



Sunnyvale



Reach Codes

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



Presentation Agenda

What are Reach Codes?

Phased Implementation

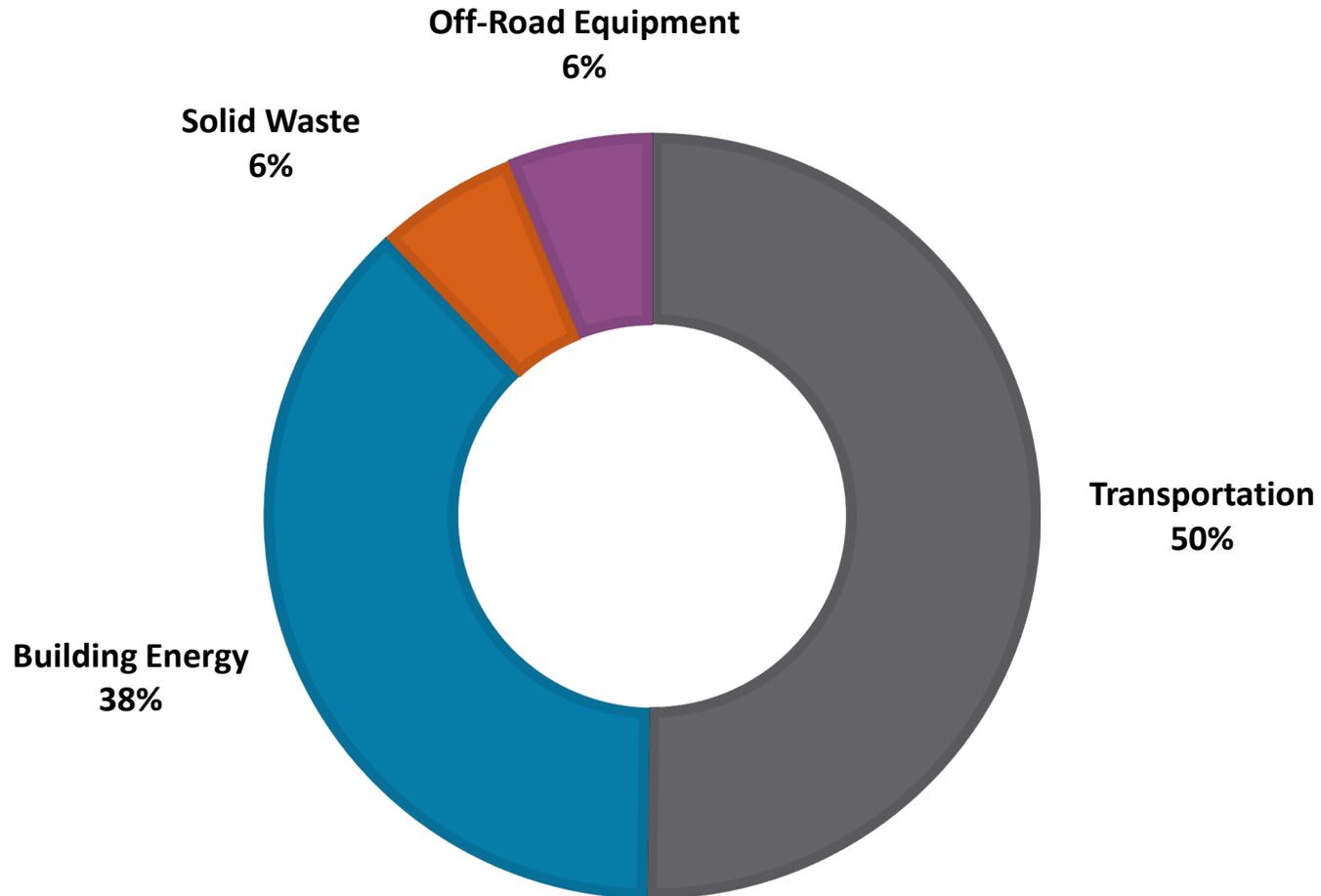
Discussion and Outreach

Questions & Feedback

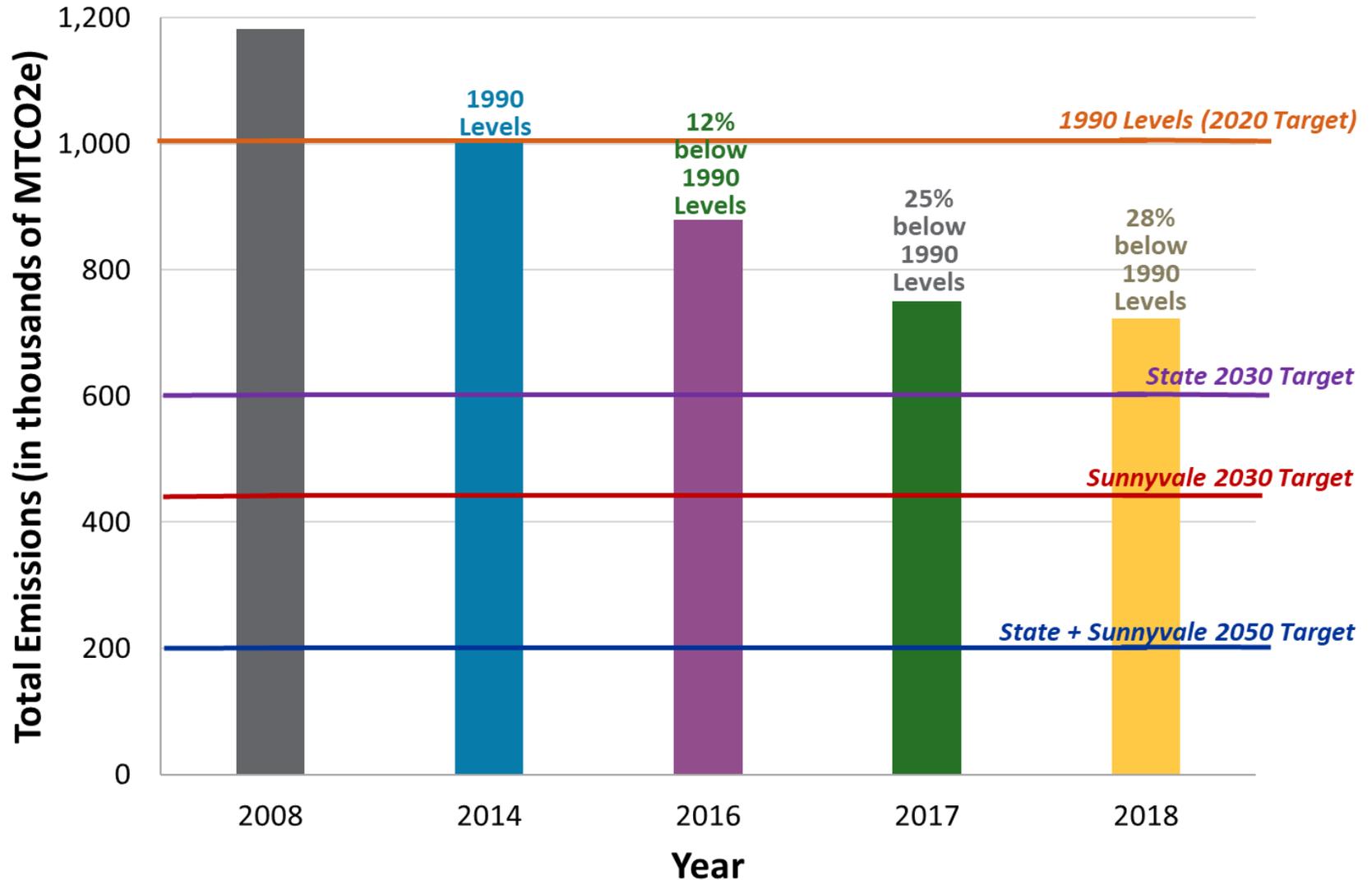
Reach Codes

- 
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
Phase 1 New Construction New Electric Vehicle Chargers	X	X
Phase 2 New Commercial Kitchen	X	X
Phase 3 Additions & Alterations to Existing Structures	X	X
Phase 4 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

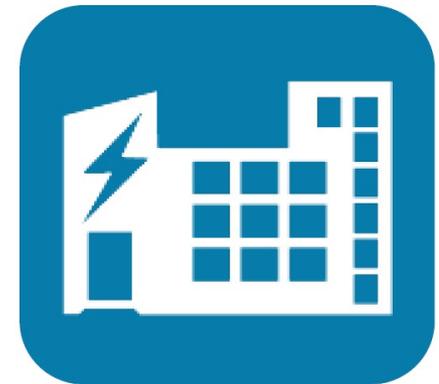
- **Playbook Strategy 1:**
Promoting Clean Energy

- ◆ **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

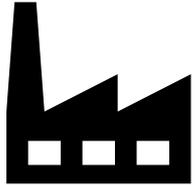
MULTI-FAMILY RESIDENTIAL

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



Sunnyvale

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:**

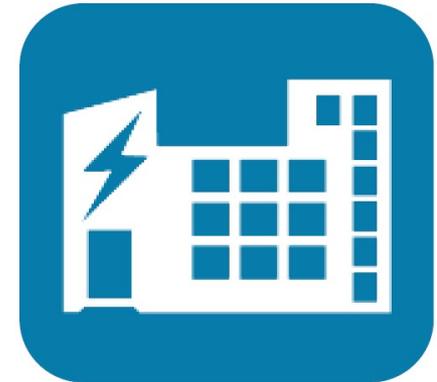
- Decarbonizing Buildings

- ◆ **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.



Sunnyvale

Phase 4

New Large Hotels (80+ rooms)

(Pending Cost-Effectiveness Study)



Sunnyvale

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**

***Bold** 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*)



Sunnyvale

Council Questions