



Sunnyvale



## Reach Codes

City Council, October 27, 2020  
Suzanne Park, Chief Building Official



# Presentation Agenda

---

What are Reach Codes?


Phased Implementation

Discussion and Outreach

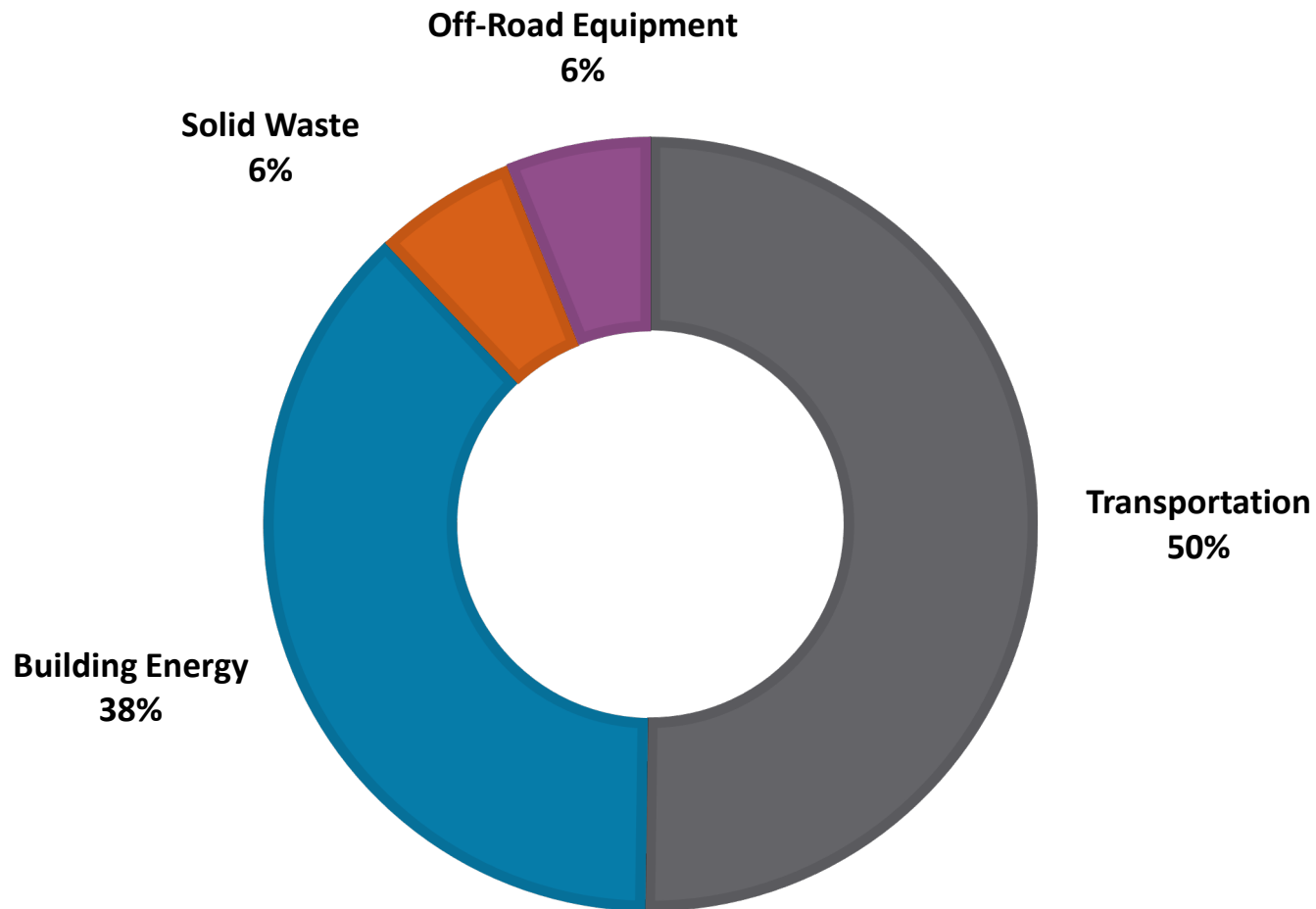
Questions & Feedback

# Reach Codes

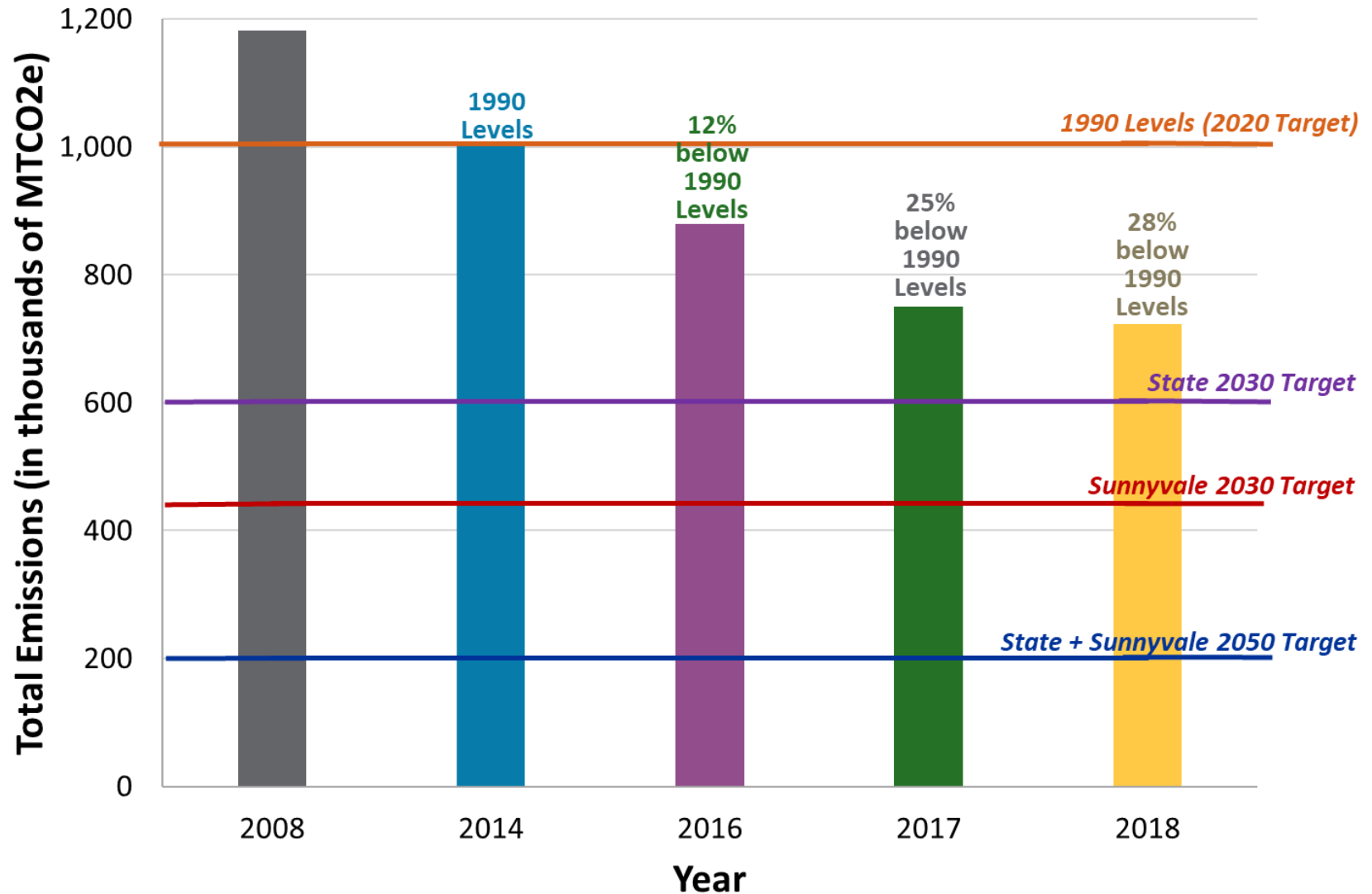
---

- 
1. Exceed California Energy Codes
  2. Pathway toward California Emission Goals
  3. Fiscally Responsible
  4. Increase Number of Low/No Pollution Vehicles

# Sunnyvale 2018 GHG Emissions By Sector



# Total Emissions by Year



# Definitions



## Reach Codes

Exceeding California Energy Standards



## All Electric

No gas appliances



## Photovoltaic (PV)

Solar Panels

# Definitions, *continued*



## **Climate Action Playbook**

Sunnyvale's Climate Action Initiative



## **Green Building Program**

Holistic Approach to GHG reduction.

# Phased Implementation Summary

	Residential Construction	Non-Residential Construction
<b>Phase 1</b> New Construction New Electric Vehicle Chargers	X	X
<b>Phase 2</b> New Commercial Kitchen	X	X
<b>Phase 3</b> Additions & Alterations to Existing Structures	X	X
<b>Phase 4</b> New Large Hotels	X	





Sunnyvale

# Phase 1 – New Construction

- Residential – Single Family Dwelling & Duplex
- Multifamily Residential
- All Non-residential
- EV Chargers (*updated recommendation*)

# Phase 1 – Climate Action Playbook

- **Playbook Strategy 1:**  
Promoting Clean Energy
  - ◆ **Play 1.2**  
Increase local solar photovoltaics
- **Playbook Strategy 2:**  
Decarbonizing Buildings
  - ◆ **Play 2.3**  
Achieve all-electric new construction



## Phase 2 – Climate Action Playbook

- **Playbook Strategy 3:**  
Decarbonizing Transportation & Sustainable Land Use
  - ◆ **Play 3.3**  
Increase zero-emission vehicles





# California Energy Code

Cost Effectiveness Required

# All-Electric with Green Building Program

---

**SINGLE- AND TWO-FAMILY HOMES**

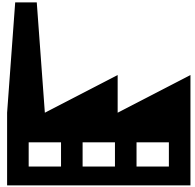
**MULTI-FAMILY RESIDENTIAL**

**NON-RESIDENTIAL (COMMERCIAL)**

# Photovoltaic Installation

- Residential & Low-rise Multifamily
  - ◆ **Always** Required (*per current CA Codes*)
- High-rise Multifamily Residential
  - ◆ **Always** Required, optional solar water heating
- Non-Residential
  - ◆ **Always** Required, optional solar water heating

# EXEMPT from Phase 1



Factory, Laboratory, and Hazardous Materials



Emergency Operating Centers



Hotel Laundry Facilities



Commercial Kitchens



Unavoidable Non-Electric Pathways

# Non-Residential Kitchen

EnergySTAR Rated  
Appliances  
Required



(updated recommendation)





# California Green Building Code

# Definitions

---

**EV Capable**

**EV Ready Circuit**

**EV Charging Station**

# Definitions

---

**Level 1 – Trickle Charger**

**Level 2 – Standard Charger**

**Level 3 – Fast Charger**

# Sunnyvale Recommended Ordinance

## EV Chargers and Infrastructure

- **1 & 2 Family Homes**
  - ✓ Level 1 & 2 Ready Circuit
- **Multifamily Dwellings**
  - ✓ Level 1 & 2 Ready Circuit
- **Office Buildings**
  - ✓ Level 1 Capable & Ready Circuit
  - ✓ Level 2 Chargers
- **Other Non-residential**
  - ✓ Level 1 Ready Circuit
  - ✓ Level 2 Chargers
  - ✓ Level 3 Chargers

# Phase 2

## New Commercial Kitchens

## New Vehicle Chargers

## Phase 2 – Climate Action Playbook

- **Playbook Strategy 2:**  
Decarbonizing Buildings
  - ◆ **Play 2.3**  
Achieve all-electric new construction



- **Playbook Strategy 3:**  
Decarbonizing Transportation & Sustainable Land Use
  - ◆ **Play 3.3**  
Increase zero-emission vehicles



# Non-Residential Requirements

## Phase 2

New Commercial Kitchens  
would be  
all-electric.



# Residential Requirements

## Phase 2

Prewire for electric vehicle chargers at residential additions and alterations.







Sunnyvale

# Phase 3

## Additions and Alterations to Existing Structures

### (Pending Cost-Effectiveness Study)

# Phase 3 – Climate Action Playbook

- **Playbook Strategy 2:**  
Decarbonizing Buildings
  - ◆ **Play 2.1**  
Reduce energy consumption in **existing** buildings
  - ◆ **Play 2.2**  
Support electrification of **existing** buildings



# RESIDENTIAL CONSTRUCTION – Phase 3

## COST-EFFECTIVENESS STUDY NEEDED

### Alterations

- New appliances shall be electric.
- Meet minimum CalEnergy standards.

### Additions

- New Construction requirements

# NON-RESIDENTIAL CONSTRUCTION – Phase 3

## COST EFFECTIVENESS STUDY NEEDED

### Alterations

- Appliances shall be electric.
- Meet minimum CalEnergy standards.

### Additions

- New construction requirements.

# Phase 4

## New Large Hotels (80+ rooms)

### (Pending Cost-Effectiveness Study)

# Outreach and Feedback

# Feedback

## Support/Pro

- Reduces greenhouse gases
- Promotes a Healthier and Safer Community
- Electrification is cost-effective through the life of the project
- Supports the City's Climate Action Playbook

# Feedback

## Negative/Cons

- Increased upfront construction costs
- PG&E is raising the cost of electricity
- Energy supply is not reliable
- Implementation is overreach of government
- Government should provide monetary incentives for Reach Code upgrades
- Reach Codes will not provide a significant impact on reduction of GHG
- Concentrate on sustainable buildings to reduce GHG



# Sustainability Commission Recommendation

## Support Phased Approach with modifications

- **Phase 1: Increase EV spaces**
- Phase I: Move EV pre-wiring for additions/remodels
- Eliminate Exceptions and use case by case exception:
  - ◆ 1 – F , H, and L Occupancies
  - ◆ 4 – Commercial Kitchens
- **Phase 1: Require EnergySTAR appliances in Commercial Kitchens**
- Define milestones to implement of Phases 3 and 4

***Bold** items included in updated Staff Recommendation*

# Planning Commission Recommendation


## Support Phased Approach with modifications

- Phase 1: Require pre-wiring for EV charging if a panel upgrade is required for alterations
- Exception 1 (F, H, and L Occupancies): to be granted on a case by case basis
- **Exception 5: include**
  - ◆ **New construction that demonstrates a greater reduction in greenhouse gas emissions than with all electric**

***Item included in updated Staff Recommendation***

# Staff Recommendation

---

- 
- Approve Phased Program for Reach Codes
  - Introduce Ordinance for Phase 1 – New Construction
    - ◆ Residential – Single Family, Duplex and Townhouse
    - ◆ New Multifamily Residential
    - ◆ All Non-residential
    - ◆ EV Infrastructure & Chargers (*updated recommendation*)



# Council Questions