



# City of Palo Alto

## City Council Staff Report

(ID # 10355)

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**Report Type: Consent Calendar**

**Meeting Date: 6/3/2019**

**Council Priority: Climate/Sustainability and Climate Action Plan**

**Summary Title: Accept Sustainability Work Plan**

**Title: Policy and Services Committee Recommends the Council Accept the 2019-2020 Sustainability Work Plan**

**From: City Manager**

**Lead Department: Public Works**

### **Recommended Motion**

Staff and Policy and Services Committee recommend that City Council accept the attached 2019-2020 Sustainability Work Plan which implements one of the Council's four key Priorities for 2019.

### **Executive Summary**

Consistent with the Council's adoption of "Climate/Sustainability and Climate Action Plan" as one of the top four Priorities for CY 2019, staff prepared a high-level Sustainability Work Plan to guide the City through CY 2019 and 2020. The key components of the Work Plan are largely taken from the 2018 – 2020 Sustainability Implementation Plan, which was accepted by Council late in 2017. The first section of the Work Plan is divided into seven program areas: Energy, Mobility, Electric Vehicles, Water, Sea Level Rise & Climate Adaptation, Natural Environment, and Zero Waste. These seven areas all support the City's over-arching goal of an 80 percent reduction in greenhouse gas emissions by 2030. In addition to this goal, traffic reduction; economic vitality; equity; water conservation and reuse; sea level rise adaptation; ecosystem protection; enhancing the urban forest and canopy cover; and waste reduction goals are also supported by these seven areas.

Example key components of the 2019 Work Plan are: launching an induction cooktop campaign to begin electrification of cooking; initiating "Mobility on Demand" pilot software to assist City staff with reducing single occupancy vehicle commuting; completing the City's first Green Storm Water Infrastructure Plan; completing the City's Sea Level Rise Policy; developing a carbon sequestration tree planting project; adopting a "Deconstruction" Ordinance to reduce waste; and eliminating the gas incineration of the community's sewage sludge.

## Background

In April 2001, Palo Alto City Council adopted a [Sustainability Policy](#)<sup>1</sup> 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: in 2007 adopting one of the first municipal [Climate Action Plans](#)<sup>2</sup> in the US; in April 2016 adopting an ambitious goal of [reducing Greenhouse Gas \(GHGs\) emissions 80 percent below 1990 levels by 2030](#)<sup>3</sup> - 20 years ahead of the State of California 80 x 50 target; in November 2016 adopting the [Sustainability and Climate Action Plan \(S/CAP\) Framework](#)<sup>4</sup>, which has served as the road map for achieving Palo Alto's sustainability goals; as of July 1, 2017, providing 100 percent carbon neutral natural gas — 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; in November 2017 adopting the [2030 Comprehensive Plan](#), which includes 10 sustainability goals and over 50 sustainability-related actions outlined in the 2030 Comprehensive Plan Implementation Plan; and, in December 2017 accepting the [2018-2020 Sustainability Implementation Plan \(SIP\) "Key Actions" as a summary of the City's work program](#)<sup>5</sup>.

## Discussion

Although the 2018-2020 Sustainability Implementation Plan (SIP) provides key actions through the end of 2020, staff believes Council will be well served by a summary of the specific projects related to those actions. Staff prepared the attached Sustainability Work Plan (Attachment A) for Council review. The Work Plan highlights the most important projects related to the SIP, and includes other key sustainability items, such as the 2020 S/CAP Update workplan, sustainability items that will be coming to Council, and global milestones of note that may influence the work.

One important initiative that touches on multiple SIP areas is the development of City of Palo Alto "reach codes." These codes are more stringent code requirements than State of California requirements and are intended for incorporation into the building code updates that will become effective on January 1, 2020. Staff report #10208 (Attachment B) provides an update on the City's partnerships with local stakeholders and statewide and regional coalitions to evaluate potential reach code requirements, with a focus on building electrification.

The Policy and Services Committee, at the April 3 meeting, voted to recommend the City Council:

- A. Accept the Work Plan for the 2018-2020 Sustainability Implementation Plan;

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<sup>1</sup> <https://www.cityofpaloalto.org/civicax/filebank/documents/7856>

<sup>2</sup> <https://www.cityofpaloalto.org/civicax/filebank/documents/9946>

<sup>3</sup> <https://www.cityofpaloalto.org/news/displaynews.asp?NewsID=3534&TargetID=268>

<sup>4</sup> <https://www.cityofpaloalto.org/civicax/filebank/documents/60858>

<sup>5</sup> <https://www.cityofpaloalto.org/civicax/filebank/documents/63141>

- B. Direct Staff to explore the Cambridge, MA model of requiring protected bike lanes when significant roadwork is undertaken; and
- C. Direct Staff to explore including all vehicle types in “Electric Vehicle” programs, striking a better balance between cars and other vehicle types.

Staff amended the Work Plan by adding the following key actions to Mobility: include the bikeshare and E-Scooter Pilot, and explore the feasibility of protected bike lanes; and the following key action to Electric Vehicles: add Zero Emission Motorcycle incentives and charging information on EV webpage.

### **Resource Impact**

Appropriate resources are already in place or being considered through the FY 2020 budget process to implement the actions described in the Work Plan. Highlighting and tracking key components of the SIP will not require significant additional resources.

### **Environmental Review**

Highlighting and tracking key components of the SIP does not constitute a project under CEQA.

### **Attachments:**

- Attachment A - 2019-2020 Sustainability Workplan
- Attachment B - Green Building Program Update

		2019					2020						
		Jan/Feb	Mar/Apr	May/June	July/Aug	Sep/Oct	Nov/Dec	Jan/Feb	Mar/Apr	May/June	July/Aug	Sep/Oct	Nov/Dec
2018 - 2020 SIP and S/CAP IMPLEMENTATION	Energy	Launch new energy efficiency programs, residential electrification assessment, and induction cooktop campaign; expand electric heat pump water heater (HPWH) marketing campaign; eliminate gas incineration of the community's sewage sludge (June)				Adopt local energy reach code and green building ordinance to support low emissions building design		Explore a Zero Emissions Building Roadmap, promote all-electric new construction projects, complete Multifamily Gas Furnace Heat Pump pilot, collaborate with other local governments and CCAs (Community Choice Aggregation) to drive market transformation of HPWH					
	Mobility		Initiate FTA-funded Mobility on Demand Pilot, extend Bikeshare & E-Scooter Pilot Program (March)	Complete Phase 1 and 2 of the Charleston-Arastradero Corridor Project, explore the feasibility of protected bike lanes			Continue to fund the Palo Alto TMA (Transportation Management Association), begin Phase 3 of the Charleston-Arastradero Corridor Project, begin preparation of environmental documents for the preferred rail grade separation alternative						
	Electric Vehicles	Plan for EV charging on the distribution system in residential neighborhoods, expand rebate program, diversify the EV charging network, conduct expanded educational events, add Zero Emission Motorcycle incentives and charging information on EV webpage					Continue to explore ways to diversify the charging network, explore Distributed Energy Resources (DER) adoption and pilot programs for EVs and battery storage, explore EV Pilots in City fleet, expand EV procurement in City fleet to light trucks, develop educational events						
	Water		Complete Green Stormwater Infrastructure Plan (May)		Complete the Northwest County Recycled Water Strategic Plan (July 1), CEQA for Salinity Removal Facility (Sept)		Complete the Water Integrated Resources Plan (WIRP), explore potential ordinances and programs to expand onsite water reuse systems, implement the Green Stormwater Infrastructure Plan						
	Sea Level Rise	Public Review of SLR Policy (Feb)	Complete SLR Policy (Mar)		Conduct SLR Vulnerability Assessment. Explore development of a SLR Task Force			Develop Draft SLR Adaptation Plan (pending budget approval)				Bring SLR Adaptation Plan to Council	
	Natural Environment	Update Urban Forest Master Plan (Feb)		Develop a Carbon Offset Project for South Palo Alto			Implement the 2019 Urban Forest Master Plan						
	Zero Waste	Expand GreenWaste Contract to include new zero waste programs (Feb)		Complete Construction / Deconstruction Ordinance and Food Ware Ordinance (May)		Garbage Processing Solicitation for services after 2021 (to improve diversion)		Begin to enforce Single-Use Food Ware and Reduction Ordinance		Begin to enforce Phase 1 of Construction / Deconstruction Ordinance (July 1)			
2020 S/CAP UPDATE (Sustainability and Climate Action Plan) PREPARATION		Review Existing Key Actions + USDN GHG Reduction High Impact Practices + CNCA Game Changers + 2030 Comp Plan		Review Ideas, Generate New Ones			New Draft List of Ideas; Begin work on incorporating sustainability in CIP process and staff reports			Final List of Action Items			
				Advisory Committee, Sustainability Leadership Team (SLT), and SIP Teams Review			Public Input, ELT Review			Advisory Committee, SLT, SIP Teams, and ELT Review			
			Consultant Selection:	Prep CMR	CMR to Council	Prepare RFP	Select Vendor	Contract	Consultant Work: 1. GHG Emissions and Sustainability Benefits, 2. Transportation Data, 3. CEQA Review				
MEETINGS AND MILESTONES		Public Meeting for SLR Policy (Feb 27)	Council Meetings: Mar 18 - SLR Policy, Connecting Palo Alto Grade Separation Recommendations; Apr 15 - SIP Update; May 13 - Green Stormwater Infrastructure; May 20 - Watershed Protection Ordinance updates, Integrated Regional Water Management Plan; June 10 - Ordinance Amending Title 5 of Municipal Code (Construction Site Deconstruction & Salvage, Food Ware & Plastics); Sept 16 - Stormwater Ordinance, Sanitary Sewer Ordinance, Waste Haulers Ordinance, Groundwater Ordinance Parks and Recreation Commission Meeting: Mar 26 - SLR Presentation Policy and Services Committee: Apr 3 - Sustainability					Council Mtg: SIP Update (Apr)		Council Mtgs: 2020 S/CAP Input; Adopt SLR Plan (both by Dec)			
		Jan Cleantech Forum, SF	May International Conference on Climate Action, Heidelberg, Germany		Sep UN Climate Summit, NYC		Nov COP 25, Chile			CA - Reduce: GHGs to 1990 Levels, carbon intensity of transportation fuels by 10%, urban water demand by 20%, landfill use by 75%; Renewable Portfolio Standard (RPS) 33%; all new residential construction will be zero net energy (ZNE)			COP 26 - Submit climate pledges



# City of Palo Alto

## City Council Staff Report

(ID # 10208)

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**Report Type: Informational Report**      **Meeting Date: 4/1/2019**

**Council Priority: Climate/Sustainability and Climate Action Plan**

**Summary Title: Green Building Program Update**

**Title: Green Building Program Update**

**From: City Manager**

**Lead Department: City Manager**

### **Executive Summary**

This memo provides an interim update on the City of Palo Alto's recent efforts related to its Green Building Program. The City's Sustainability Implementation Plan (SIP) commits to exploring green building, energy efficiency, and electrification policy options that go beyond code minimum in the next update to our building codes. The next applicable code update cycles will be the adoption of the 2019 California Code of Regulations, Title 24, that incorporates the 2019 California Green Building Code and 2019 California Energy Code. Once adopted, these regulations will be enforceable starting on January 1<sup>st</sup>, 2020. Staff will return to Council in the latter half of 2019 with proposed regulations to provide increased standards to these codes. In the interim, this memo summarizes the City's work over the last year in support of this effort and summaries recent progress in related ongoing programs to support green building in Palo Alto.

### **Background**

Every three years, the State of California adopts new building standards that are codified in Title 24 of the California Code of Regulations, referred to as the California Building Standards Code. Since 2008, Palo Alto has a history of developing requirements that are more stringent than the baseline State requirements in the California Green Building and Energy Codes; we refer to our more stringent requirements as "reach codes" because they reach beyond the state standards.

Energy efficiency requirements reside in chapter 16.17 of the Palo Alto Municipal Code, which adopts and modifies the current version of the California Energy Code. Water efficiency, electric vehicle charging, material conservation, resource efficiency, and indoor air quality requirements reside in chapter 16.14 of the Palo Alto Municipal Code which adopts and modifies the current version of the California Green Building Code.

These local energy and green building regulations are intended to create a new generation of efficient, environmentally responsible, and healthy buildings. The current energy requirements in the Palo Alto Municipal Code include specific cost-effective compliance options that are triggered on permit applications for the following project types: 1) new single-family residential, 2) new multi-family residential, and 3) new commercial construction. More detailed information about the City's Energy Reach Code Ordinance may be found in [the staff report for the last update to this portion of the code from May 2, 2016 \(ID #6796\)](#), when the Council voted 9-0 to adopt and amend the code as recommended.

## **Discussion**

This staff report will summarize staff progress in three areas:

- Green Building Summit and Green Building Technical Advisory Group: Community engagement and policy development efforts to inform our green building and energy code updates;
- Statewide and Regional efforts: the City of Palo Alto has partnered with other jurisdictions to strengthen broader coalitions to promote sustainability gains in the green building arena; and
- Ongoing Green Building Compliance and Incentive Programs: the City of Palo Alto continues to provide exceptional customer service support and financial incentives to strengthen the impact of the City's green building priorities.

### ***Green Building Summit and Green Building Technical Advisory Group***

Several years ago, City staff convened a multi-disciplinary stakeholder committee, the Green Building Advisory Group (GBAG), to gain knowledge and suggestions for consideration into municipal code changes. GBAG is comprised of architects, engineers, energy modelers, developers, and contractors, and has met regularly since 2013 to help staff develop new recommendations for local green building and energy policies.

On February 22, 2018, the City of Palo Alto hosted the "Green Building Summit" at Mitchell Park Community Center. The summit included the GBAG members and a panel of several distinguished guest experts, including Commissioner Andrew McAllister of the California Energy Commission, and Jason McLennan, the creator of the Living Building Challenge and an internationally-recognized leader in green building and sustainability. More than 50 community members joined with City staff from multiple departments to explore ways to address local priorities in the upcoming 2019 California Code of Regulations, Title 24 update around energy efficiency, water efficiency, electrification, emissions, indoor air quality, and construction waste and debris management.

Following the Green Building Summit, the Green Building Technical Advisory Committee (TAC), a sub-committee of the Green Building Advisory Group (GBAG), was convened for a vetting effort to explore building electrification and energy efficiency measures along with other green

building subject areas, as directed by the Sustainability Implementation Plan (SIP). The TAC convened for ten community meetings between May and December of 2018 to review and discuss possible changes to the municipal code. The first four meetings were related to energy efficiency, emissions, and electrification, including one meeting dedicated to the topic of electric vehicles. Another three meetings were related to indoor air quality, material conservation and resource efficiency, construction waste and debris management, and water efficiency. There were also three final meetings to summarize the suggestions for future green building and energy reach policies. All agendas and meetings minutes are posted on the city's [Green Building Advisory Group webpage](#).

As part of the 2018 TAC effort, the City of Palo Alto sponsored the preparation of an [Energy Reach Code Cost-Effectiveness Analysis](#) that examined possible energy efficiency measures, including building electrification, for buildings within Palo Alto. In order to codify local energy efficiency requirements, the California Energy Commission requires that a cost-effectiveness study be conducted and filed in the case of a local amendment to the California Energy Code. It is required that the City demonstrate to the California Energy Commission, using a cost-effectiveness study, that the amendments to the code are financially responsible to the commercial and residential applicants. The study analyzes building design strategies that are more stringent than the upcoming 2019 California Energy Code, which goes into effect starting January 1st, 2020.

When the TAC reviewed the findings of the City-sponsored study in late 2018, some members of the group expressed concerns that the findings may have been limited by the specificity of the original scope of the study. At about this time, staff learned of a newly forming statewide effort to conduct a more comprehensive cost-effectiveness study. City staff therefore decided to postpone the development of recommendations to the City Council pending the outcome of the statewide study projected to be released on June 30<sup>th</sup>, 2019.

### ***Statewide and Regional Efforts***

Palo Alto has joined a consortium of approximately thirty-five jurisdictions from throughout California to perform the statewide research project on building electrification. The results of the Palo Alto study were released during the beginning of the statewide study and helped the policy researchers by informing the direction of the statewide study. Participation in the statewide effort will help participating jurisdictions in the development of local Energy code changes. This will allow for new regulations to be based on the most robust statewide body of knowledge. While preliminary data is beginning to emerge from the statewide effort, the final report is anticipated at the end of June. Palo Alto staff will reconvene stakeholders to gather additional policy input once the final report has been analyzed, with the goal of bringing policy recommendations to the City Council in the second half of calendar year 2019.

In addition to the statewide cost-effectiveness study, Palo Alto is partnering with the Bay Area Regional Energy Network (BayREN), a collaboration of local governments from nine counties in

the Bay Area, to implement a regional market transformation program for heat-pump water heaters. Heat-pump water heaters (HPWH) are a focus of attention because they are far more energy efficient than gas-fueled water heaters. Heat pump systems also eliminate GHG emissions associated with gas-fired space heaters while improving air quality within the dwelling units. The BayREN program has been awarded grant funding from the Bay Area Air Quality Management District (BAAQMD) and will provide contractor training, consumer education, and a HPWH incentive to distributors throughout the Bay Area. The regional program approach seeks to catalyze market transformation and address the persistent barriers that are less effectively addressed on a local scale. This program is expected to launch in spring of 2019. This is an example of focusing on market readiness, in addition to enforcing regulations, to more effectively promote the adoption of energy saving practices and equipment.

### ***Ongoing Green Building Compliance and Incentive Programs***

Codes are only effective if they are followed. Palo Alto's Development Services Department has developed a Green Building Program to support compliance with the City's green building and energy regulations. The program provides applicants with informative resources to streamline compliance with, and support understanding of, Palo Alto's Green Building ordinances. The City's Green Building Compliance webpage outlines requirements in the planning entitlement, plan check, inspection and post-occupancy phases for residential and commercial projects. The webpage provides 24/7 access to on-demand video trainings to help residential and non-residential project applicants understand the requirements and submittal process for permit applications. Additional videos have been created to promote Zero Net Energy strategies.

In addition to the Green Building Compliance Program operated by the Development Services Department, Palo Alto's Utilities Department has developed several financial incentive opportunities that support the Green Building Program. A heat-pump water heater pilot program was launched in spring of 2016 to encourage residents to replace their gas water heaters with more efficient heat-pump water heaters (HPWHs). The pilot program website provides information on rebate levels (up to \$1,500), qualifying models that meet the minimum efficiency standard required by the California Energy Commission, and installation considerations. In May 2017, the program was expanded to include rebates for new construction projects. The HPWH pilot website was updated with a new look and feel in December 2017. In the past two years, the City has hosted two HPWH workshops with representatives from HPWH manufacturers providing overview of their products for homeowners, contractors and building professionals. As of December 2018, the City has paid rebates for 36 HPWHs, including 13 rebates paid to a new, all electric multi-family building.

In July 2018, the Utilities Department was awarded a 2018 Climate Protection Grant in the amount of \$296,220 from BAAQMD to implement a Multi-family Gas Furnace to Heat Pump Retrofit pilot program. The pilot will target up to three low-income apartment buildings to replace existing in-unit gas wall furnaces with high efficiency air source heat pumps. This



program will identify the technical and logistical hurdles of retrofitting the gas wall furnaces with heat pump units, and will conclude with a summary of the retrofit cost, energy savings and avoided GHG emissions in a case study. An RFP was issued to implement this pilot program in December 2018 and an implementation vendor was selected in February 2019.

The City is also supporting green building through its Electric Vehicle (EV) Charger Rebate Program, launched in January 2017. The program currently offers incentives of up to \$18,000 for multi-unit dwellings (MUDs) and up to \$30,000 for schools and nonprofit organizations. The scope of the rebates includes financial support to upgrade electrical infrastructure and install EV chargers, also known as Electric Vehicle Supply Equipment (EVSEs), for communal use. To date, 28 properties have applied to participate in the EV Charger Rebate Program. To further encourage EV charger installations for existing buildings, the Utilities Department issued an RFP for EV Solutions and Technical Assistance. The contract is currently being finalized and is expected to be executed in April.

### **Resource Impact**

The Development Services Department's Green Building Program was funded with a \$300,000 non-salary expense appropriation for Fiscal Year 2019. The costs are recovered through development fees. Other City departments' sustainability allocations are also approved by City Council, through the annual budget process, and are typically cost recovery due the enterprise nature of Utilities, Zero Waste and the Water Quality Control Treatment Plant.