CITY OF PALO ALTO

COUNCIL MEETING
6/16/2020
☑Received Before Meeting
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2020 Sustainability and Climate Action Plan High Impact Goals and Key Actions

June 16, 2020

Objectives for Tonight

CITY OF PALO ALTO

- Review the 2020 Sustainability and Climate Action Plan (S/CAP) Potential High Impact Goals and Key Actions related to greenhouse gas (GHG) emissions reduction

- Review the Spectrum of Tools for Achieving Climate Goals
- Get preliminary feedback from Council on the updated High Impact Goals & Key Actions before AECOM analysis

2020 Sustainability and Climate Action Plan Areas

ENERGY

Christine Tam
Evon Ballash

MOBILITY

Sylvia Star-Lack
Rebecca Atkinson
Nicole Laureola

ELECTRIC VEHICLES

Shiva Swaminathan
Hiromi Kelty
Mike Nafziger

WATER

Karla Dailey
Karin North

CLIMATE ADAPTATION & SEA LEVEL RISE

Julie Weiss
Christine Luong

NATURAL ENVIRONMENT

Walter Passmore
Pam Boyle Rodriguez

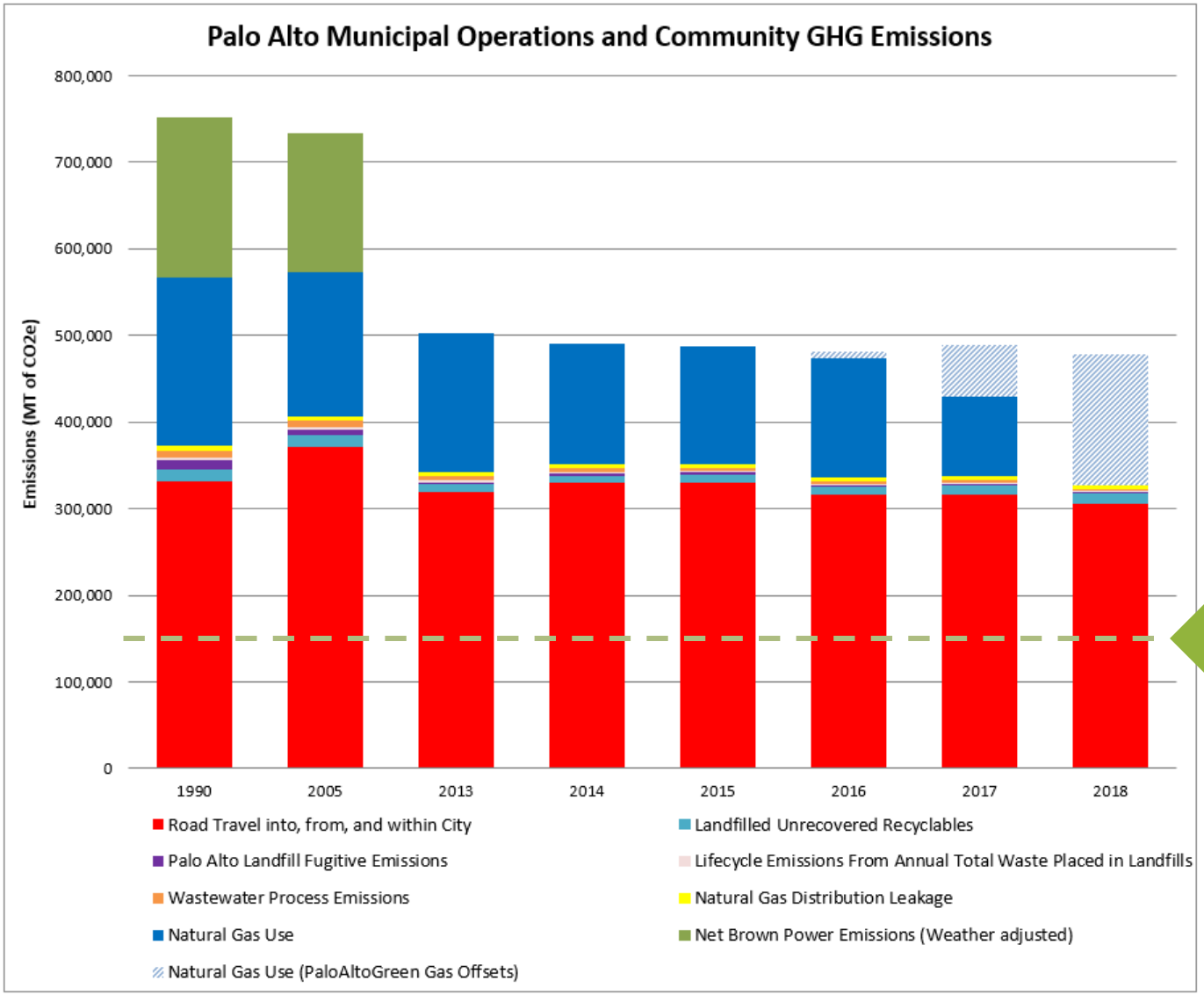
ZERO WASTE

Paula Borges
Maybo AuYeung
Wendy Hediger

Utilities Advisory Commission - May 20, 2020

- UAC provided thoughts, ideas, and recommendations
- Questions posed
  - How will the Key Actions be financed?
  - Can we achieve our targets through incentives alone?
  - Should natural gas offsets count towards our 80 x 30 goal?

Palo Alto GHG Emissions Down ~36%



Updated Goals for Highest GHG Reduction Areas

- **Energy**: Reduce GHG emissions from direct use of natural gas in building sector by X% (% TBD, depending on results of GHG and costs analysis)

- **Mobility**: Reduce transportation related GHG emissions 80%, from approximately 300,000 MT CO2e to 60,000 MT CO2e by 2030 by:
  a. Increasing the mode share for active transportation modes (walking, biking, and transit)
  b. Increasing the availability of transit and shared mobility services
  c. Creating a housing density & land use mix that supports transit & non-SOV transportation
  d. Utilizing pricing, fees, & other program & policy tools to encourage reductions in GHGs & VMT

- **Electric Vehicles**: Reduce transportation related GHG emissions 80%, from approximately 300,000 MT CO2e to 60,000 MT CO2e per year by 2030 by:
  a. Increasing the EVs registered in Palo Alto from 4,500 (2019) to 42,000 (80% of vehicles)
  b. Increasing the share of EV commute vehicles from single digits to 80% by 2030
  c. Developing a public and private charging network to support these levels of EV penetration

Areas of highest potential GHG reduction

GHG Reduction Areas	Could Potentially Achieve:
• Electrify most residential buildings	• ~15-20% of remaining reduction needed
• Significantly reduce fossil fuel use in large commercial buildings	• ~5% of remaining reduction needed
• Significantly reduce Vehicle Miles Traveled (VMT)	• ~10-20% of remaining reduction needed
• Electrify vast majority of remaining vehicle trips	• ~50-60% of remaining reduction needed

Spectrum of Tools for Achieving Climate Goals

Low Intervention

Examples:

- Early Adopters
- Voluntary Programs
- Education and Outreach
- Pilot Projects

Some Intervention

Examples:

- Council Policies, Plans, and Reach Ordinances
- Council Ordinances, Bans, and Mandates
- Financial Incentives

Higher Intervention

Examples:

- City-wide Voter-Approved Mandates or Financing
- Utility-scale Infrastructure Shift

Voluntary Market driven solutions → **Government driven solutions**

Energy High Impact Key Actions – Residential Buildings

1. Retrofit all gas wall furnaces in multifamily buildings to electric heat pump systems for space heating by 2030 (#5 in packet)
2. Electrify gas appliances in single family homes upon home sale beginning in 2025 (#7 in packet)
3. Electrify water heating upon equipment failure replacement in single family homes beginning in 2025 (#8 in packet)
4. Phase out fossil fuel use in existing buildings starting with areas that have older gas lines that need to be repaired or replaced. Disconnect natural gas distribution service to residential areas by 2030. (#9 in packet)

Energy High Impact Key Actions – Non-Residential Buildings

1. Electrify water heating and space heating in all K-12 facilities by 2030 (#11 in packet)

2. Convert all rooftop gas packs on non-residential buildings to electric heat pump systems by 2030 (#12 in packet)

3. Require all-electric non-residential new construction projects starting in 2021 (#13 in packet)

4. Electrify 80% of existing city-owned buildings by 2030 (#14 in packet)

5. Require all commercial buildings above 25,000 sq ft to reduce carbon emissions by 40% by 2030 (#15 in packet)

Mobility High Impact Key Actions – Transportation / Vehicles

1. Provide safer infrastructure for vulnerable road users, such as children, seniors, pedestrians, and bicyclists to reduce Single Occupancy Vehicle (SOV) use for work trips
2. Reduce SOV mode share using pricing to manage our parking supply and adjust parking requirements
3. Build transit-supportive roadways
4. Enhance the efficiency of the existing traffic signal system to reduce idling
5. Improve our Transportation Demand Management strategies, including encouraging telecommuting as a new norm
6. Use land use to reduce vehicle miles of travel by thoughtfully locating people close to the goods and services they need so they can more easily walk, bike or take transit to meet their needs

EVs High Impact Key Actions – Transportation / Vehicles

1. Require an appropriate percentage of all parking spaces at Palo Alto's 800+ multi-family properties install EV chargers (e.g. 50% of all parking spaces) (#10 in packet)
2. Require an appropriate percentage of EV charger installations at all commercial parking spots (e.g. 25 to 50% of all parking spaces) (#11 in packet)
3. Implement a Palo Alto-specific Internal Combustion Engine (ICE) vehicle fee, tax and/or assessment to provide a disincentive for the ownership or use of a fossil fuel vehicle and fund incentives for VMT reduction and EV adoption (#12 in packet)
4. Require private bus fleets serving Palo Alto office campuses to electrify by 2030 (#13 in packet)
5. Ban the registration of gasoline vehicles in Palo Alto by 2030 *(Achieve 50% of remaining reduction needed)* (#14 in packet)

Next Steps

1. Completed 2019 GHG Inventory and Business As Usual Forecast

2. AECOM Impact Analysis – GHG Reduction potential, Estimated Costs, Sustainability Co-Benefits – Late Summer / Early Fall

3. UAC, PRC, PTC input – Late Summer / Early Fall

4. Council review of Proposed Goals and Key Actions package of options – Early Fall

Recommended Motion:

- Direct staff to continue with its work on the 2020 Sustainability and Climate Action Plan (S/CAP) Update

Background

- Current S/CAP made up of three components:
  1. 80 x 30 Goal – adopted April 2016
  2. S/CAP Framework – adopted Nov 2016
  3. 2018-2020 Sustainability Implementation Plan – accepted Dec 2017
- 2020 Council Priority: Sustainability, in the context of climate change
- April 13 Council Study Session on 2020 S/CAP Update Process
- Community Input on Goals & Key Actions in 7 areas

Opportunities for Input on Goals and Key Actions

- Virtual on-demand 2020 S/CAP Community Engagement Workshop (March 31 – April 14, 2020)
  - 204 participants

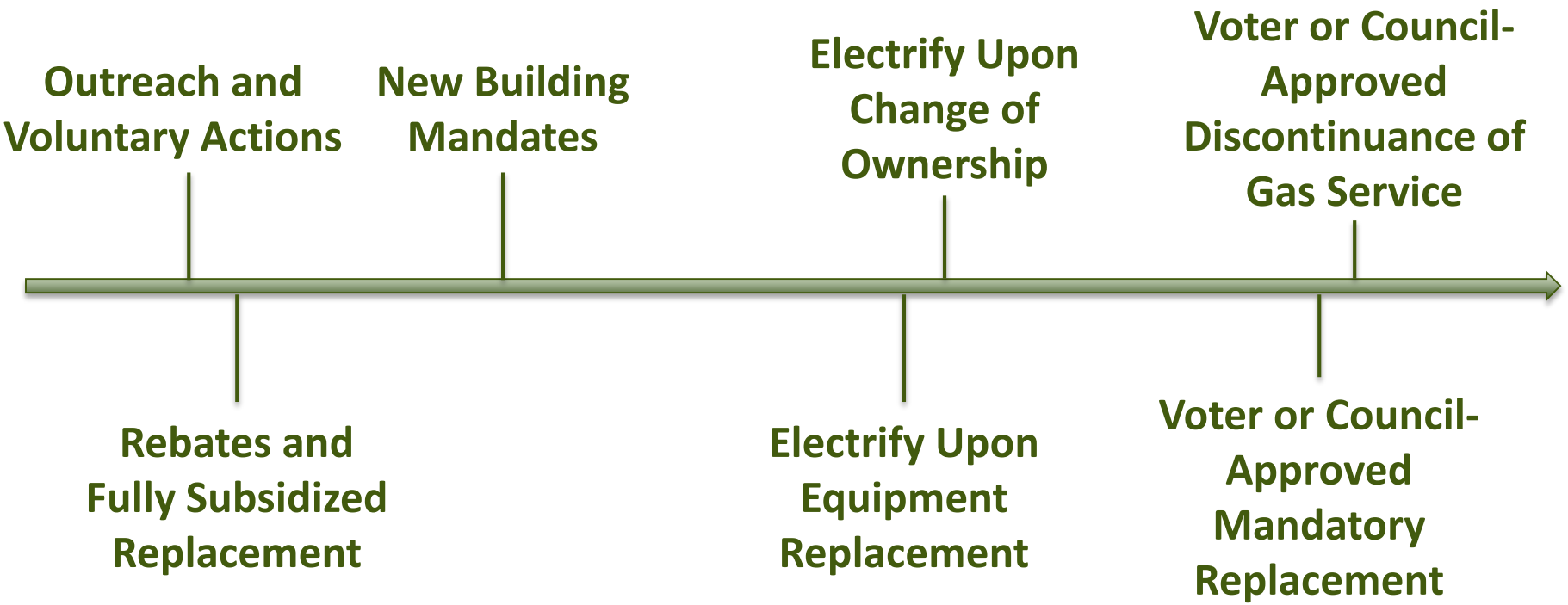
- City of Palo Alto Sustainability website
  - 3 people submitted comments

- April 13 Council Study Session
  - 21 people submitted comments

Feedback Received from the Community

- Supportive of 2020 S/CAP and do not want to delay action on climate change, despite uncertainties created by coronavirus pandemic
- 2020 S/CAP needs to include more aggressive but achievable goals, measurable targets, and accessible reporting, with more focus on electrifying buildings, transportation, and equipment
- Not supportive of counting natural gas offsets
- Coronavirus pandemic has shown it's possible to work from home. Explore remote work strategies to reduce transportation-related GHGs.
- Housing, land use, and education are areas of focus that are missing

Buildings Example: Gas to Electric: Range of Actions



Voluntary Market driven solutions → Government driven solutions

Buildings: Gas ⟶ Electric Sources

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Residential

- Water Heating
  - Single Family
  - Multi-Family
- Space Heating
  - Single Family
  - Multi-Family
- Other Gas Usage
  - Single Family
  - Multi-Family

Non-Residential

- Roof Top HVAC
- K-12 Schools (% of Buildings)
  - Water and Space
- City Owned (% of Buildings)
  - Water and Space
- Large Commercial (>25K Sq. Ft.)