costs and benefits (including co-benefits), expected GHG remissions reductions, and sustainability benefits. In addition, in March 2019 Council approved a Sea Level Rise Adaptation Policy to provide a roadmap for creating a comprehensive Sea Level Rise Adaptation Plan, which will be incorporated into the 2020 S/CAP Update.

The City is fully committed to a sustainable future. The City owns, operates, and maintains a full-service utilities portfolio that provides electric, gas, water, and wastewater services to residents and businesses in Palo Alto. Palo Alto’s continued leadership in advancing sustainability commitments has succeeded mainly because of the continued cooperation across City Departments and diverse community stakeholders, and the support of City Council. The 2020 S/CAP will be a major step forward towards the 2030 goal of 80 percent GHG reduction, which far exceeds the state of California’s world-leading reduction goals of 40 percent by 2030 and 80 percent by 2050. As the rest of the country looks to California for leadership in sustainability, the City of Palo Alto will continue to lead by example.

Key Timeline Dates:

- March 2020: Council Approval of 2020 – 2021 Sustainability Work Plan
- Spring 2020: Sea Level Rise Vulnerability Assessment commences
- May 2020: Updated Business as Usual Forecast completed
- Summer 2020: Impact Analysis of 2020 S/CAP Key Actions completed
- Fall 2020: Council Study Session on 2020 S/CAP Update
- Fall 2020: 2020 S/CAP Summit to finalize goals and Key Actions
- December 2020: Draft CEQA Report completed

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\(^8\) Scope 1 and Scope 2 emissions are non-biogenic emissions that are caused by human activity. Biogenic emissions are assumed to be net carbon neutral and not reported under GHG emission reporting protocols. Scope 2 emissions from electricity were eliminated starting in 2013 by the purchase of Renewable Energy Credits (RECs) under the Carbon Neutral Plan.
➢ April 2021: Final CEQA Report completed
➢ April 2021: Sea Level Rise Adaptation Plan completed
➢ April 2021: Council Adopts 2020 S/CAP Update
➢ 2025: Update the S/CAP with further key actions
➢ 2030: Achieve S/CAP Goals, including 80% GHG Reduction
2020 Sustainability and Climate Action Plan Goals

**Energy**
- Reduce Greenhouse Gas (GHG) emissions from the direct use of natural gas in Palo Alto’s building sector by 40% below 1990 levels by 2030
- Increase Heat Pump Water Heater adoption to 25% by 2030
- Increase all-Electric homes to 20% of all residential single-family homes by 2030

**Mobility**
- Increase active transportation mode share to 25% for local work trips by 2030
- Increase availability of transit and shared mobility services by increasing to 75% the proportion of residents within a quarter-mile walkshed of frequent transit by 2030
- Implement Complete Streets and build out the Bicycle and Pedestrian Transportation Plan

**Electric Vehicles**
- Increase the number of EVs registered in Palo Alto, as a share of total vehicles registered, from 7% in 2018 to 50% by 2030
- Target to facilitate 50% of vehicles owned by low income households to be EVs by 2030
- Ensure there are adequate numbers and types of EV chargers in Palo Alto to support the growing number of EVs registered in and commuting to Palo Alto
- Expand the number of EVs in the City’s fleet as the EV fleet market evolves

**Water**
- Reduce per capita water use compared to 2019
- Increase the percentage of recycled water used (volume of recycled water/recycled water filter capacity) by 10% in 2022 compared to 2019
- Reduce the total dissolved solids by 50% compared to 2019 base year
- Manage stormwater to slow the flow to receiving waters and improve water quality to protect the SF Bay, while also treating it as a beneficial resource for alternative uses

**Climate Adaptation and Sea Level Rise**
- Develop a multi-year Sea Level Rise Adaptation Plan for Council Review by April 2021 to include a sea level rise vulnerability assessment and a community engagement strategy for plan development and implementation

**Natural Environment**
- Renew, restore, and enhance resilience of our natural environment
- Maximize biodiversity and stewardship of flora, fauna, and air, soil, and water resources
- Reduce environmental impacts of our actions
- Increase tree canopy to 40% city-wide coverage by 2030
- Expand the designation of pesticide-free parks and city facilities

**Zero Waste**
- Divert 95% of waste from landfills by 2030, and ultimately achieve zero waste to landfill
- Implement short- and medium-term initiatives identified in the 2018 Zero Waste Plan
ENERGY

Building efficiency and electrification are key to achieving Palo Alto’s - and California’s – greenhouse gas (GHG) reduction goals. Overcoming building electrification barriers at both the local and regional level will be necessary to increase market adoption in existing buildings. Electrification - and encouraging existing buildings to upgrade to modern energy efficiency levels - may pose significant strategic and operating challenges for the City of Palo Alto Utilities (CPAU) but is an important strategy to meeting the City’s aggressive GHG reduction goal.

GOALS

- Reduce GHG emissions from the direct use of natural gas in Palo Alto’s building sector by 40% below 1990 levels by 2030
- Increase Heat Pump Water Heater adoption to 25% by 2030
- Increase all-Electric homes to 20% of all residential single-family homes by 2030

KEY ACTIONS

- Meet or exceed City Council-adopted energy efficiency targets
- Explore electrification of city-owned facilities with the goal of phasing out fossil fuel use in existing municipal buildings
- Phase out fossil fuel use in new and existing buildings through a combination of programs & mandates (includes partnerships and collaborations to support market transformation)
- Increase awareness and adoption of efficient electric alternatives to gas appliances and all-electric buildings through community engagement
- Implement an all-electric utility rate
- Explore opportunities to increase energy resilience (e.g. energy storage, microgrids)
- Explore the impact of building decarbonization on City’s gas utility and develop mitigation strategies
- Continue to purchase carbon offsets to match natural gas emissions as a transitional measure. Evaluate potential local offset purchases

KEY PERFORMANCE INDICATORS

- GHG emissions from the building sector
- Heat Pump Water Heater plus new residential construction permits
- Number of all-Electric homes / customers on all-electric utility rate

Emissions from natural gas use represent about 32 percent of Palo Alto’s remaining carbon footprint if we exclude PaloAltoGreen Gas offsets. The decreasing emissions of California and Palo Alto’s energy supply due to renewable energy opens the opportunity to reduce natural gas use through electrification in addition to continued efficiency measures. Palo Alto will first seek to reduce natural gas usage through energy efficiency and conservation, followed by electrification of water heating, space heating, clothes drying and cooking where practical and cost effective.
MOBILITY

Road transportation represents the largest percentage of Palo Alto’s existing carbon footprint – and a congestion headache. GHG emissions are a function of two factors: Vehicle Miles Traveled (VMT), addressed here, and the carbon intensity (GHG/VMT), addressed in the next section. Reducing GHG/VMT is largely driven by Federal Standards, state policy and vehicle offerings (including fuel efficiency and EVs). However, VMT and EV adoption can be influenced by local programs and policies.

GOALS

- Increase active transportation mode share to 25% for local work trips by 2030
- Increase availability of transit and shared mobility services by increasing to 75% the proportion of residents within a quarter-mile walkshed of frequent transit by 2030
- Implement Complete Streets and build out the Bicycle and Pedestrian Transportation Plan

KEY ACTIONS

- Fund the TMA with the goal of reducing SOV commute-trips downtown by 30%
- Make transit investments that significantly enhance coverage, service quality, frequency, speed and/or access
- Expand and improve bicycle and pedestrian facilities, connectivity, convenience, and/or safety in a manner that significantly increases the % of trips taken by walking or biking
- Adopt TDM Ordinance per Comp Plan Policy
- Increase the number of City Employees utilizing commute benefits
- Encourage the use of bike and/or scooter sharing, and the provision of required infrastructure throughout Palo Alto, especially at transit stations and stops, job centers, community centers, and other destinations
- Enhance traffic signals to improve traffic flow and reduce idling and associated GHG emissions
- Increase the number of bike facilities, including bike parking and signalized intersections with bicycle accommodations (e.g. bicycle signal heads, bicycle detection, colored bicycle lanes)

KEY PERFORMANCE INDICATORS

- Commute mode share for all modes
- Transit ridership and proportion of residents within a quarter-mile walkshed of frequent transit
- Commute Benefits participation by City Employees
- Miles of bikeways and number of enhanced intersections

The mobility marketplace is changing rapidly: Lyft and Uber are changing the landscape; Autonomous Vehicles are anticipated to increase in market share; and, land use and mobility interact in substantial and complex ways.
ELECTRIC VEHICLES

More than half of Palo Alto’s emissions come from transportation, making adoption of Electric Vehicles (EVs) a crucial component to reaching our carbon reduction goals. Compared to fossil fuel vehicles, EVs are cheaper to drive, have lower maintenance costs, and produce no emissions. Driving and charging an EV in Palo Alto especially makes sense given the City’s carbon neutral electricity supply and low electric retail rates.

GOALS

- Increase the number of EVs registered in Palo Alto, as a share of total vehicles registered, from 7% in 2018 to 50% by 2030
- Target to facilitate 50% of vehicles owned by low income households to be EVs by 2030
- Ensure there are adequate numbers and types of EV chargers in Palo Alto to support the growing number of EVs registered in and commuting to Palo Alto
- Expand the number of EVs in the City’s fleet as the EV fleet market evolves

KEY ACTIONS

- Ensure that at least 75% of the community is aware of the environmental and economic benefits of electric vehicles and the programs available to them
- By 2022 quantify the public and private EV charger network needed within the community to support 50% EV penetration in Palo Alto, and develop an implementation plan to establish that charging network
- Develop programs to assist and incentivize private EV charging installations in hard to reach locations such as multifamily properties, non-profits, and small commercial sites to ensure adequate and diverse EV charging infrastructure
- By 2022, develop a strategic plan to encourage charging of inbound EVs within Palo Alto
- Continue to electrify municipal fleet as opportunities arise, and by 2021 develop a comprehensive fleet electrification workplan and associated EV charging needs

KEY PERFORMANCE INDICATORS

- EVs registered in Palo Alto
- EVs registered in low income households in Palo Alto
- Percentage of EVs in City’s fleet and availability of municipal charging infrastructure
- Number and type of EV charging ports/infrastructure in Palo Alto
- Percentage reduction of transportation-related emissions due to EVs

Palo Alto has the highest adoption rate of Electric Vehicles (EVs) in the US, with 1 in 3 new vehicles registered as electric in 2017. Survey results show that 70% of Palo Alto residents are extremely interested in their next vehicle to be an EV if they knew EV charging would be readily available.
WATER

Water is a limited resource in California, and its availability will be further impacted by climate change and new environmental regulations. Both potable water supplies and hydroelectric needs could be challenged by long-term shifts in California’s precipitation regime. With shifting climate patterns, and significant long-term water supply uncertainty, it would be prudent to reduce water consumption while exploring ways to capture and store water, as well as to increase the availability and use of recycled water.

GOALS

- Reduce per capita water use compared to 2019⁹
- Increase the percentage of recycled water used (volume of recycled water/recycled water filter capacity) by 10% in 2022 compared to 2019
- Reduce the total dissolved solids by 50% compared to 2019 base year
- Manage stormwater to slow the flow to receiving waters and improve water quality to protect the SF Bay, while also treating it as a beneficial resource for alternative uses¹⁰

KEY ACTIONS

- Maximize cost-effective water conservation & efficiency
- Expand the use of effluent from the RWQCP through Non-Potable Reuse, Indirect Potable Reuse, or Direct Potable Reuse
- Establish quantifiable baseline and targets for implementation of green stormwater infrastructure on private property, municipal facilities and public rights-of-way by 2024
- Design and build a salt removal facility for the PA Wastewater Treatment Plant
- Develop a "One Water" Portfolio for Palo Alto

KEY PERFORMANCE INDICATORS

- Per capita water use (Gallons Per Capita Per Day)
- Percentage recycled water use
- Total dissolved solids in recycled water

Water reuse will increase in importance as California’s population expands and climate change and new environmental regulations pose uncertainties in imported water supply availability. Whether a water supply shortage exists or not, “Making Water Conservation a California Way of Life” is a concept embraced by the City.

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⁹ Water use goals will be updated to indoor residential use targets and irrigation use targets after Making Conservation a California Way of Life regulations are established

¹⁰ Green Stormwater Infrastructure (GSI) goals will be updated once additional quantification work is conducted over the next three years to provide accurate, realistic and publicly vetted metrics.
Input on the 2020 Sustainability and Climate Action Plan Potential Goals and Key Actions, and Community Engagement Workshop #1

- Compilation of All Input Provided on the 2018 – 2020 Sustainability Implementation Plan Areas (Energy, Mobility, Electric Vehicles, and Water) between 1/22/2020 to 4/30/2020

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Document containing the entire community feedback is [linked here](#).
Energy

Potential Goals

- Reduce greenhouse gas emissions from the direct use of natural gas in Palo Alto’s building sector by 40% below 1990 levels by 2030
- Increase Heat Pump Water Heater adoption to 25% by 2030
- Increase all-Electric homes to 20% of all residential single-family homes by 2030

Energy: Feedback on Potential Goals

- Midtown Resident
  o How can I be polite about these minimalist “energy goals”, which are pledged to be achieved in 10 years time. Instead of these tiny “goals”, how about getting to 95% electric by 2025?

- Resident
  o As a proud Palo Alto resident, sustainability advocate, founder and CEO of an industry non-profit focused on the sustainable development deployment and utilization of renewable natural gas (RNG or biogas-derived Biomethane), I would like to suggest an amendment to bullet #1 of the draft 2020 Sustainability and Climate Action Plan Potential Areas and Priorities regarding building efficiency & electrification as follows (proposed language added in **bold**):

  Building efficiency and electrification are key to achieving Palo Alto’s greenhouse gas reduction goals. **Decarbonizing existing buildings, including by replacing fossil gas with renewable gas, and Overcoming building electrification barriers at both the local and regional level will be necessary to increase market adoption in both existing buildings and new construction.**

- Greenmeadow Resident
  o I am surprised that the goal for all-electric (20%) is almost as large as that for heat-pump water heaters (25%). I would think the latter is much cheaper, particularly for retrofits, and so much more achievable. I would raise our goal for water heating and consider lowering it for space heating (though that is a no-brainer for new construction). A concern I have is that we seem to be prioritizing the most expensive options, and options that do not apply to renters or people in larger buildings. I also think that residents are increasingly concerned with the reliability of our electricity, and that will make conservation and efficiency more appealing than electrification. So how can we measure and reward that?

- Resident
  o I am not sure if the HPWH and All electric home goals are sufficient to meet the 40% reduction goals. The bottom line - in order to meet 80% by 2030, we need to fuel switch most water heaters and a majority of space heating systems. For water heaters, this would be approx. 2300 water heaters per year. This requires a strong program that provides not only easy permitting, but also rebates and financing options and mandated fuel switching.

- Resident
  o These are very ambitious goals. I am all for them, but concerned they are not realistic. What is the projected GHG effect of the reduced natural gas use in the soon-to-be adopted reach code? I think commercial and multi-family properties should be included
too, not just single-family homes. I don’t think these adoption rates are feasible without financially disincentivizing natural gas use in already-existing building stock. How can that be done in a legal and just way? We need some serious rebates and elevated rates for not jumping for it, and a full-service effort to make the switch as painless as possible. There aren’t currently enough skilled HPWH installation contractors to make this level of shift feasible.

- Resident
  - I am opposed to the City’s direction to eliminate use of natural gas in home for heating, cooking and hot water. The other options are not cost effective - therefore I oppose all the goals that aim to do this. This is an elitist perspective that has the result of forcing out retired and middle-income people. There is no cost-effective option for hot water heating compared to natural gas.

- Resident
  - How are these percentages going to be based on? Per household, or per capita?

- Resident
  - While ambitious, these goals are doable and essential.

❖ Reduce greenhouse gas emissions from the direct use of natural gas in Palo Alto’s building sector by 40% below 1990 levels by 2030

- Barron Park Resident
  - Palo Alto should be reducing GHG emissions from natural gas in buildings by about 70%, not 40% as the 70% reduction is what is required to meet the 80 by 30 goal. Not sure why the city is aiming low on this.

- Resident
  - I would like the 40% decrease sooner. The HPWH adoption should be part of an ongoing exchange program as any new homeowner replaces a water heater. This should be a highly subsidized program with communications at all retail locations as well as to contractors.

- Professorville Resident
  - How does a 40% reduction equal a 80% reduction?

- Resident
  - As you may know, RNG is produced from methane (a short-lived climate pollutant that is many times more potent than carbon as a greenhouse gas) that has been captured (avoided emissions) from organic waste streams, including at municipal solid waste landfills, from diverted food waste, wastewater treatment facilities, livestock and agricultural operations. Once captured it is converted to an ultra-low carbon source of fuel or power. RNG is raw biogas that has been conditioned such that it is interchangeable with and serves as a direct replacement for natural gas, and can be injected into and decarbonize existing pipeline distribution system, effectively decarbonizing the gas delivered and used to heat and power existing residential, commercial and industrial facilities (where electrification is too difficult or otherwise unfeasible). This would also correlate with and support the first goal listed in the draft 2020 Sustainability and Climate Action Plan Goals document to: Reduce greenhouse gas emissions from the direct use of natural gas in Palo Alto’s building sector by 40% below 1990 levels by 2030.

  - A variety of studies have found that RNG will be a necessary component of any strategy for reaching California’s long-term decarbonization goals. For example, work done by
Energy and Environmental Economics (E3) found that RNG could contribute to GHG reductions in all sectors, and that use of RNG in the industrial sector would be especially helpful due to the limited alternative abatement options available in that sector. The Energy Futures Initiative (EFI) also found that RNG is likely to be an essential contributor to California’s decarbonization effort, because it is a cost-effective solution available at scale in the near-term. E3 has produced a series of work that shows the complementary nature of RNG and other low-carbon technologies. This series includes: The 2017 Scoping Plan Pathways Analysis, Deep Decarbonization in a High Renewables Future: Updated Results from the California PATHWAYS Model (June 2018) and Residential Building Electrification in California (April 2019) and Natural Gas Distribution in California’s Low-Carbon Future: Technology Options, Customer Costs and Public Health Benefits, (Aas et al. 2019). E3 has consistently included statements such as, “industrial sector emissions are expected to be among the more difficult, and more expensive to mitigate.” (See page 30 of Deep Decarbonization.) EFI, May 2019, Optionality, Flexibility, and Innovation, Pathways for Deep Decarbonization in California, https://static1.squarespace.com/static/58ec123cb3db2bd94e057628/t/5ced6fc515fcc0b190b60c2d/1559064542876/EFI_CA_Decarbonization_Full.pdf. Please let me know if you have any questions and or if our organization can serve as a resource as you finalize the draft through the remainder of the process.

Increase Heat Pump Water Heater adoption to 25% by 2030

- Barron Park Resident
  - For the Heat Pump Water Heater (HPWH) adoption rate, this should be 70% not only 25%. This means that all water heaters on failure, must be required to be replaced with a HPWH when this can be done. With some homes, this will not be possible due to space requirements. Just to be clear, this means that about 2300 HPWH needs to be installed each year if Palo Alto really wants to meet the 80 by 30 goal. The good news is that water heaters have about a 10-year life span so that no water heaters will have to be replaced prematurely if this program can be put in place soon. Since space heating is the next largest natural gas use in the home, there should be a goal of replacing 70% of natural gas space heaters by 2030. There will need to be a good program for this as the natural life time of a space heater is more like 20 years so some will have to be replaced before the end of life to meet the 80 by 30 goal.

- Resident
  - The HPWH goal is good, but not all homes can use HPWH and Heat Pump heaters (Eichlers, those without garages, radiant floor heated places, etc.). It’s kind of in the goal for 20% of all homes to be all-electric, but would be more actionable if it were stated separately as a goal.

- Resident
  - Heat Pump Water Heater conversion is an important component of reducing natural gas usage, but based on personal experience, it’s not an easy sell and it’s not so easy to get done. My family converted to a heat pump water heater in 2018 and we are happy with our decision to do so. Try to be realistic about what can actually be accomplished here by tracking year-to-year progress against annual requirements to meet this lofty goal. Taking into consideration how many conversions have been made over the past 3 years and projected improvements in technology, is the 25% adoption rate goal by 2030.
feasible or pie in the sky? Connecting listed key actions to meeting this goal seems vague. Among other things, an infrastructure of reliable and available contractors for this conversion work needs to be developed. Additional incentivization will likely be required for any significant progress.

- Resident
  - Do you mean 25% of new water heaters are heat pump or ALL are by 2030? Need clarification.
- Resident
  - Clarify if the water heater goal is for residential or also commercial building?
- Professorville Resident
  - How does an adoption of 25% HPWH equal a 90% reduction by 2030?

Increase all-Electric homes to 20% of all residential single-family homes by 2030

- Resident
  - Will 20% of homes being all electric get us to our 80/30 goal? It doesn’t seem like this will make enough of a difference.
- Professorville Resident
  - How does increase 20% of home electrification get us to 80%?

**Energy: Suggestions for New Goals**

- Resident
  - Please add: Increase use of Renewable Natural Gas (Biomethane) to replace conventional Natural Gas usage (20% by 2030)
- Greenmeadow Resident
  - I am surprised there is no goal around efficiency and/or conservation, except as implied by the 40% reduction goal. I would have a goal around that, since it is something that everyone can do at little cost and little overhead.
- Resident
  - We need to have a goal around retrofit electrification, not just new building electrification.

**Energy: Potential Key Actions to explore further**

(These potential Key Actions do not represent all the work that the City is doing or will be doing related to climate change and sustainability. These are the actions we will be prioritizing. They are numbered to make it easier to refer to specific Actions. They are NOT numbered based on priority.)

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<th># of Votes</th>
<th>Potential Key Actions</th>
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<td>1. Meet or exceed City Council-adopted energy efficiency targets</td>
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<td>8</td>
<td>6. Explore opportunities to increase energy resilience (e.g. energy storage, microgrids)</td>
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<td>7. Explore the impact of building decarbonization on City’s gas utility and develop mitigation strategies</td>
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<td>8. Continue to purchase carbon offsets to match natural gas emissions as a transitional measure. Evaluate potential local offset purchases</td>
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**Energy: Feedback on Potential Key Actions**

- **Greenmeadow Resident**
  - I think we should focus exclusively on space and water heating and ignore appliances, which have relatively little impact. An easy action here is detecting and repairing leaks (pipelines, gas meters), but I think we are already working on that.

- **Resident**
  - How do the key actions match or coordinate with Cal state actions/goals?

- **Palo Alto Non-Profit**
  - Question: Given that furnaces last 30 years, and an estimated 800 gas furnaces are replaced in Palo Alto every year (currently almost entirely with gas furnaces), what is Palo Alto’s plan to convert 40% of furnaces to heat pumps by 2030?

- **Resident**
  - If you want widespread adoption of heat pumps and all-electric homes, you need to find ways to make it easier for homes to increase their electrical capacity. Many homes do not have panels that can accommodate the increased need for electricity.

- **Resident**
  - I am very much opposed to the Action Items that are aimed to phase out natural gas appliances and natural gas usage in homes.

- **Professorville Resident**
  - Seems that we’ll need to mandate some of these measures in order to meet our goal

1. Meet or exceed City Council-adopted energy efficiency targets

2. Explore electrification of city-owned facilities with the goal of phasing out fossil fuel use in existing municipal buildings

- **Barron Park Resident**
  - **Explore** Electrification of city-owned facilities with the goal of phasing out fossil fuel use in existing municipal buildings

- **Palo Alto Non-Profit**
  - Change "Explore electrification of city-owned facilities" to "Electrify City-owned facilities"
    - Batteries and Geothermal energy should be added as resilience strategies that also allow for time coincident delivery of clean renewables.
    - “Home to Grid” is also an essential resilience strategy: The home should be wired so that the EV can Run the house (Japanese EVs are already designed this way).
- Resident
  o Amend #2 to also explore use of renewable natural gas (Biomethane) in concerting with electrification efforts, with goal of phasing out fossil fuel use in existing municipal buildings
- Resident
  o Convert into “Make a plan and implement it to electrify city facilities.”
- Resident
  o Electrifying municipal buildings is a good start. It will give some staff firsthand experience of the hurdles to do so.
- Resident
  o We should be past exploration and start electrification in city buildings.

3. Phase out fossil fuel use in new and existing buildings through a combination of programs & mandates (includes partnerships and collaborations to support market transformation)

- Palo Alto Non-Profit
  o Add “Ensure that installation of rooftop solar panels does not result in loss of existing trees.” Trees are key to addressing climate change by both sequestering carbon and cooling homes through shading and evapotranspiration. A single tree can store hundreds of pounds of carbon over its lifetime. Three trees properly placed around a house can save up to 30% of energy use. Large trees—particularly those designated by the city as protected—should not be lost to solar panel installations.
- Palo Alto Non-Profit
  o This item needs more specificity. Perhaps the components of this action should be separated into separate actions, with target dates set for the establishment of specific programs and mandates.
- Barron Park Resident
  o Must include on-bill financing for electrification.
- Resident
  o The most important Potential Key Action is the phase out of fossil fuel use in existing buildings through programs AND mandates.
- Resident
  o I disagree with moving away from natural gas for heating and cooking. It’s too expensive for limited benefits
- Resident
  o Phase out should begin asap.
- Professorville Resident
  o Yes, need to phase out ALL fossil fuels in existing buildings.
  o Develop decarbonization's impact on under-served community too. Don't make them pay extra.
- Evergreen Park Resident
  o 3 IS ABSOLUTELY THE MOST IMPORTANT. It would be accomplished by first doing 2, 4, 5 & 7.
- Resident
  o Incentivize residents to retrofit from nat gas to electric, by giving them very concrete steps and make it so they don't lose money when doing so. Do focus groups to see what specifics would appeal to residents the best during the planning process.
4. Increase awareness and adoption of efficient electric alternatives to gas appliances and all-electric buildings through community engagement

- Resident
  o Take advantage of existing community partners such as non-profits

- Resident
  o In addition to awareness, we should be working on funding support.

- Resident
  o I don't know how this will be possible without #5 and #3.

5. Implement an all-electric utility rate

- Resident
  o I’m very enthusiastic about this item.

- Palo Alto Non-Profit
  o We strongly support an all-electric utility rate

- Resident
  o Might need to increase natural gas usage or cut fees for all-electric customers

- Resident
  o Item 5 is redundant and regressive. It would disproportionately hurt those living in older dual fuel homes and require seniors and lower income residents to pay more to keep the existing infrastructure properly maintained. It is a misguided policy.

6. Explore opportunities to increase energy resilience (e.g. energy storage, microgrids)

- Barron Park Resident
  o Good for resiliency but does not really reduce GHGs

- Resident
  o I’m very enthusiastic about this item. If you can tie electrification to resiliency/disaster preparedness, then it gives you double reasons to invest.

- Palo Alto Non-Profit
  o Include local solar farms in these opportunities. Developing methods to allow for both solar panels and trees can be achieved by batching solar panels in local solar farms in appropriate places. Local solar farms, such as those recently approved by the California Energy Commission for the Sacramento Municipal Utility District, provide an alternative to installation of rooftop solar panels that conflict with trees and parking lot solar panels where there is or could be tree canopy cover. See Natural Environment, Key Action #7 below.

- Resident
  o I think more solar and local storage is the most important action. The electric grid needs to be more reliable and reduce our reliance on PG&E. Palo Alto should be self-sufficient for energy.

- Resident
  o I strongly advocate for transitioning to more distributed energy systems (microgrids) that support the integration of renewable energy technologies as per the recommendations of researchers. This will result in reduction of greenhouse gas emissions and improve the resiliency of our power system.
- Professorville Resident
  o Love microgrids. Good for resiliency too!
- Resident
  o Do feasibility assessments for microgrids in PA. Check with the Clean Coalition about how to do that.

7. Explore the impact of building decarbonization on City’s gas utility and develop mitigation strategies

- Barron Park Resident
  o Explore the impact of building decarbonization on City’s gas utility and develop mitigation strategies for the phasing out of the city gas system to the home.
- Resident
  o Consider (during exploration of impact on City’s gas utility) the benefits of replacing conventional natural gas with renewable natural gas as a renewable source of baseload power

8. Continue to purchase carbon offsets to match natural gas emissions as a transitional measure. Evaluate potential local offset purchases

- Palo Alto Non-Profit
  o Reword: “Shift the primary strategy to reduce NG emissions from carbon offsets to real-world infrastructure emission reductions within the City.”
- Barron Park Resident
  o Questionable since this does not really reduce Palo Alto’s GHG but is costly. Money should be spent on electrification instead, especially since the offsets really only cover half of the real GHG emission from natural gas.
- Midtown Resident
  o How about we stop creating poison-pollution instead?
- Resident
  o I’m very unenthusiastic about this item. If we’re going to use carbon offsets – which are really a transition strategy — we should pay a more realistic rate per metric ton of CO2 to represent the true cost of natural gas. Economists currently say that $50 per ton is a true cost, which will cause our gas rates to increase and make electrification more reasonable.
- Resident
  o Continue efforts to meet emission reduction goals without relying on the “accounting crutch” of natural gas offsets.
- Resident
  o I don’t think additional time should be spent pursuing natural gas offsets. They make the City seem artificially impressive when we really need to reduce our natural gas consumption. I’m not against offsets but they make the City look like it's reduced its GHG more than it actually has.
- Resident
  o Don’t treat offsets as any kind of completion. Inherently, that's dependent on city finances (esp. post-COVID) and doesn't address structural issues
- Resident
I would like to see all gas leakage included in calculating GHG emissions from gas and use a 20-year 86X scale for CH4.

- **Professorville Resident**
  - Local offsets would be great, but we should NOT be counting that towards our GHG reduction.

- **Resident**
  - Electrification Targets. Set a timeline to eliminate the “bridge” use of natural gas offsets as was done previously with the transition from PA Green to carbon-neutral electricity.

**Energy: Suggestions for New Key Actions**

- **Greenmeadow Resident**
  - I would like to see an action or two around conservation (e.g., lowering the thermostat), and other universal solutions with low upfront cost.

- **Resident**
  - I think we need an action (or add to an existing action) about really understanding the barriers to electrification (building department codes, lack of affordable contractors willing to work in Palo Alto, differences between CPAU standards and PG&E standards, Eichlers and other houses that may not work with heat pump technologies etc.) to determine the best programs and incentives to drive electrification. This of course is something we can help with via the Cool Block program.

- **Palo Alto Non-Profit**
  - Create new Potential Key Action #9: New homes should be wired so that the EV can run the house, known as “home to grid”. (Japanese EVs are already designed this way)

- **Palo Verde Resident**
  - Add an action item to evaluate whether or not key actions are proving useful or impossible to meet. Maybe the need for carbon offsets means there is a problem with the goal that the carbon offsets are meant to meet.

- **Professorville Resident**
  - What about more effort on distributed PV?

**Energy: General Feedback**

- **Employee in Palo Alto**
  - I would like to be in the conversation of how Palo Alto can lower its carbon footprint in our buildings. I specifically would like to address changing some of our requirements around using concrete.

- **Old Palo Alto Resident**
  - Focus electrification incentives and mandates on high consumption facilities. As a personal example, installing an electric stove and water heater at my house might well be counter-productive: My 2019 yearly gas consumption was 22 therms, maybe equivalent to 15 gallons of gasoline. The City has the data to figure out a program that will put the resources where they will have most effect. If the City is a major gas consumer, it should lead the community in electrifying its hungriest facilities.

- **Midtown Resident**
  - The #1 thing Palo Alto can do to mitigate building-related climate change is “negawatts” – dramatically increasing building energy efficiency. That will also stretch resources in a
supply disruption or emergency. Local renewable energy production is the #2 priority for reducing both building and transportation GHG emissions. Could Palo Alto become a “laboratory” for local climate change innovation by harnessing local renewable distributed energy resources (DER), such as PV electricity and EV storage? These are the difficult challenges we need to undertake. It is essential that we address electricity supply resilience in our plan to reduce GHG emissions – especially if we are contemplating a shift from natural gas to all electric buildings, as the SCAP proposes: With a single grid interconnect – through PG&E – Palo Alto is deeply vulnerable to disruption. A partial solution would be to add a second interconnect, so that we are not vulnerable to a single point failure. And CPAU dispatch of enhanced local resources could provide grid support in an emergency. Perhaps, too, there are opportunities to partner with Stanford, with its innovative energy system. Until we address electricity supply resilience, it would be highly risky to mandate all-electric buildings as our approach to in-building GHG emission reduction, as SCAP proposes. As a Palo Alto emergency services volunteer (BPC and CERT), I have learned that in an earthquake or other emergency, even minimal local energy production could stabilize our neighborhoods, enabling residents to shelter in place, and not evacuate. I propose the goal that 1 house in 10 (proportionately for other buildings) have the energy to power a refrigerator, water pump, and emergency communications. Let’s also explore partnering with Tesla to pilot approaches for using the considerable amount of electricity stored in EVs during supply disruptions or natural emergencies.

- Resident
  - I don’t see any statement that the City will stop hooking up natural gas on new construction. That should absolutely happen.

- Resident
  - Electrify everything is a blunt instrument that does not take into account that our electricity overnight comes from gas generation.
  - EE is helpful independent of fuel switching. It should be noted that if the adoption of ZEVs gets to the levels desired, more infrastructure and electricity resources will be needed, especially overnight. Most actions on this list make a fundamental assumption that electricity is always cleaner than natural gas used on site when that is not always the case. Popular slogans and good intentions are obscuring facts here. I urge the Sustainability Planning team to learn about transparent hourly carbon accounting being proposed by CPAU staff, the actual sources of electricity, and the organizing principle of “beneficial electrification,” rather than embracing a single “electrify everything” perspective. Simple and straightforward explanations of the distinctions between achievements like 100% Carbon Neutrality and the reality of electricity delivery can be found at: https://www.tothept.com/understand-distinctions/ and https://www.tothept.com/adopthourly-accounting/
  - Beneficial Electrification1 (BE) recommends the shift from fossil fuel-based energy sources to electricity for end-uses where doing so achieves at least one of the following goals while minimizing the impact on others:
    - Save consumers money over time;
    - Benefit the environment and reduce greenhouse gas emissions;
    - Improve product quality or consumer quality of life;
    - Foster a more robust and resilient grid;
    - Maintain the social compact of universal service for disadvantaged communities (added for the SECC paper)
Designing beneficial electrification policies and roadmaps provide valuable opportunities to identify solutions that work well for consumers, local communities and the environment. This framework allows consideration of integrating new low carbon and renewable fuels for sectors that are not easy to electrify or where legacy investments in assets and infrastructure will require longer time horizons to transition. We also need to distinguish recommendations and policies for new construction versus retrofitting legacy housing which is desirable to maintain for a host of reasons: environmental impact, reduced waste, and economic diversity of the population to name just a few. Palo Alto has extensive natural gas infrastructure and operational costs are socialized across the city. Who pays the fixed costs if we incentivize a lower all-electric rate? Well-intentioned electrification policies such as natural gas bans of direct use in new construction will leave many seniors and lower income residents and their landlords responsible for outstanding costs of maintaining legacy natural gas delivery systems. Do we want to spend the money and endure the disruption to rip out infrastructure when we could gradually replace natural gas and use waste streams that will continue to be produced in the City. We would truly be innovative leaders if we support biogas, anaerobic digestion, or pyrolysis which have other environmental benefits. I would urge the City Council to maintain the Measure E site as a possible location. Varied attitudes exist within the community and trade-offs should be considered. Some people feel natural gas is more reliable than electricity. Most neighborhoods have routine electrical outages and occasional black outs but have not experienced natural gas shortages. Because most consumers do not understand how electricity infrastructure is paid for, they may not fully understand what it means to eliminate an option. With over 98 million smart meters installed in the U.S. reaching 70% of all Americans, Palo Alto is one of only a few cities in California to not have Advanced Meter Infrastructure (AMI) deployed. A key benefit of this technology is that each household can make choices that suit their situation and priorities, including different rates. AMI for gas, water, and electricity is planned for the future in Palo Alto but is only in the early stages.

1 https://beneficialelectrification.com/
2 Southern California Edison, PATHWAY 2045, Update to the Clean Power and Electrification Pathway, November 2019

Enable consumer choice and avoid coercion. A decade of research by the Smart Energy Consumer Collaborative and other organizations, as well as the Voices of Experience series published by the U.S. Department of Energy, have definitively confirmed:

- Consumers like choices (payment plans, pricing, technology) that align with their priorities and attitudes and dislike having options taken away or solutions imposed;
- Overpromising—particularly when it comes to cost savings—degrades customer trust, when those savings are modest or don’t materialize immediately or in a timely fashion;
- The potential of technology transformations can only be realized if the major elements are implemented properly, i.e. AMI infrastructure alone can’t deliver operational efficiencies and improved service for customers. Home automation requires price triggers, detailed usage data, and analytics to deliver value;
- Industry doesn’t always anticipate which advances consumers will perceive as valuable. (i.e. outage detection and restoration management enabled by AMI was touted as a utility benefit but turned out to be extremely well-received by the public.)

Another lesson learned from grid modernization efforts is that people tend to project their own perspective and assume everyone feels the same way they do. When cost
savings are perceived as the primary driver for all, marketing materials tend to overwhelming emphasize that point, even if bill savings are elusive or minimal.

- Passionate advocates who believe climate change must be tackled quickly at any cost may be less receptive to hearing that transitioning generation resources will take time or that innovations by natural gas suppliers and equipment manufacturers may, in some cases, actually reduce GHG emissions sooner. Consumers will need to be introduced to the alternatives, and they will need to be the ones who make their minds up on which they prefer.

- NO Mandates. Adopt accurate hourly carbon accounting so we know what the real impact is. Most people are misinformed because of incomplete info provided by the city. 100% Carbon Neutral does not mean 100% renewables or carbon free and the City leaders use the terms interchangeably and incorrectly.

- Palo Alto needs to have true accounting for natural gas use. The global warming potential for natural gas should be 86 times that of CO2 (not 20) and natural gas leakage must also be accounted for including the entire natural gas supply chain and not just within the city boundaries.

- On bill financing for HPWH and space heating of homes will be critical in getting electrification of existing homes to happen. This must be implemented to help leverage community funding of electrification as the city will not have enough money, rebates or otherwise to make this happen at scale.

- There will also have to be streamlined permitting for electrification to happen at scale. This is an on-going problem such that even now some contractors will not work in Palo Alto any more due to the over burdensome permitting process.

- Along with an all-electric rate for homes, the city should also consider changing the solar net meter rates to the old net meter program (more favorable) for homes that go all electric as an incentive to do so.

- The city should also look at the possibility of electrifying all homes on a street or cul-de-sac when considering an update of the natural gas line supplying the street or cul-de-sac. Use the money that would have gone to the gas line update, to instead, electrify the homes and turn off the gas all together.

- We support the potential goals/actions provided in the energy section. Approving the building reach code ordinance was a crucial first step, and we would like to see greater specificity in terms of actions and strategies to reach (and enforce) these goals. We believe that Palo Alto has the ability and resources to push for more ambitious and GND-aligning reduction plans such as 100% renewable energy by 2030. In addition, overriding the subgoal of 40% natural gas reductions would result in a decrease in the need to purchase offsets, freeing these financial resources for other investments.

- Any kind of renovation based on voluntary pickup is always going to be slow, especially given the high costs of any building operations and the inertia of "my house is fine." There perhaps needs to be strong incentives/disincentives, perhaps a raising of the natural gas utility fees to show the environment cost of usage (based on the Reach Code discussions)

- Energy resilience is going to need to be done in a geographically-equitable manner, otherwise we get into the standard neighborhood vs neighborhood discussions (as seen with the Caltrain right-of-ways, 5G towers, underground powerlines, etc.)
At some point, awareness operations might fall into the pitfall of "preaching to the choir," in which case we can't be timid in going forward in methods that might draw latent opposition.

- Professorville Resident

My biggest complaint in going all electric is in California, ½ of the electricity generated comes from natural gas. That means that ½ of Palo Alto’s electricity comes from natural gas. When electricity is generated at Palo Alto’s energy source it is not marked “this is for Palo Alto”. Palo Alto just pays the bill each month for the amount it uses. CBS Television frequently reviews books on-air and at the end of the review, they mention that the book was published by one of its companies. It’s disclaimer as required by the federal government. To me I think it would be appropriate that you also mention that Palo Alto has it’s own power utility. Palo Alto makes good income for selling electricity. I have no problem with that, I’ve been living here for close to 50 years and love it. When I designed and built my home more than 35 years ago, the theme or concept was energy conservation (Gerry Brown was the governor at the time). I wanted solar water heating and passive energy storage with several large skylights to bring in the sun. Many walls 1½” thick plaster and some floor areas have 2” think concrete with tile.

One more thing regarding heat pump heating, my next door neighbor recently installed a heat pump, but mostly for the AC. I congratulated him as I thought it was a good move. This house was built about 15 years ago with a mostly electric theme. For room heating it had steel plates sticking out from the walls. I remember cringing when I saw this. Last Saturday evening, we started to hear a fan in the background as we were watching TV. I went through the house to see if any fans were left-on. Nothing! The next morning I went outside and then heard the fan noise was coming form the heat pump on the side of the house. The noise is not that much of a problem now, but in the summer when we have windows open, I think it will. BTW, we have an induction cooktop and electric oven. This is just fine.

The problem I have with trying to get everyone or mostly to go all-electric is that using electricity for heating purposes would actually increase and not decrease the use of natural gas in the state. Remember that in California, 50% of electricity is generated by the use of natural gas. That process in the power plant is only 40% efficient. Where as when used in the home or business for heating water or space-heating, natural gas is 90 to 95% efficient. Then there are some cooks that swear by the use of gas for their stoves and cooktops, they will have no other, I’m not one of them. In the use of heat-pump water heaters, remember that the heat pump can only supply a small fraction of the energy required when there is high demand for hot water. The rest comes from electric coils in the tank. They are very efficient, but costly.

Do you have data on the comparison of natural gas heating vs, heat pump costs?

Some people like to have a nice flickering fireplace or gas stove to view or for heating. I think this is very important.

I won't be making any changes. 50% of Californian's electricity comes from natural gas. Heat pump water heaters supply only a small part of heating capability.

Promote the installation of solar water heating systems. We have one in our house and May to October we use no natural gas unless we a couple days of cloudy weather.

In addition, allow the design of water flowing to solar tank that is actually used, i.e., not requiring heat exchangers. Our water is very pure and no problem of calcium build up.

Build a list of energy storage systems and cost.

- Community Center Resident
I’d like to see the city take on the following:

- Electrification of homes/businesses be it new construction or replacement of appliances in existing homes or businesses.
- Increase energy efficiency wherever possible. Discourage the unnecessary, frivolous use of exterior and interior illumination.

- Community Center Resident
  - I would like to see the city take on the following:
    - Electrification of our homes
    - Increase energy efficiency wherever possible

- Crescent Park Resident
  - Please continue to emphasize electrification measures

- Midtown Resident
  - The City’s leadership in switching to renewable electricity is inspiring. Now we need to keep going and eliminate the GHGs from burning fossil gas, one of the largest sources of Palo Alto’s emissions. The general comments above about creating measurable goals, and reporting them also apply here. While we should increase the incentives for individual action to retrofit homes, offices and other buildings, we must also undertake a twenty-year plan for the phase out of all natural gas use and the elimination of the old and likely leaking gas pipes that are threaded under our streets.
  - Here are some further ideas for reducing energy-related GHGs:
    - 1) The City should stop purchasing offsets for gas and instead, put the funds used for that into an aggressive retrofit program to switch out gas-burning water- and space heaters, stoves, clothes dryers, and industrial scale equipment.
    - 2) Standardize PA’s building codes to match those in PG&E’s area. This will reduce retrofit costs for residents who choose to work with a personal contractor.
    - 3) Streamline the permitting process and lower or eliminate fees for retrofit permits.
    - 4) Set up a group buy discount for heat pump water heaters, space heaters, stove tops and dryers. The SunShares program can be a good model for how to do this.
    - 5) Make a plan to shut-off of gas lines, starting with older gas pipes that would need to be repaired/replaced in the near future. We should replace one-twentieth of the gas-powered appliances every year for the next twenty years, starting in January 2021. That would double (to 50%) the proposed 25% reduction (p.14) in gas-powered water heaters by 2030 — and likewise increase the percentage of all-electric homes to 50% by 2030. We need to think "scale" and "urgent."
    - 6) Train CPAU staff to assist residents in planning their retrofits, including measurement of electrical panel capacity and plans for upgrading such panels if needed to accommodate a larger electric load, including not only appliances, but also potential future EV purchases.
    - 7) Train CPAU staff also to install retrofits, on a schedule that matches the planned gas-line shut-offs. This could be part of CPAU’s regular customer service workload. (And yes, it will cost some money -- see 1) above.)
    - 8) Provide on-bill financing, so that the cost of retrofits will become part of the utility bill that is transferable to whoever lives or works in a building (and thus
pays the bill). This will make it easier for older residents to see that the cost of a retrofit can be spread out over time, even if they sell the house. The long-term loans that are inherent in on-bill financing are crucial if we are going to hit our S/CAP goal. CPAU might be able to tap into municipal bonds or utility bond financing to acquire the capital needed to provide such on-bill financing.

- University South Residents
  o The CFPA document clearly shows that we have not made progress in reducing natural gas use. They point out that this fact is obscured by including carbon offsets in the accounting. We urge the end of this misleading practice. Furthermore, we urge you to adopt the solution proposed in CPFA's BE Smart white paper, including on-bill financing to make it practical for homeowners to replace their hot water heaters and other gas systems with electric ones.

- Palo Alto Non-Profit
  o The city should Determine the date(s) at which the city will turn off the residential commercial and industrial natural gas distribution systems, publicize these date(s) now and simultaneously offer electrification solutions;
  o Single Family Dwelling Residential Electrification:
    ▪ For the past 8 years, and until recently, we have lived the “all-electric life” in PGH with an induction stove, heat pump water/ space heater, electric dryer, photovoltaic panels, driving various electric vehicles and more. In comparing PGH to an equivalent natural gas/ electric (dual fueled) home, it is our evaluation that the all-electric life is:
      • a) Safer for us and our children (both for indoor air quality and in reducing the potential for burns);
      • b) Less expensive than the dual-fueled home (both first and ongoing costs);
      • c) More resilient during blackouts and earthquakes
      • d) More convenient and pleasant to use; and
      • e) Has a much lower carbon and energy footprint than the equivalent dual-fueled home.

- Resident
  o Adopt an ordinance prohibiting construction by neighboring buildings that decreases solar access to solar panels that existed prior to the construction to protect the investment in solar panels. This includes photovoltaic panels and solar hot water systems.
  o Regarding the adoption of all-electric homes by the City Council, note the staff’s rushed creation of a pre-application process to allow designers to be exempt from this new requirement. Such a pre-application process was not, to my knowledge, authorized by the City Council in its ordinance. I can understand an application submission prior to the effective date of an ordinance, but I have trouble understanding a pre-application process to get around an ordinance.

- Mountain View Resident, Palo Alto Small Business Owner
  o Seems like it is better to use all sorts of energy as opposed to just electric. That way if there is an issue with the electric grid we have another source of energy.

- Downtown North Resident
Will these goals get us to the target. How many homes per year will need to have HPWH installed and how many homes per year need to be electrified?

Make the permitting process for electrification more simple and economical.

- Resident
  - The switch to a heat pump water heater requires two trades be involved: plumbing and electrical. It will be important to train the trades to make this transition

- Resident
  - With all electric efforts what happens to the cost and maintenance of the existing natural gas lines?
  - Prioritize micro grids

- Resident
  - Palo Alto should strive to reduce ALL Energy use, not only energy from fossil fuels.
  - Implement a dark-sky ordinance
  - Disallow all-glass buildings

- Resident
  - Surprised there's zero focus on domestic solar in these goals.
  - Also, of course, ways to make electrical energy storage more affordable.
  - I would be interested in participating in any "model home" initiatives for retrofitting less modern homes.

- Evergreen Park Resident
  - 32% CO2 due to CH4. What does "practical & cost effective" mean? Would be helpful to have links to all the relevant docs from Part 1
  - What is the breakdown of CH4 use? Is it Single family homes or manufacturing or multifamily dwellings?

- Resident
  - Palo Alto laws forbidding natural gas leaf blowers are a joke. Crack down on that. Don't expect concerned residents to be the policemen on this, informing on their neighbors. Rather, have the police do occasional and unannounced visits to neighborhoods, citing residents who are having leaf blowing on their property. Just like police set up DUI checkpoints or speeder checkpoints, they could do this too.

**Mobility**

**Potential Goals**

- Increase active transportation mode share to 25% for local work trips by 2030
- Increase availability of transit and shared mobility services by increasing to 75% the proportion of residents within a quarter-mile walkshed of frequent transit by 2030
- Implement Complete Streets and build out the Bicycle and Pedestrian Transportation Plan

**Mobility: Feedback on Potential Goals**

- Resident
  - This could be simplified to a single “Reducing the number of SOV mode use/VMT by X (eg 80%)” with supportive sub goals as appropriate.
- Barron Park Resident
As stated in the webinar intro and seen in the graph above of Palo Alto’s GHG emissions, transportation is the lion’s share of emissions for Palo Alto. While there are may good goals and key actions, there are no specific targets that directly tie these goals and actions to measurable results that will let us know if we are actually meeting the 80 by 30 target. This is a must if we are to know if the programs proposed will actually meet the goal.

- Mountain View Resident, Palo Alto Small Business Owner
  - Agree with the goals. But I do not understand that if these are the goals then why are you building more parking structures. That money should be used to implement these goals.

- Resident
  - The existing goals are good, but we will never reduce our transportation emissions enough until we build more housing near transit, and more housing in general. The state will push/incent cities to build more housing to deal with our housing crisis – climate goals and housing goals are completely linked.

- Resident
  - I like the goals. Transit and "shared mobility services" should not be lumped together; they serve vastly different audiences and the priority should be transit. This needs to result in a reduced percentage of people driving. Complete Streets are very important to separate engine-powered modes from human-powered modes.

- Resident
  - These seem like great goals!

- Resident
  - This doesn’t explain what it is talking about. What is "active transportation mode share"?
  - I don’t think the city should spend any more time and money on bicycle plans and implementations.
  - This doesn’t take into account EVs if the goals are to reduce climate change.

- City of Palo Alto Staff
  - The goals for mobility could use a little clarification. As written, I feel that these are left open to interpretation. Some may not know what they mean at all. Perhaps a little more speaking to the issues as you do in other segments would have benefited here.

- Palo Verde resident
  - I don’t really understand what these goals as stated mean. What is active transportation mode share?

- Greenmeadow Resident
  - I don’t understand what “active transportation mode share“ is. I think the top goal here should be better supporting ebikes, scooters, and bikes. I don’t have much hope for transit -- it is extremely slow to take transit today and I think much of that is structural. E-bikes, scooters, and bikes are relatively quick, and are quite usable by many in our flat, temperate area.

 água

- Resident
  - The 10% mode share goal for 2020 was not reached. What will be done differently to achieve the 25% mode share goal for 2030?

- Palo Alto Resident
- Add to goal: Active Transportation needs more of a carrot (vs stick) approach. We need a green network of walkable and bikeable streets where cars are the LAST priority - just 15mph movement and access to driveways/parking on street. Please see link: https://www.sierraclub.org/sites/www.sierraclub.org/files/sce/loma-prieta-chapter/SLU/Policy%20Green%20Streets%20-%20Sierra%20Club.pdf

- Downtown North Resident
  o Please explain what active transportation mode share means

- Professorville Resident
  o I'm not sure what you mean by "active transportation mode share".

- Resident
  o It is difficult to comment on this without knowing the existing mode share in each case.

- Resident
  o Seems unreasonable to make a goal for local work trips when the great majority of work trips are not local, but rather are folks coming into Palo Alto from other cities. That's what you should direct your goals toward, by working with other cities and by -perhaps- taxing local businesses based upon the number of drivers who come to their place of work.

- Increase availability of transit and shared mobility services by increasing to 75% the proportion of residents within a quarter-mile walkshed of frequent transit by 2030

- Barron Park Resident
  o Need to check this and see what percentage of the population this comes out to be (1/4 mile of transit) and adjust if necessary with real GHG reduction numbers so this can be tracked.

- Resident
  o Increasing the proportion of residents within the 1/4 mile is a good goal, but public transportation has been poor for a long time in Palo Alto. Increasing service (and Santa Clara has been reducing/removing routes) is a priority, too.

- Implement Complete Streets and build out the Bicycle and Pedestrian Transportation Plan

- Palo Alto Resident
  o Complete streets is a good concept and law. However, it needs to modified to recognize that streets need to categorized as 1. Auto priority, 2. pedestrian priority or 3. mixed traffic for all modes.

- Resident
  o The Council should modify its 'No closed streets" decision which has impacted negatively the options for the Bicycle and Pedestrian Plan. As a result, Transportation created a 'Bicycle Boulevard" along Ross Road that has caused opposition to the Bicycle Plan. Instead, Bicycle Infrastructure should have priority of creating Low Stress Bicycle Routes.

- Professorville Resident
  o Love complete streets concept.

**Mobility: Suggestions for New Goals**
- Barron Park Resident
  o New goal: Work from home two days per week for those workers that can work from home, especially those workers living outside of Palo Alto.
    ▪ The Shelter In Place has shown this to be very possible in a short timeframe and this would reduce the weekday commuting by as much as 40%. Will have to think about how to promote/incentivize this.

- Downtown North Resident
  o Please add the goal of incentivizing local companies to reduce car trips per day by asking employees to work from home several days/week.

Mobility: Potential Key Actions to explore further
(These potential Key Actions do not represent all the work that the City is doing or will be doing related to climate change and sustainability. These are the actions we will be prioritizing. They are numbered to make it easier to refer to specific Actions. They are NOT numbered based on priority.)

<table>
<thead>
<tr>
<th># of Votes</th>
<th>Potential Key Actions</th>
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<tbody>
<tr>
<td>2</td>
<td>1. Fund the Transportation Management Association (TMA) with the goal of reducing Single-Occupancy Vehicle commute trips downtown by 30%</td>
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<tr>
<td>4</td>
<td>2. Make transit investments that significantly enhance coverage, service quality, frequency, speed and/or access</td>
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<tr>
<td>7</td>
<td>3. Expand and improve bicycle and pedestrian facilities, connectivity, convenience, and/or safety in a manner that significantly increases the percentage of trips taken by walking or biking</td>
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<td>4. Adopt Transportation Demand Ordinance per Comprehensive Plan Policy</td>
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<td>5. Increase the number of City Employees utilizing commute benefits</td>
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<td>6. Encourage the use of bike and/or scooter sharing, and the provision of required infrastructure throughout Palo Alto, especially at transit stations and stops, job centers, community centers, and other destinations</td>
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<td>7. Enhance traffic signals to improve traffic flow and reduce idling and associated greenhouse gas emissions</td>
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<tr>
<td>6</td>
<td>8. Increase the number of bike facilities, including bike parking and signalized intersections with bicycle accommodations (e.g. bicycle signal heads, bicycle detection, colored bicycle lanes)</td>
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Mobility: Feedback on Potential Key Actions

- Midtown Resident
  o “Potential Key Actions” are mentioned regarding mobility and commuting...yet there’s not a single word about working remotely! Instead, there is: “Enhance traffic signals to improve traffic flow”! How can it be that thousands of Palo Alto workers can switch, almost overnight, to working from home when confronted with a lethal virus, but somehow the City government cannot even imagine such a transition taking place to confront lethal climate pollution? Where is the leadership here?

- Resident
  o Perhaps we could tie in a toll on major city-maintained roads or expand paid parking. We've seen in the Castilleja expansion case that there's a feeling within the city that a lot of traffic is coming from outside, which inherently mean the city can only do so much
East Palo Alto has been discussing possible tolls on University. Otherwise, we've basically been subsidizing single-occupancy vehicles by how much planning decisions we've done.

- **Old Palo Alto Resident**
  - As a small business owner in the City of Palo Alto, I have been able to take advantage of the proximity of my office to a Southern Pacific Railroad station. Visitors to my clinic are offered incentives to use modes of transportation alternative to internal combustion engine vehicles, whether by train, bus, micro-mobility, or walking. More than six years ago we installed an electric outlet for EV charging. The topography throughout the City is essentially flat. This increases the potential for a significant increase in the use of various forms of micro-mobility. The Potential Key Actions set forth regarding Mobility are mostly laudable goals.

- **Resident**
  - It is a good list but it needs to be expanded and then pared down based on impact/effectiveness.
  - We must include pricing of parking and congestion as major approaches to equitably reduce GHG.
  - We must include telework/meeting as underappreciated but essential and high impact method to reduce GHGs.

- **Palo Alto Non-Profit**
  - Because most of Palo Alto’s streets and roads are lined with street trees, these thoroughfares represent the majority of the city’s publicly owned urban forest. There is abundant evidence of the role shade trees play in calming vehicular traffic, enhancing thus promoting active transportation, and their potential as wildlife corridors to enhance biodiversity.

- **Resident**
  - In reference to key actions #2, #5 and #6 consider: Ride hailing vehicles emit nearly 70 percent more carbon dioxide on average than the other forms of transportation they displace and increase vehicle travel and congestion. If ride hailing vehicles are included as part of the mobility plan, please encourage use of electric vehicles, increased pooled trips, and focus on complementing mass transit.
  - E-scooters: “When only one-third of e-scooter rides displace automobile travel, then the use of e-scooters likely increases overall transportation emissions by drawing people away from walking, biking or taking public transit”. Consider lifecycle emissions of e-scooters due to manufacture, charging and daily pick-up and delivery for charging.

- **Palo Alto Resident**
  - TDM: after the experience of Shelter at home and working from home, we need to recognize the opportunity presented. When approving new office developments, consider if company is open to more work-from-home. Make office space smaller, include funds for remote work centers for the community to allow remote working at shared workplace centers with robust internet. Reduced parking

1. Fund the Transportation Management Association (TMA) with the goal of reducing Single-Occupancy Vehicle commute trips downtown by 30%

- **Barron Park Resident**
  - Fund the Transportation Management Association (TMA) with the goal of reducing Single- Occupancy Vehicle commute trips to downtown and Cal Ave areas by 30%
- Palo Alto Non-Profit
  - Add: [...] “Make 25% of the City Streets Pedestrian and bike friendly with a maximum speed limit of 15mph.
- Resident
  - The TMA should expand throughout the city, from Downtown to Charleston to Green Acres.
- Resident
  - I am glad funding the TMA is #1. Their multiprong approach should be a model for the city Transportation department.
- Resident
  - The Transportation Management Association should be funded through a business license tax.
- Resident
  - TMA goal of reducing single-occupancy vehicle commute trips should be for gasoline only vehicles. EV, Hybrid, Hydrogen cars should be excluded.
- Professorville Resident
  - 1st and last mile is important for TMA to address
  - Increase TMA funding to implement proposed solutions

2. Make transit investments that significantly enhance coverage, service quality, frequency, speed and/or access

- Barron Park Resident
  - Add to the goal: Have secure bike parking at train stations.
- Palo Alto Non-Profit
  - Add: Public transit should be free. Pursue dense service walkable communities connected by micro mobility to other walk zones.
- Greenmeadow Resident
  - I would stay away from investing too much in transit because I don’t think it will ever work well in our area given peoples’ busy lifestyles. We should aim to get people on bikes or e-bikes or scooters, or in EVs. To the extent I would invest in transit, it would be rapid bus lanes on 101 and El Camino. Plus we probably have to do the CalTrain grade separations.
  - The availability of transit is only a portion of the issue. The transit needs to go to the logical places. No transit seems to go to grocery stores/post offices
- Resident
  - There needs to be discussion with Samtrans and VTA on how to make bus lines more efficient within the city, since a common complaint is bus transfers to get to places like Cupertino or Sunnyvale takes hours.
  - Availability is going to have to be tempered because of the many destinations that people go that transit as it is currently doesn’t work so well. (e.g. PA to Los Altos on VTA takes a while, and the PA Shuttles don’t service more southern neighborhoods)
  - There’s going to be needs of sticks (opposed to carrots as the current KAs are). Perhaps a toll on Central or Embarcadero, or phasing out free parking.
- Resident
  - Increase city shuttle services
o If we could better synch Palo Alto shuttles and Margarite shuttles across the City, and have them all appear as transit options in Google maps, we might get better utilization of shuttles. This means Stanford would need to let non Stanford people ride their shuttles for example.
- Bozeman Resident
  o How is this achieved? Needs further explanation
- Resident
  o Are you working with MTC/VTA/SamTrans/Caltrain to increase public transit options? Does Palo Alto support public transit as a way to reduce SOV?

3. Expand and improve bicycle and pedestrian facilities, connectivity, convenience, and/or safety in a manner that significantly increases the percentage of trips taken by walking or biking

- Barron Park Resident
  o Add to the goal: Close Churchill and Alma grade crossings and have bike/ped tunnel. Install bike counters around the city to monitor bike/ped use.
- Palo Alto Non-Profit
  o Add measurable goals such as, "Expand and improve bicycle and pedestrian facilities, connectivity, convenience, and safety in a manner that increases the percentage of trips taken by walking or biking by 25% of 2019 levels by 2025 and 50% of 2019 levels by 2030."
    o Example: Oakland has closed 10% of its streets to cars, a total of 74 miles.
- Resident
  o Include making bicycle facilities "Low Stress" Routes so that more people - not just the road warriors- will be willing and able to use bicycles.
- Resident
  o Prioritize completion of the Bike and Ped Transportation Plan. We need to thoughtfully plan new infrastructure support for bicycles including increased facilities and accommodations, including separated bicycle lanes, bicycle parking,
    o While expanding and improving bicycle and pedestrian connectivity, prioritize thoughtful integration of trees along pathways for both enhanced community experience and increased carbon sequestration.
- Resident
  o Add native plants and shade trees to all bike corridors - no one likes walking in the sun
- Resident
  o #3 is the most important
- Resident
  o No more bicycle investments.
- Resident
  o Bicycle lanes should be extended beyond school routes. Would love to see University Ave. as pedestrian and bikes only with Lytton and Hamilton one-way roads.

4. Adopt Transportation Demand Ordinance per Comprehensive Plan Policy

- Greenmeadow Resident
I don’t know what “Transportation Demand Ordinance” is, or what the TMA plans, so it is hard to comment on those. I do think we can start charging for parking to help fund some of these other projects.

- Resident
  - The Transportation Demand Ordinance must be adopted and enforced. Otherwise this is a toothless program that will have minimal impact.

- Resident
  - A Transportation Demand Ordinance should include taking an inventory of existing Transportation Demand Management plans as part of project approvals and enforcing them, including penalties for failure to perform.

5. Increase the number of City Employees utilizing commute benefits

- Old Palo Alto Resident
  - This could be readily implemented by providing free transit passes and/or very low rental rates, or 0% loans for the purchase of various forms of micro-mobility. The possibilities here are vast: traditional commute bicycles; electric bicycles; cargo bikes; scooters, pedal or electric. Even wheelchairs could be included in these incentive programs, with electric add-ones such as SmartDrive or Firefly. 3-wheeled electric utility vehicles such as the Good Earth Firefly have potential versatility well beyond parking enforcement, security, shipping & delivery and grounds maintenance. Such micro-mobility ought to be available for rent for visitors to the City, at its main entrances from freeways. Parking facilities already exist at these locations for ride-sharing commuters. Let these facilities be expanded where such expansion is needed, so that ICEs remain at the margins of the City. This would enable our streets to be safer, to ease traffic congestion and to significantly reduce emissions as well as wear and tear on city streets.

- Resident
  - To increase the number of City employees utilizing commute benefits, please consider making all commute benefits available to all employees, regardless of what primary site they work at. E.g. employees at Lucy Stern, MSC, Mitchell Park, or Cubberley should be provided CalTrain passes as desired – biking from CalTrain to these sites is a viable alternative that should be encouraged, rather than inhibited.

- Resident
  - Should be available to employees not just stationed downtown. Include MSC and Community Center.

6. Encourage the use of bike and/or scooter sharing, and the provision of required infrastructure throughout Palo Alto, especially at transit stations and stops, job centers, community centers, and other destinations

- Barron Park Resident
  - Add to the goal: Must increase bike parking for this and understand the GHGs from these sharing solutions.

- Resident
  - Required covered bike parking for all development and renewal of business permits would be awesome

- Resident
o More bike locking around commercial areas. Better bike paths beyond school routes. Bike/ped only roads.

7. Enhance traffic signals to improve traffic flow and reduce idling and associated greenhouse gas emissions

- Barron Park Resident
  o Add to the goal: Install cameras for light switching that also do bike and ped counts as well.

- Old Palo Alto Resident
  o I must take issue with #7, concerning enhancing traffic signals to improve traffic flow. This improved flow is intended to be for automobiles. I believe it ought to favor pedestrians and micro-mobility use. This is particularly true if the City is serious in its intention to support a transition from ICEs to EVs.

- Resident
  o "improving traffic flow" should be deleted. Reducing idling is a fine goal, but increasing capacity for more cars isn't a sustainability goal.

- Resident
  o Do watch for induced demand for 7, since at some point if people think the roads are too smooth, people will drive more.

- Resident
  o Traffic signals timing needs major investment to sync up flow and demand during peak hours throughout the day.

- Bozeman Resident
  o How is this achieved? Needs further explanation

- Resident
  o Prioritize 7

- Professorville Resident
  o Have bike riders follow traffic rules, i.e., stop signs. Give out tickets.

8. Increase the number of bike facilities, including bike parking and signalized intersections with bicycle accommodations (e.g. bicycle signal heads, bicycle detection, colored bicycle lanes)

- Barron Park Resident
  o Palo Alto should be like Denmark in 2030.

- Palo Alto Resident
  o Top priority as it addresses the goal of realistically reaching 25% goal.

- Resident
  o 8 is super important. Also blocking off some streets to motorized through traffic (like on Bryant St) would make a huge difference.

- Resident
Increase the number of LOW STRESS BICYCLE facilities, not just bike facilities. Many more people would ride bicycles if they were convinced that the routes were comfortable, safe, and were low stress.

- Resident
  - Don't do this. Enough has been done already. It serves too few people at the expense of everyone else.

Mobility: Suggestions for New Key Actions

- Palo Alto Non-Profit
  - New Key Action: “Prioritize large shade trees in the implementation of Complete Streets programs and in the maintenance and retrofit of existing streets.”

- Resident
  - If somehow we come out of this covid-19 crisis with a business culture that permits more “work from home” days - -and somehow the City fosters and/or incentivizes companies to support more “work from home,” that would be a beautiful thing. This is something to think about for 2021 after we have vaccinations for Covid-19 and businesses are tempted to go back to usual operations.

- Palo Alto Non-Profit
  - Create New Potential Key Action #9: "Recognize public street right-of-way as the largest public environmental asset and use more effectively"
  - Create New Potential Key Action #10: Enact a moratorium on building in the 2050 inundation zone.
    - See flood map attached at the end of this letter, which assumes 2.5 feet of sea level rise.
  - Create New Potential Key Action #11: Add that walkable development should be prioritized within ¼ mile of transit with emphasis on service density. Delivery and a redesigned curb for e-shared-mobility should be included. The city should not build for services whose safe access cannot be enforced- infrastructure should be repurposed for safety.
    - This would save mixed use and multifamily development from some of the costs of EV infrastructure.
  - Create New Potential Key Action #12: Update Palo Alto’s street design guidelines to include shared micro mobility services and active transportation to create protected and safe spaces for users and riders. Micro mobility allows for safe social distancing.

- Resident
  - There is a big missing key action: urban infill. Land use reform and TOD are needed actions.

- Resident
  - Some action will be needed to address commuters coming into Palo Alto to work, not just focus on residents.

Mobility: General Feedback

- Old Palo Alto Resident
  - Traffic signal improvement should be aimed at minimizing acceleration as well as idling. For minimal emissions, we want smooth flow at modest speed. If possible, traffic

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signals should be fitted with reliable bicycle detectors that are well-advertised. Too many cyclists press the pedestrian button to request a green, which gives an unnecessarily long cycle, making stops (acceleration, idling) on the cross street more likely.

- **Midtown Resident**
  - Transportation, by far Palo Alto’s #1 GHG source according to the SCAP Plan, if we accept the use of electricity RECs and natural gas offsets to reduce building related GHG emissions.

- **Professorville Resident**
  - What about encouraging more work-from-home for City employees and also with regional employers. Having way more people work from home even two days/week would be huge in terms of pollution, congestion, and gasoline consumption and would free up public transportation capacity.
  - How about parking meters downtown, on Cal Ave, and at Stanford Shopping Center? As long as the meters are in all commercial areas, the problem of people “shopping elsewhere” would be avoided. I suppose they could go to MP or MV, but those cities would do well to install parking meters, too. This would hopefully encourage less trips and more public transportation (although I’m always skeptical of the latter in a place like PA).

- **Resident**
  - The proposed (Remote Work Options) RWO plan would minimize the traffic impact on the City and support many of the Potential Key Actions. An immediate action to add is to measure the environmental impact of so many ride share vehicles on the road which contribute to more GHG emissions. Expanding bicycle and scooter use is a nice idea but is not practical for many residents. Please add more education and oversight provisions as many cyclists behave quite aggressively towards pedestrians and drivers, ignoring stop signs or requests to dismount in shared spaces.

- **Downtown North Resident**
  - Regarding the “mobility” targets, we have learned during this COVID-19 crisis that a lot of the work of companies can be done from home. This saves many tons of GHG’s that would be used commuting, sometimes from as far away as Livermore and Gilroy. (and we enjoy the cleaner air and breathe better). Just as the city incentivized companies to encourage use of public transportation by employees, the city could incentivize companies to allow 70% of their work force to work from home 2-3 days/week. This would result in GHG reduction and make a positive life style change for employees who have long commutes. The city could start this policy with their own employees.

- **Resident**
  - Capitalize on the fact that shelter in place is getting a lot of white collar workers and businesses comfortable with working at home. Encourage milestones for long term commitment to telecommuting - i.e, 1 day a week to 2 days to 3 days. Incentivize businesses to help their workers do this. Obvious advantages are: 1. frees up workers' time from commuting 2. frees money business need to pay for office space. 3 don't expect going 100 percent telecommuting - maybe at best 2 days commuting and 3 days telecommuting. Let workers alternate use of office space on alternate commuting days.

- **Barron Park Resident**
  - The mobility section looks pretty good. Need to make sure that the work that is done by the consultants on the base line for transportation is such that regular
reporting/progress is easy to see and that the numbers for this are robust and not too “squishy”, i.e. with a reasonable margin of error and are repeatable.

- There is a great opportunity here, with potentially less overall traffic to close Churchill Ave at the CalTrain crossing and build a bike/ped tunnel for access at this point. This maybe the only affordable option here and would still allow local access to Paly H. S. via bike/peds. The same should be considered for the Alma street grade crossing. This would cause a greater shift to active transportation modes as outlined in the first goal.

- Again, with the potential decrease in traffic after the coronavirus has run its course, there should be a much greater increase in the bike/ped infrastructure. There is a real opportunity here for a large mode shift in how Palo Alto gets around. I have seen way more people getting out on bikes then ever before, and clearly part of this increase are new riders as they feel safer with the reduction in traffic. Palo Alto should be like Denmark in 2030.

   - Resident

   - Promote road changes that locally make riding/walking quicker than driving. For example, the Stanford campus has no through traffic for cars. One can park in the middle of campus, but driving somewhere else always involves getting back to larger roads surrounding campus. This would include allowing road closures for bicycle boulevards again.

   - Turn stop signs into yield signs for bicyclists (Idaho stop). Cyclist differ from cars and pedestrians in the sense that it takes a lot of energy to come to a full stop and start back up. One full stop and starting back up is the equivalent of biking 100 yards. Turning stop signs into yield signs allows cyclists to keep momentum.

   - Increase parking cost in downtown and on California Ave to encourage people to take different modes of transportation.

   - Institute a policy that at a certain speed difference between bikes and cars on a road a separated bicycle lane is required to be installed.

   - Copy a law from the Netherlands that in any accident between a pedestrian and car or a bicycle and car, the car is at fault. This encourages drivers to be very aware of the fact that pedestrians and bicycles are much more vulnerable in traffic.

   - Promote multi-use zoning. This reduces the distance people have to travel between errands, work, and their homes, and thus promotes walking and biking.

   - Start a cheap rental program at Caltrain stations. People can take out bike/electric bike/scooter for the day and return it to the station to solve the last mile problem (like Dutch railways Public Transit bikes). Offer both as you go and per week/month for a low price.

   - Secure bicycle storage at Caltrain stations. Offer both as you go and per week/month for a low price.

   - Basic bicycle maintenance at Caltrain stations (fix flats, sell bicycle lights/batteries)

   - Get a good public transit connection with SFO and SJC.

   - Require companies to have safe bicycle storage.

   - Require companies to have charging points for electric bicycles

   - Require companies to offer cash credit for riding a bike and/or buying a bicycle instead of driving.

   - Require companies to contribute to bicycling and walking infrastructure when building/opening an office.

   - Require companies to contribute to public transit when building/opening an office.
- Palo Alto Youth Group
  - Palo Alto’s downtown area could benefit from a reduction in car traffic, stress, and time spent finding available parking. Parking reformation through the incorporation of permit-based parking (with discounts for lower-income residents) in downtown Palo Alto (covering University Ave and California Ave) would promote more bike, pedestrian, and scooter traffic. A secondary approach would entirely close select streets to cars and incorporate more bike- and pedestrian-friendly infrastructure such as bike lanes. A relevant case study tracked a number of traffic-related variables on Market Street; the results showed an improvement in air quality and a reduction of transportation time with limited effect on surrounding streets.
  - The reduction of car traffic and transportation by cars altogether must be achieved hand in hand with another alternative. Palo Alto’s commitment to expanding its transportation system would allow individuals of all demographics, regardless of socio-economic status and ability levels, the privilege of travel. In its goal to expand, Palo Alto should also seek to invest and vocally support the electrification of the Caltrain as well as new and existing public transportation—an effort that would also encourage effective collaboration with existing associations.
  - As a necessary intermediary, the expansion of bicycle/scooter/car-sharing in order to reduce Single-Occupancy Vehicle commutes could aid in the transition to push Palo Alto to greater reliance on public transportation.

- Resident
  - Palo Alto must implement “Mobility as a Service”, an idea which was actively discussed several years ago when Gil Friend was Chief Sustainability Officer, but has never moved forward. The City must set up a plan with identified goals and a schedule to allow rapid Implementation of such a plan. This is essential for our older population who cannot walk long distances or bicycle to local destinations but still need a way to go shopping, get to doctor appointments, or visit friends. Palo Alto should be a US leader in this effort.
  - Palo Alto should end any future construction of parking garages as they encourage increased use of low occupancy vehicles. The recent approval of the two garages, one downtown and another in the California Avenue business district should not have been occurred and showed a lack of real commitment to the SCAP. This was a serious lapse of judgment by Council and should not happen again.

- Community Center Resident
  - I’d like to see the city take on the following:
    - Electrification of our public transportation
    - Make the use of all gasoline powered equipment, aside from automobiles, illegal with proper enforcement.
    - Increasing transportation energy efficiency: more walkable, bike-able, completely truck/auto free streets. Provide and encourage the use of more and better public transit.
    - Make zoning easier for high density residences around public transit and elsewhere.

- Community Center Resident
  - I would like to see the city take on the following:
    - Electrification of our transportation
- Increasing transit options (more walkable, bike-able, complete streets, more and better public transit options)
- Make zoning easier for density around public transit

- Crescent Park Resident
  - Please provide more emphasis on mobility – especially improvements to bike and pedestrian infrastructure and incentives that reduce reliance on cars

- Community Center Residents
  - Improvements to bike and pedestrian infrastructure are necessary, both in general and particularly during the COVID-19 public health crisis, as we physically separate from one another. Safer and separate paths for both would increase human-powered travel. Furthermore, we need to stop privileging autos over people. This requires both greater dedication of roadways to human-powered movement, and significantly greater commitment to improving bicycle and pedestrian safety. We should also ensure that bicycle parking is plentiful. And we should embrace a variable, dynamically-priced system for motor vehicle parking on all streets throughout the City. We are now experiencing what’s possible during this shelter-in-place period. We are reclaiming a greater degree of the delights of village-style life here in our own community. Let’s build on these successes going forward. People are loving it! We are experiencing first-hand the joys of living and working in a much more walkable, bikeable city. Let’s not squander this natural experiment.

- Midtown Resident
  - The bar graph on the S/CAP webinar (p. 6) clearly shows very little progress in reducing GHGs from the transportation sector. Accordingly, this should be the second main area of work and expenditure in the S/CAP. Again, the City needs to develop measurable objectives, incentives for changed behavior and to publicize our progress widely.

  - Here are some ideas to include in the updated Plan:
    - 1) Our current experience with the COVID-19 crisis points to the easiest solution: "work from home." This has been a nearly instantaneous change for a large portion of Palo Alto's workforce. The resulting improvement in air quality has surely been equaled by a reduction in GHGs. (We need to get a measurement for this!) The City can easily assign many of its employees to work from home 2-3 days/week; and it can provide incentives to other employers who do so as well. This will also reduce the growing traffic congestion that has plagued our community for nearly a decade.
    - 2) The City should expand the shuttle bus service so that it runs more frequently and on more routes. The quarter-mile walkshed is a great idea -- AND the service needs to be every 15 minutes! Although the COVID crisis will deter some people from getting into vans for a while, we can install hand sanitizer stations at each van door; and once a COVID vaccine is available, expand this service significantly.
    - 3) Bicycles are an excellent way to get around flat Palo Alto; however, they don't work for people with packages, nor for elderly people, nor for people with multiple small children. The "complete streets" ideas are helpful: colored bike lanes, physical separation of bicycles and cars, etc.
    - 4) Bicycle counting technology exists. The City could use that to get a better measure of how many people DO bicycle on many major streets and bike paths.
    - 5) More secure bike parking at workplaces, the CalTrain lots, shopping centers, etc would also help encourage cycling.
- **Midtown Resident**
  - I want to add my support to the Sustainability and Climate Action Plan and in particular to the mobility section. I am particularly interested in bolstering pedestrian infrastructure. I make many trips on foot, many more than I do by car. But I usually do not see many others doing the same. During the shelter-in-place, I have been heartened to see so many people out walking and hope we can continue to use more of our street space for this activity.

- **Resident**
  - Transportation. Develop incentive and disincentive programs to accelerate the reduction in gasoline powered vehicle use by residents and commuters – our biggest source of GHG’s. Palo Alto is a global leader in EV adoption and can plan a valuable role in demonstrating the feasibility and multiple benefits of widescale ZEV adoption.
  - Prioritize completion of the Bike and Ped Transportation Plan. We need to thoughtfully plan new infrastructure support for bicycles including increased facilities and accommodations, including separated bicycle lanes, bicycle parking.
  - While expanding and improving bicycle and pedestrian connectivity, prioritize thoughtful integration of trees along pathways for both enhanced community experience and increased carbon sequestration.
  - Actively consider implementation of "Idaho stops" for cyclists.
  - Planning and research for travel routes, parking, and policy guidelines for new and future mobility modes needs to be supported.
  - For any commissioned traffic analysis study, please ensure that meaningful breadth of data over both weekdays and weekends, different time of day, day time and night time, etc. is actually measured. Note that for recent commissioned traffic studies re: HSR, the hired consultant measured traffic for a specified number of hours on ONE DAY. It is highly unlikely that this simplistic type of approach can yield trustworthy data.
  - The Transportation Demand Ordinance must be adopted and enforced. Otherwise this is a toothless program that will have minimal impact.

- **University South Residents**
  - We are very concerned with the City’s surprising lack of progress in reducing the number of SOV trips into and around the city. According to the first graph in the CFPA report, road trips account for more that 60% of GHG. All the while we have been painfully aware of the need to reduce GHG emissions from vehicles, but the only method that has received much attention is urging people to switch to EVs. That has accomplished little and clearly will not be enough to achieve overall reductions. We call upon council and staff to develop a plan to reduce this transportation component of GHG. Let's look at congestion pricing, or charging drivers to drive into town. This approach has been implemented and is working in cities such as Singapore, London, Stockholm, Milan, Riga as well as US cities including New York, San Diego, San Francisco, Miami. The system is under consideration in Washington DC, Seattle and others. Congestion pricing reduces GHG by curbing vehicle fuel emissions, as employees of local companies then choose to travel by public transportation, presumably supplemented by shuttles to accomplish “first and last mile” travel from transit stops to place of work. The pill is sweetened when employers purchase transit passes for their employees. Surely Palo Alto can be a leader in this area. Employers that are responsible for
employee trips into PA, with the attendant emissions must also shoulder part of the responsibility for reducing GHG and achieving 80/30. Staff should develop a plan for employers to account for employee car trips and to bear responsibility for reducing these. This can be accomplished by employer documented increase in employee transit ridership. Simply handing out passes is insufficient. Documenting actual use of transit would be required. Both these approaches must include safeguards for low income people who may have longer commutes and fewer public transit options.

- Resident
  o The city continues to subsidize single passenger vehicles at the expense of our climate goals:
    - The city has funded a parking garage and continues to pursue Caltrain grade separation, representing tens of millions and potentially billions of dollars of subsidies for automobile-centric development, respectively.
    - In one of the smartest and richest towns in the country, the city council fails to recognize that parking spaces can be revenue streams rather than an endless expense.
    - Parking meters would allow the invisible hand of the market free up parking spaces, while potentially generating revenue for transit improvements.
    - The city council has blocked bus rapid transit, which would have greatly reduced greenhouse gas emissions parking requirements.
    - I am absolutely appalled by the Palo Alto Police Department driving poor gas-mileage sports utility vehicles.
  o I want the city council to abandon tax-payer support for automobile centric development, and start implementing a city where pedestrians, bicycles trains and buses provide most of our transportation needs.

- Resident
  o Regarding Transportation-related Emissions, per the Comprehensive Plan, there should be both a methodology involving Vehicle Miles Traveled and Level of Service. Level of Service measures congestion that causes pollution within our cities. As we build more dense housing along major traffic routes, increased congestion causes increases pollution affecting sensitive receptions like our children. Adopt Menlo Park’s significance criteria for Level of Service.
  o All occupants and businesses of new office buildings that are required to provide for their own parking should not be allowed to purchase RPP permits. We must not allow scooter sharing to result in the cluttering of our business district sidewalks with scooters that impede the flow of pedestrians, wheelchair users and parents with baby carriages. Our Palo Alto Shuttle should use electric buses, and our sanitation vehicles should also be electric.

- Resident
  o You must face the reality that the world has changed! Peninsula residents will vastly reduce the use of Caltrain, Buses & BART. Private vehicles will be the first, This is the time to call a halt to expansion, new equipment purchases & even electrification. All mass transit will have to under seating & boarding changes to regain ridership. Now is the time to stop purchasing the "Old Norm" & rethink what to buy. No one want to ride on the current & planned equipment!

- Resident
- Resident
  - Can Palo Alto use special taxes for people who live here but work elsewhere, e.g. San Francisco or wherever. If they work away from here then they are driving move. We can't assume that even if we increase bus and train services, that doesn't mean residents will use them. The pocket book motivates people more than anything else. How can we REALLY incentivize people to use transit? Any new developments need to include adequate parking for bicycles. If one has to park outside in the rain, people won't ride. We have to make it as easy and safe as possible. I parked under a building on campus for many years. If I'd had to leave my bike out in the rain I wouldn't have ridden every day. As it was, I rode rain or shine.

- Resident
  - There should also be an expanded effort to make driving less desirable in the City, by making ALL municipal parking lots paid, and expanding the residential parking system. Carrots are great to drive people on bikes and transit, but no serious results will happen without some major sticks against cars (including EVs).

- Resident
  - Work with PAUSD on these items to reduce car traffic and promote biking and walking to schools.

- Resident
  - Encourage under crossing for active- non motorized beneath Caltrain-Alma at Matadero. Such could be coordinated with XCAP.

- Resident
  - Measure the impact of ride sharing services. I would hypothesize that extra cars just driving around hoping for passengers has a big impact and increases congestion
  - Many cyclists ride in a fashion that endanger pedestrians but are aggressive and nasty when those behaviors are pointed out
  - Cyclists often ignore stops signs and other rules of the road which endangers themselves as well as drivers and pedestrians

- Professorville Resident
  - How can we get businesses to encourage working from home? COVID19 has shown many are able to do that. Even if they mandated their employees to work from home 2 times a week!
  - What about land-use policies? We need to get densification of residences near transit
  - We need more bike/ped protections. We have perfect weather to bike but it doesn’t feel safe
  - Most of these are really good. We have to make it easier for everyone (including seniors) to get around without getting in their cars.

- Resident
  - Autonomous vehicles will go a long way to these goals, without government input, if affordable. Especially as we who have attained significant age achieve even more.
  - We do a lot for bicyclists, rightly; they do much less to earn the improvements. Much attention needs to be given to either changing or enforcing traffic laws for bicycles.
  - Not clear that single occupancy traffic needs reducing, as long as it is in shared, electric, autonomous vehicles that do not need to park. The energy use will probably be OK.
Electric Vehicles

Potential Goals

- Increase the number of electric vehicles (EVs) registered in Palo Alto, as a share of total vehicles registered, from 7% in 2018 to 50% by 2030
- Target to facilitate 50% of vehicles owned by low income households to be EVs by 2030
- Ensure there are adequate numbers and types of EV chargers in Palo Alto to support the growing number of EVs registered in and commuting to Palo Alto
- Expand the number of EVs in the City’s fleet as the EV fleet market evolves

Electric Vehicles: Feedback on Potential Goals

- Old Palo Alto Resident
  o To demonstrate its commitment to EVs, the City should lead with its fleet, at least with passenger cars. Another possibility is garbage trucks, though these might not belong to the City. If the City can set specific goals (50% EV penetration) for the public, it should do the same for itself.

- Crescent Park Resident
  o Some history and background:
    Assemblymember Ting writes bills (AB 1184, 1745, etc) intended to increase EV market penetration. These bills have not been enacted.
    In 2007, Ira Ruskin’s AB 493 Clean Car Discount (A fee on gas guzzlers with revenue rebated to EVs) failed to pass via simple majority by only 1 vote. Per State Legislative Counsel’s Jennifer Baldwin (transportation), with the passage of Prop 26, AB 493 now requires a 2/3 state legislature vote (or a state ballot initiative) because it is a Prop 26 qualifying tax.
    In 2017, Assemblymember Quirk requested the development of a “Self-Adjusting California Clean Car Discount - Revenue-neutral GHG-efficiency feebate on new car sales” bill. Because the bill’s feebate is a Prop 26 qualifying tax, the bill requires either a 2/3 vote by the state legislature or a state ballot initiative. Short URL to the draft bill: http://bit.ly/CleanCarTestBill. Summary: New car revenue-neutral, self-funding GHG-efficiency feebate requiring supermajority state legislature vote or simple majority state ballot initiative. A small fee per each inefficient car provides a large rebate for GHG-efficient vehicle purchases. Addresses market failure where private sector is not motivated to increase GHG efficiency as rapidly as the climate needs. The sales accounting of each car-maker is revenue-neutral. The least-efficient portion of the car-maker’s new car sales, defined as producing more than 219 g/mi CO2 (less than 40 MPG) are assessed a small fee. With that fee revenue, the car-maker provides a large rebate to the most-efficient portion of new car sales, producing 110 or fewer g/mi CO2 (80+ MPGe). Accounting is balanced out every month. In the first year, the fee for a 20 MPG vehicle is $74. In the first year, small fees on a large number of cars will generate a relatively large rebate, on the order of $3,000. Fee levels are adjusted up or down each year to ensure achievement of GHG-efficient target market share (set by ARB) with the lowest possible fee. For environmental justice, 15% of fee revenue is carved-out for low-income consumers and poor air quality areas, in the form of higher rebates and gas guzzler retirement. Additional compassionate items from Ruskin’s AB 493 (2007) are included. Individual car-makers that achieve annual GHG-efficient market share targets...
will be rewarded with lighter regulation, only needing to fulfill environmental justice objectives. Based on France’s experience, this bill eliminates 416M tons GHG over 20 years.

*2013 Bay Area PEV Readiness Plan – Background Analysis*, expects that a feebate cannot be enacted via regulation, legislation is required: “In fact, California has come close to implementing a statewide feebate program on multiple occasions through legislative efforts – the first time in the early 1990s and more recently in 2008. In California, feebate programs have been proposed as a legislative initiative (e.g., AB 493 Ruskin in 2007), whereby implementation authority would be delegated to ARB and the State Board of Equalization. Moving forward, MTC will have to engage with ARB and the local air district, Bay Area Air Quality Management District (BAAQMD) to determine how the program would be implemented. Ultimately, it is conceivable that MTC would need to seek action via the Legislature to approve of a regional feebate initiative.”


Norway’s EV Policy: [https://elbil.no/english/norwegian-ev-policy/](https://elbil.no/english/norwegian-ev-policy/)  

The Norwegian success story is first and foremost due to a substantial package of incentives developed to promote zero-emission vehicles into the market. The incentives have been gradually introduced by different governments and broad coalitions of parties since the early 1990s to speed up the transition. The Norwegian Parliament has decided on a national goal that all new cars sold by 2025 should be zero-emission (electric or hydrogen). As of May 2018, there are 230,000 registered battery electric cars (BEVs) in Norway. Battery electric and plug-in hybrid vehicles together hold a 50% market share. The speed of the transition is closely related to policy instruments and a wide range of incentives. The current Government has decided to keep the incentives for zero-emission cars until the end of 2021. The VAT exemption for zero-emission vehicles in Norway has been approved by the EFTA Surveillance Authority (ESA) until the end of 2020. After 2021 the incentives will be revised and adjusted parallel with the market development. In 2015, Norway’s lower parliament unsuccessfully moved to mandate 100% of 2025 new car sales be EVs ([article](http://bit.ly/2aUfKDm)). Comment: “Norway is leading the world right now in terms of EV sales per capita. They’ve already exceeded the CA 2025 sales target. Everyone thinks they can do it because they are a rich country. In fact, they can do it because they have a tax on new car sales that is based on the GHG footprint of the car. The bigger and more horsepower and the more GHG’s generated, the bigger the tax. For EV’s the tax gets waived.” See also: [https://twitter.com/AssaadRazzouk/status/875235216515792896](https://twitter.com/AssaadRazzouk/status/875235216515792896)

Finland’s new car registration fee effectively doubles the price of a 20 mpg vehicle - the up front equivalent of 10 years of $200/ton carbon tax.

France’s successful Bonus-Malus fuel-efficiency Feebate Program. ("good-bad" in Latin) “The largest and most successful automobile feebate program in the world is the French Bonus-Malus program. The program entered into force in January 2008 with three goals: steering buyers toward vehicles that emit less CO2, encouraging the development of new low-emissions vehicle technologies, and accelerating retirements of old, inefficient vehicles. The pivot point of the feebate is automatically revised downward (requiring vehicles to be more efficient to avoid the fee) every two years, maintaining revenue-neutrality.

Like most feebates, the Bonus-Malus program provides a rebate for efficient car buyers, maxing out at €6,300 for the most efficient vehicles, and a fee of up to €8,000 on the
least efficient vehicles (as of 2016). The bonus cannot exceed 27 percent of the vehicle’s cost, and diesel vehicles are not eligible for a bonus. Although the program uses stair steps, it is roughly equivalent to a rate of $1554/.01 gpm, a relatively strong rate. Unlike a traditional feebate, an annual penalty of €160 is assessed on owners of highly emitting vehicles, necessary to accomplish the goal of accelerating retirements. The Bonus-Malus program was successful in accelerating the rate of efficiency gains in the French vehicle fleet. If the feebate program had not been enacted, vehicles in 2015 would have emitted roughly 25 percent more CO2 per kilometer."

- Greenmeadow Resident
  - Of the goals, I would prioritize the charging infrastructure and the focus on lower-income households. I would worry less about the other households and city fleet, because those should happen naturally.

- Resident
  - I like the specificity of the first 2 goals for EVs!

Increase the number of electric vehicles (EVs) registered in Palo Alto, as a share of total vehicles registered, from 7% in 2018 to 50% by 2030

- Crescent Park Resident
  - Is the goal 50% EV market penetration for 2030 new car sales or 50% of the entire owned residential fleet to be EVs in 2030? This goal should probably only be adopted if a frank discussion is included about how very, very difficult this will be to achieve. A history of failed legislative attempts to bring this about should be provided. The goal of 50% market penetration will be difficult to achieve without a bruising battle to enact a strong legislative mandate. S/CAP could develop an enactment and implementation strategy and make a high-profile “here’s how we will achieve this goal” presentation in front of an audience of skeptical subject matter experts. It is likely that a state legislative mandate will be necessary to bring this goal to fruition. Should Palo Alto set about making this an achievable goal?

- Resident
  - How does the 50% by 2030 square with 80/30? The rest look all positive though the list could be pared to just the first and third as essential.

- Resident
  - 50% seems crazy ambitious, and the effort would be better spent electrifying public transportation vehicles. Relying on a system that favors single drivers is not the way to go.

- Professorville Resident
  - The goal is too ambitious.

- Resident
  - In addition, disseminate via a web site consumer info about what electric vehicles are on the market, performance metrics, and cost.

Target to facilitate 50% of vehicles owned by low income households to be EVs by 2030

- Palo Alto Youth Group
  - While we greatly support the target of 50% EV ownership by low-income households by 2030, necessary incentives must be put in place to ensure that these communities have
sufficient resources to own and maintain these vehicles (convenient parking spots, adequate chargers, and other necessary infrastructure). Thus, to encourage this transition, it is crucial to heavily prioritize local and free infrastructure. We are, however, concerned regarding the 2-year timeline for creating a plan that encourages EV charging; collaborating with other cities and the advice of experts could greatly expedite this planning process. We urge Palo Alto to adopt San Francisco’s goal of achieving 100% emission-free transportation by 2040 given its standing as one of the longstanding leaders in sustainability.

- Midtown Resident
  - The stated goal that half the vehicles owned by low income residents would be EVs is a good one; however, a plan needs to be created to make that happen. Purchase incentives for new vehicles are often not be adequate, since one little-considered issue with purchasing a new vehicle is that insurance costs are also higher. Perhaps the City could also negotiate a subsidized insurance program for qualifying low income residents (perhaps based on a reliable payment history with CPAU?).

- Midtown Resident
  - “Expand the number of EVs in the City’s fleet”. By how many cars? By when? One could achieve this ”goal” by adding one more EV! What would be wrong with selling (almost) all the oil’n’gasoline cars in the City fleet?

- Evergreen Park Resident
  - Specify that EVs are the default choice.

**Electric Vehicles: Suggestions for New Goals**

- Resident
  - Great goals. I would add another: Have all multiple use dwellings (apartment and condo buildings) install electric chargers. This should be mandatory.

**Electric Vehicles: Potential Key Actions to explore further**

(These potential Key Actions do not represent all the work that the City is doing or will be doing related to climate change and sustainability. These are the actions we will be prioritizing. They are numbered to make it easier to refer to specific Actions. They are NOT numbered based on priority.)

<table>
<thead>
<tr>
<th># of Votes</th>
<th>Potential Key Actions</th>
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<tbody>
<tr>
<td>1</td>
<td>1. Ensure that at least 75% of the community is aware of the environmental and economic benefits of electric vehicles and the programs available to them</td>
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<td>4</td>
<td>2. By 2022 quantify the public and private EV charger network needed within the community to support 50% EV penetration in Palo Alto, and develop an implementation plan to establish that charging network</td>
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3. Develop programs to assist and incentivize private EV charging installations in hard to reach locations such as multifamily properties, non-profits, and small commercial sites to ensure adequate and diverse EV charging infrastructure

4. By 2022, develop a strategic plan to encourage charging of inbound EVs within Palo Alto

5. Continue to electrify municipal fleet as opportunities arise, and by 2021 develop a comprehensive fleet electrification workplan and associated EV charging needs

Electric Vehicles: Feedback on Potential Key Actions

- Resident
  o Share your EV leadership experience with other cities to magnify your savings
  o Move each target to be one year more prompt
- Resident
  o 2., 3. and 5. are the most important in my opinion. I think that most of the community is aware of EV and its benefits. You need to make sure the chargers are there. Is there any way to situate charging spots near existing gas stations?
- Resident
  o E-bikes are being adopted in greater numbers than electric cars. Incentivize e-bikes instead of or in addition to electric cars.
- Resident
  o Waiting until 2022 to formulate plans seems unnecessary. A lot of spending is going into EV charging already. To me the core question to research now is where are chargers needed to get the most EVs purchased, and who should pay. Just my 2 cents since I’m not well versed here.
- Resident
  o These are all too vague, and unmeasurable. Won’t make any difference. The City needs to actually something here, not just plans. It’s not aggressive enough at all.

1. Ensure that at least 75% of the community is aware of the environmental and economic benefits of electric vehicles and the programs available to them

   - Resident
     o We need a ‘total cost of ownership’ approach for EVs – the upfront cost is or could be higher, but the cost to operate is much lower due to lower costs of electricity, no oil changes, fewer parts to break etc.

   - Resident
     o I would like to see this closer to 90%

2. By 2022 quantify the public and private EV charger network needed within the community to support 50% EV penetration in Palo Alto, and develop an implementation plan to establish that charging network

   - Greenmeadow Resident
     o On charging, I think it’s important that we prioritize daytime charging such as workplaces, since electricity in general is cheaper and cleaner then. (I know that Palo
Alto has hydro, but we can sell it at high prices in the evening if more of our load happens in the daytime hours.)

- Palo Alto Non-Profit
  - Change to Goal Date from 2022 to 2020
- Resident
  - We should already know this. and really, it is not a good use of resources. We just need to start putting in more charging stations, especially at multifamily residences and low-income residences.

3. Develop programs to assist and incentivize private EV charging installations in hard to reach locations such as multifamily properties, non-profits, and small commercial sites to ensure adequate and diverse EV charging infrastructure

- Resident
  - I like the focus on multi-family chargers – which we’ll need more of if we actually build more multi-family housing units
- Resident
  - How will this be addressed for tenants? They make up about 40% of the city, so it depends on their landlord to go along with it.
- Resident
  - I would very much like to see support for chargers at low income residential facilities.

4. By 2022, develop a strategic plan to encourage charging of inbound EVs within Palo Alto

- Palo Alto Non-Profit
  - Change to Goal Date 2022 to 2021
- Resident
  - This should be done before the end of 2020.

5. Continue to electrify municipal fleet as opportunities arise, and by 2021 develop a comprehensive fleet electrification workplan and associated EV charging needs

- Resident
  - Electrifying City vehicles is super important because a) city vehicles currently are big idlers because they run equipment in their cars/trucks; b) the batteries in the large trucks (and school busses), could be used as power sources in a significant power outage
- Palo Alto Non-Profit
  - Change to Goal Date from 2021 to 2020
  - Add: “Palo Alto shall convert 50% of their fleet to EVs by 2025”.
- Resident
  - I would like to see the vast majority of the city fleet be electric. we need to "walk the walk."
  - Again, we are past discussion and should be more action focused.

Electric Vehicles: Suggestions for New Key Actions

- Palo Alto Non-Profit
Create New Potential Key Action #6: "Shift 80% of car charging within the City to daytime hours: 8am-3pm, in order to take advantage of cheap, abundant solar energy."
  ▪ This would likely need to be done through strong incentives, such as lower electricity rates during these hours.
Create New Potential Key Action #8: Require electric construction equipment on municipal projects and large commercial projects.
Create New Potential Key Action #9: Require commercial fleet operators to convert 50% of their fleet to EVs by 2025.
- Evergreen Park Resident
  o New Key Action: City will both educate and encourage CARB to set a ZEV mandate that supports Palo Alto's EV goals.

Electric Vehicles: General Feedback

- Old Palo Alto Resident
  o Using numbers of EVs instead of EV-miles-traveled is a questionable metric. An EV sitting in a driveway or garage does nothing for carbon emissions. For the public it may not be feasible to measure miles traveled. For the City fleet, it should be.
- Green Acres II Resident
  o Adopting policies that allow EV transportation to be more accessible to all city residents, including multi-unit residents would set the stage for more EV adoption.
- Barron Park Resident
  o The goals and key actions for EVs are a good starting point but don’t go far enough, and to be meaningful, there needs to be real numbers for EV adoption each year and how this relates to the 80 by 30 goal. Without this we have no way of knowing if actions will get us there or what our progress to these goals really are each year. While EVs are zero emission, if we were to wave a magic wand and turn all gas cars to electric we would still have parking and congestion problems so we really need to focus on reducing VMT and SOV as well.
- Midtown Resident
  o The Electric Vehicle section of the Plan is pretty thin, and mostly boil down to developing by 2022 a plan to encourage EVs. I think we need to accelerate this. Might we partner with Tesla to find ways to accelerate EV penetration?
- Resident
  o All vehicles driven within Palo Alto must be required to be EVs. Non-compliant vehicles should have to pay a “climate tax” depending on their carbon emissions/mile if they are driven within city limits.
- Professorville Resident
  o I very much like your idea of promoting the use of electric cars. That is a good use for electricity.
- Professorville Resident
  o Expand to include Hydrogen vehicles. The state is investing a ton of money in a network of filling stations. And Toyota, at least, is totally in to get H2 car cost down and have this segment grow like the Prius did. Doesn’t take much to support this useful effort. And with more schemes to produce H2 using clean energy, even though it’s less efficient, we can avoid a mountain of dead batteries that need to be recycled or disposed of somehow. So far there seems to be little thought/planning aimed at what to do with mountains of used Li batteries
- **Midtown Resident**
  - The City boasts of having 4,000 EV's (electric cars/vehicles) in Palo Alto. This is true, but the City bought only a handful of EV's! Those (approximately) 4,000 EV's were purchased by individual residents for their own personal use. The City did install dozens of Level II charging stations for electric cars, but not the fast (Level III) chargers. Approximately 90% of charging is done at home - by residents using their own garage outlets - while only about 10% is done at charging stations.

- **Palo Alto Youth Group**
  - We urge Palo Alto to develop and adapt a plan for electric vehicle infrastructure construction in all buildings (multi-family, non-profits, small commercial sites), EV charger networks, and a comprehensive electrification plan by 2021. This plan should include effective and efficient strategies that do not inconvenience residents.
  - Additionally, we believe that incentivizing the use of electric bicycles would greatly improve our path to the 80x30 goal. Putting in more bicycle racks and making it easier to carry a bike on Caltrain could decrease the amount of people in fossil fuel-powered cars. In addition, electric busses can also be very effective for reducing car traffic and the city's carbon emissions.

- **Resident**
  - As a tenant, I can see potential issues trying to encourage a larger EV charging network. Perhaps we may need to start enforcing a strict minimum EV charging quota for parking lots and/or neighborhood streets.
  - EVs are inherently a significant cost to most families, especially given economic downturns and people driving their cars for longer. We are going to need stronger incentives for moving to them; perhaps an added gas tax or cheaper rates for utilities for supporting them.

- **Resident**
  - How to ensure renters in old rentals have infrastructure to charge a vehicle? Most older rentals wiring sketchy already.

- **Midtown Resident**
  - Here are some ideas to include in the updated Plan:
    - 6) Because EVs charged at home at night generally mean that the energy entering the car has to be stored somewhere during the day, EV charging at night requires substantial energy storage capacity. Therefore, the City should encourage EV charging during the day when solar energy -- ideally generated by collectors placed on carports -- is most available. This will generally mean that EV chargers should be placed at worksites and in public lots. Therefore, the City should incentivize EV chargers at workplaces.
    - 7) To support placement of EV chargers at multi-family complexes, the City should explore taking on some portion of the installation costs, either through getting a discount for a "group buy" of EV chargers or through playing for needed trenching or other electrical work.
    - 8) Organize "group buys" of EVs both for the City fleet and for fleets of large employers such as the PAUSD, Palo Alto Medical Foundation, etc. Make such purchase opportunities available to residents and those who work in Palo Alto as well. Group purchase rates should also be found for EV charging equipment; perhaps some large corporations could put their procurement staff to work on setting up such a plan for several large employers and the City. Here again, we need to think"scale."
- Resident
  o I am in support of the S/CAP with this improvement: Include reduced permit price, $85.00, for EV charger installation.

- Palo Alto Non-Profit
  o In coordination with other cities with similar climate goals, be a horsefly in the ears of the California Air Resources Board in driving them to adopt a more stringent Zero Emission Vehicle regulation in both increasing the EV numbers and types;
  o Focus on maximizing low power (level 1) EV charging infrastructure in multi-dwelling units (MDU) versus funding a few token level 2 chargers per MDU and/or additional public infrastructure)
  o Support Bay Area wide EV & electrification related educational and outreach events especially hands on events such as EV ride and drives and induction cooking demonstrations.

- Resident
  o Regarding electric vehicles, require that all parking spaces have the requisite conduit for EV charging for new construction in addition to the rules enacted by Palo Alto in 2014. And reconvene the Electric Vehicle Task Force to develop a proposal for remodels of existing buildings. Advertise and promote the Clean Cars for All Initiative of the Bay Area Air Quality Management District. https://www.baaqmd.gov/funding-and-incentives/residents/clean-cars-for-all/apply Consider electric motorcycles for the Police Department (yes, there are special police versions) when we purchase new ones.

- Resident
  o I need to be able to plug my car in at my curb. Can I please run a plug to the curb? This is the barrier to my getting an EV. We can't put both cars in our driveway. I'll pay for all of this. You just need to make it permittable.

- Resident
  o It is confusing to say we are carbon neutral, since it depends when in the day/season we are talking about.

- Resident
  o Without govt. intervention, this transition is nevertheless inevitable. Probably can accelerate the process a little. Focus on chargers at shared-occupancy residences. The rest will probably take care of itself.
  o This topic should also take autonomy into account. Low income households, with the right incentives, might prefer to use shared vehicles. As may we older residents, more's the pity.
  o The issue of the impact on the electrical grid needs to be front and center, unless your Utility folks are already confident they can meet the demand, but steady state and instantaneous.

Water

Potential Goals
  ➤ Reduce per capita water use compared to 2019
Increase the percentage of recycled water used (volume of recycled water/recycled water filter capacity) by 10% in 2022 compared to 2019
Reduce the total dissolved solids by 50% compared to 2019 base year
Manage stormwater to slow the flow to receiving waters and improve water quality to protect the SF Bay, while also treating it as a beneficial resource for alternative uses

Water: Feedback on Potential Goals

- Resident
  - It is very hard to comment on these goals without explanation as to what they provide.

- Reduce per capita water use compared to 2019
  - Palo Alto Non-Profit
    - Add a measurable target such as “Reduce per capita water use by x% (or to xx gal/day) by 202x compared to 2019”
  - Resident
    - This is unspecific and lacking in information - with no data, why pick 2019 as base year?
  - Resident
    - For the per-capita water use, should there be a percentage target? It would temper expectations.
  - Resident
    - Reduce how much? And over what time period. 20%?
  - Resident
    - Conservation is always a good thing.

- Increase the percentage of recycled water used (volume of recycled water/recycled water filter capacity) by 10% in 2022 compared to 2019
  - Mountain View Resident, Palo Alto Small Business Owner
    - Would increase recycled water used by more than 10% in 2022.
  - Downtown North Resident
    - Recycled water goals should be more aggressive.
  - Resident
    - Is it not possible to increase recycled water usage by more?
  - Resident
    - I'm in favor of expanding recycled water when possible

- Reduce the total dissolved solids by 50% compared to 2019 base year
  - Barron Park Resident
    - This needs more explanation. What is the water that you are addressing? Incoming water, wastewater, recycled water? I would add to the goals, a date certain for the phase out of ground water pumping for home building. The city should not be supporting this.
  - Palo Alto Non-Profit
o Remove Potential Goal #3. Does this goal affect greenhouse gas emissions? While worthy of work in improving sustainable water infrastructure, perhaps it is lower priority than the climate goals.

- Resident
  o I don’t understand "Reduce the total dissolved solids by 50%". What are dissolved solids? I would ask that the City devise a way(s) for buildings like mine, with 55 condos, so that individual units pay for THEIR water use. Now it's divided equally among all 55 units. I can conserve all I want while someone else is profligate. Again, the pocketbook moves people more than info and encouragement.

- Resident
  o I don’t know what we get by reducing solids by 50%. Would be helpful to know what are consequences of this.

Manage stormwater to slow the flow to receiving waters and improve water quality to protect the SF Bay, while also treating it as a beneficial resource for alternative uses

Water: Suggestions for New Goals

- Palo Alto Resident
  o Most important goal is missing- Reduce the amount of wastewater going to the main plant by incentivizing using washing machine water and shower water used in landscaping for native plantings to promote biodiversity and healthy ecology. Recycled water is energy-expensive. And pumping it back uphill to homes is extremely energy intensive. Much better to FIRST REDUCE the amount of water that goes down the sewer.
  o Similarly, use the concept of bioswales for storm water and measure this metric to see how much water can be reduced in the storm water drains and go instead to grow the trees and plants and into the ground water storage. Trees hold and use up tons of storm/rain water - increase the urban forest using green infrastructure.

- Resident
  o I would like to see allocation of water to back-yard landscaping of fruit trees and native plantings, so - a cross-benefit rather than Silo type goal to support biodiversity and increase food security

- Resident
  o I would like to see a complete ban on basement construction and ground water waste.
  o I would like to see purple pipes installed whenever possible when we have a utilities project that requires digging.

- Resident
  o Should there be goals related to groundwater (continue ensuring emergency supply)?

- Resident
  o Add water reuse capability as a long-term goal (for businesses - gray and blackwater for example)

Water: Potential Key Actions to explore further
(These potential Key Actions do not represent all the work that the City is doing or will be doing related to climate change and sustainability. These are the actions we will be prioritizing. They are numbered to make it easier to refer to specific Actions. They are NOT numbered based on priority.)
<table>
<thead>
<tr>
<th># of Votes</th>
<th>Potential Key Actions</th>
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<td>1. Maximize cost-effective water conservation &amp; efficiency</td>
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<td>2. Expand the use of effluent from the Regional Water Quality Control Plant through Non-Potable Reuse, Indirect Potable Reuse, or Direct Potable Reuse</td>
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<td>3. Establish quantifiable baseline and targets for implementation of green stormwater infrastructure on private property, municipal facilities and public rights-of-way by 2024</td>
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<td>4. Design and build a salt removal facility for the Palo Alto Wastewater Treatment Plant</td>
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<tr>
<td>6</td>
<td>5. Develop a &quot;One Water&quot; Portfolio for Palo Alto</td>
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**Water: Feedback on Potential Key Actions**

- Barron Park Resident
  - On the Priority of the Key Actions, I think the existing listing is OK.
- Palo Alto Non-Profit
  - We applaud the clear delineation of the water-related goals and key actions. We prioritize Key Action #5 One-Water Portfolio, and Key Action #3 Green Stormwater Infrastructure.
- Resident
  - If no water is allocated to backyard habitat and fruit trees, these Key Actions can lead to desertification of our beautiful city

1. Maximize cost-effective water conservation & efficiency

- Resident
  - Too general. Metrics? Who is going to do this, how will they do it and when will we know it’s been achieved?
- Resident
  - Too vague; sharpen
- Downtown North Resident
  - Please include a basic educational component on water conservation for PA residents

2. Expand the use of effluent from the Regional Water Quality Control Plant through Non-Potable Reuse, Indirect Potable Reuse, or Direct Potable Reuse

- Resident
  - I am most excited by #2. Recycled water in toilets is such a great idea.

3. Establish quantifiable baseline and targets for implementation of green stormwater infrastructure on private property, municipal facilities and public rights-of-way by 2024

- Resident
  - Good but, in 4 more years? Atherton has had a plan since 2013.
- Resident
  - Very important
- Resident
#3 is also very important. We need to expand education to residents to not wash their cars on their driveways, with soapy water running into the storm drains. I see so many people doing this and I don't feel comfortable confronting them but all that soap going to the Bay is so sad!

- Expand stormwater and wastewater outreach efforts on social and earned media.
  - Resident
    - I think it is always helpful to have a quantifiable baseline in order to manage goals, but not sure what this means in this context.
  - Resident
    - What does item 3 mean?
  - Palo Alto Non-Profit
    - The third goal is not clear, assume this is for recycled water.

- Revise: “Establish quantifiable baseline, targets, and incentives for implementation of green stormwater infrastructure on private property, municipal...” By including incentives into the Key Action, it is more likely that private property owners will implement green stormwater infrastructure such as rainwater catchment, permeable hardscape, and bioswales.
  - Resident
    - Could be important. Encourage creation of "rain garden" type runoff catchments

4. Design and build a salt removal facility for the Palo Alto Wastewater Treatment Plant

  - Barron Park Resident
    - Needs better description. What is this addressing, recycled water, wastewater, incoming water to the plant? Is this to be a desal plant? How much energy will this take? In any case where does the salt go? More verbiage is needed here for people to understand what you are talking about.
  - Resident
    - Is this desalinization?
  - Palo Alto Non-Profit
    - Remove Potential Key Action #4: This action appears to support Potential Goal #3.
  - Mountain View Resident, Palo Alto Small Business Owner
    - Do not like 4
  - Resident
    - What would the cost of "salt removal facility" be?

5. Develop a "One Water" Portfolio for Palo Alto

  - Resident
    - YES! The sooner, the better. “When we embrace the belief that water in all its forms has value [including shallow groundwater that is currently pumped into the storm drain when building underground], the full water life cycle can be optimized to build strong economies, vibrant communities, and healthy environments”. All other aspects of water planning fall under the “One Water Portfolio”.
    - Value shallow groundwater as an important part of our water portfolio.
  - Resident
#5 is very important because its focus is systemic. It should drive all the other key actions.

- **Bozeman Resident**
  - Glad that we are addressing the ecosystem’s needs as well as people. Can we include more programs that addresses the protection of the ecosystem?

- **Resident**
  - What is a "One Water" Portfolio? This is confusing use of jargon.

- **Resident**
  - I don’t understand what a one water portfolio means and how it is helpful. generally, I think it is helpful when all stakeholders are working together.

## Water: Suggestions for New Key Actions

- **Palo Alto Non-Profit**
  - We would like to see the following two new key actions:
    - New Key Action: “Require climate-appropriate, drought-tolerant species in public and private plantings. Expand the requirements of the Water Efficient Landscape Ordinance (WELO) to further the S/CAP goals.” This new key action will link the Water and Natural Environment areas.
    - New Key Action: “Ensure that water conservation measures in the landscape during drought and at all times, adhere to the California State “Save our Water and our Trees” principles to ensure existing trees are not lost. Trees are the most valuable component of the landscape for the long-term investment they represent and the magnitude of the benefits they provide. The work of converting the Palo Alto urban forest to a drought-tolerant, climate adapted forest has begun but it will take many years to get there. Meanwhile existing trees need to be kept alive.

- **Palo Alto Non-Profit**
  - Create New Potential Key Action #6: “Create streamlined design guidelines and permitting process with minimal fees for onsite potable and non-potable water reuse on private (residential and commercial) property.”

- **Resident**
  - Mandate inclusion of gray water plumbing in new construction for toilets, etc.

- **Resident**
  - I also think that you need to allow for the wide-scale use of gray water on private property. This needs to be a supported option for new construction, as well as a legal possibility for homeowners who want to divert their gray water for yard use.

- **Mountain View Resident, Palo Alto Small Business Owner**
  - All new house should have two pipe 1) for grey water and 2) for sewer water - this should be implemented immediately and should take higher priority of all electric houses.

- **Palo Verde Resident**
  - Add: Encourage planting of and landscaping with native trees and plant to increase rainfall.
  - It would be good if the role of native species and plant/tree groundcover encourages rain were talked about here. Less concrete. More native greenery.

- **Resident**
o Pairing GSI projects with road diets and more protected (class IV) bike lanes is a win-win.

o If there's a way to distinguish water used/develop a model to distinguish home water use vs. irrigation vs. water to grow edibles, that would be awesome. Water to grow edibles (and reduce transportation miles associated with the food we eat) should not be discouraged.

- Resident
  o New Key Action: Develop a program for properties to support backyard habitat and vegetable/fruit gardens

- Resident
  o Suggest including actions related to groundwater, particularly resilient emergency supply.

- Resident
  o Add rainwater collection as a key action for both residential and commercial.

**Water: General Feedback**

- City of Palo Alto Staff
  o Is the City considering/planning to reduce lawn areas on City property (parks, schools) in an effort to reduce water use? Does the City plan on collecting/storing stormwater on City property to use for irrigation in dryer months?

- Professorville Resident
  o Accelerate Direct Potable Reuse so it available when it becomes absolutely needed. Cooperate with San Jose and others in this effort. Don’t reinvent.

- Barron Park Resident
  o While water will be an important resource to manage, since there are no direct GHG reductions that will result from these goals and actions, I would put other parts of the SCAP at a greater priority. The goals and key actions look pretty good and the city is already doing a good job at addressing this.

- Palo Alto Youth Group
  o **Focusing efforts on educational programs** to inform the populace on climate change and water-waste is a crucial element in reaching Palo Alto’s goal of waste reduction. Incentives should be put in place to use recycled water, low-volume flush toilets, and greywater for outside watering. Strategies might include providing water recycling containers that could be automatically installed in buildings, as well as providing government discounts on low-volume flush toilets to landlords/home-owners.

  o We should encourage the use of drought-resistant and native California plants in commercial and residential plots to restore and improve the environment and reduce outdoor water usage. Urban cities in drought-stricken areas should seek to leverage nature-based solutions to combat existing climate conditions. The prioritization of drought allocation plans (CA will have more frequent severe droughts in the future) should be enforced to ensure our resilience.

  o Efforts by Palo Alto to approve a Final Green Stormwater Infrastructure plan (GSI) puts us in a good position to further prioritize and start development of green stormwater infrastructure, which will both help reduce urban heat, reduce pollution within the city and SF Bay, and improve the local environment.

- Midtown Resident
- Palo Alto has been doing a good job on water conservation and management, and the goals and actions outlined are good ones. One area that should be added to this section, however, is groundwater. When groundwater is pumped for construction of residential basements, it causes ground subsidence. As the soil settles, this, in turn, causes cracks to appear in nearby homes, creating potential structural problems and lowering property values. The City should outlaw the pumping of groundwater for the purposes of residential basement construction.

- Palo Alto Resident
  - Alternative uses....such as growing a habitat- supportive urban forest using storm water in bioswales.
  - Also, making more porous ground surface on properties, by making sidewalks, and driveways and patios using pervious materials. Requiring all new concrete to be pervious concrete in the city.

- Resident
  - I'd give anything to install significant capacity for grey and rainwater collection for irrigation, but at this point I'd need significant subsidization. If required for new construction, though, it wouldn't be that expensive. As always, I'm willing to be a test case if anybody's interested in discussing it. Deals with all four of your major goals. While at it, installing heat exchange tech may not add that much to the cost, by the way.
  - Thanks for the opportunity to rant.

- Resident
  - Educate residents about how they can conserve water and store rainwater for their lawns. A website for this would help.

- Resident
  - Use less water sprinkling in city parks. Many parks way over watered.
  - Encourage the installation of concrete pavers vs. the use of concrete and asphalt driveways.

- Bozeman Resident
  - Can we limit or educate communities about drinking water? Letting people know that it is safe to use tap instead of purchasing bottled water.
Seeking Feedback on 2020 Sustainability and Climate Action Plan Goals and Key Actions

Utilities Advisory Commission
May 20, 2020

Staff: Shiva Swaminathan

cityofpaloalto.org/sustainabilityplan
Today’s Objectives

• Review the 2020 Sustainability and Climate Action Plan (S/CAP) Update Process

• Seek UAC input on 2020 S/CAP Goals and Key Actions
Current S/CAP made up of three components:

1. 80 x 30 Goal – adopted April 2016
3. 2018-2020 Sustainability Implementation Plan (SIP) – accepted Dec 2017

2020 Council Priority: Sustainability, in the context of climate change

2020 S/CAP focus areas: Energy, Mobility, Electric Vehicles, Water, Climate Adaptation and SLR, Natural Environment, Zero Waste

- Goals related to Energy, Mobility and Electric Vehicles key to meeting 80 x 30 Goals

Staff drafted Goals & Key Actions for community input
Sustainability and Climate Action Plan Team Leads

**ENERGY**
Christine Tam
Evon Ballash

**MOBILITY**
Sylvia Star-Lack

**ELECTRIC VEHICLES**
Shiva Swaminathan
Hiromi Kelty
Mike Nafziger

**WATER**
Karla Dailey
Karin North

**CLIMATE ADAPTATION**
Julie Weiss
Christine Luong

**NATURAL ENVIRONMENT**
Walter Passmore
Pam Boyle Rodriguez

**ZERO WASTE**
Paula Borges
Maybo AuYeung
Wendy Hediger
GHG Emissions Down ~36% in Palo Alto (56.5% with offsets)

Palo Alto Municipal Operations and Community GHG Emissions

- Road Travel into, from, and within City
- Palo Alto Landfill Fugitive Emissions
- Wastewater Process Emissions
- Natural Gas Use
- Landfilled Unrecovered Recyclables
- Lifecycle Emissions From Annual Total Waste Placed in Landfills
- Natural Gas Distribution Leakage
- Net Brown Power Emissions (Weather adjusted)

cityofpaloaltono.org/sustainabilityplan
GHG Emissions Down ~36% in Palo Alto (56.5% with offsets)

Palo Alto Municipal Operations and Community GHG Emissions

80 x 30 Target (150K MT CO2e)
# 2020 S/CAP Update Proposed Process

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## Consultant and Staff Work
- **2020 S/CAP Update**
- **Draft Goals and Key Actions with Community input**
- **2019 Greenhouse Gas Inventory**
- **Impact Analysis of Goals and Key Actions**
- **Draft 2020 S/CAP**
- **Finalize 2020 S/CAP**
- **Final CEQA Report**
- **Adopted 2020 S/CAP Update**

## Community Engagement
- **2020 S/CAP Update Workshop**
- **2020 S/CAP Update Summit**
- **On-going On-Line Community Engagement**
- **2020 S/CAP Update Area-Specific Community Engagement**

## Council Meetings
- **Council Info Report**
- **Council Study Session**
- **Council Action Item**
- **Council Study Session**
- **Council Adopts 2020 S/CAP**

[cityofpaloalto.org/sustainabilityplan](http://cityofpaloalto.org/sustainabilityplan)
First Virtual Community Workshop

- Opportunity to provide feedback on Goals & Key Actions

- Number of Participants (204 total)

  156 Part 1: Overview
  79 Part 2: Energy
  63 Part 3: Mobility
  68 Part 4: Electric Vehicles
  51 Part 5: Water
  59 Part 6: Climate Adaptation and Sea Level Rise
  52 Part 7: Natural Environment
  59 Part 8: Zero Waste
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For more information, visit [cityofpaloalito.org/sustainabilityplan](http://cityofpaloalito.org/sustainabilityplan)
Feedback Sought Today


2. Additional Goals and Key Actions to consider to reach 80 x 30 GHG reduction goal
Next Steps

1. City Council Input on updated Goals and Key Actions – June 8
2. Completed 2019 GHG Inventory and BAU Forecast – end of June
3. AECOM Impact Analysis – GHG Reduction potential, Estimated Costs, Sustainability Co-Benefits – August / September
4. UAC, PRC, PTC input – Early Fall
5. Council review of 2019 GHG Inventory, BAU Forecast, impact analysis, community input received to date – Early Fall
6. 2020 S/CAP Summit – Early Fall
7. First draft of 2020 S/CAP – December 2020
8. CEQA Review and Adoption of 2020 S/CAP – April 2020