



# Reach Codes for the 2022 Building Code

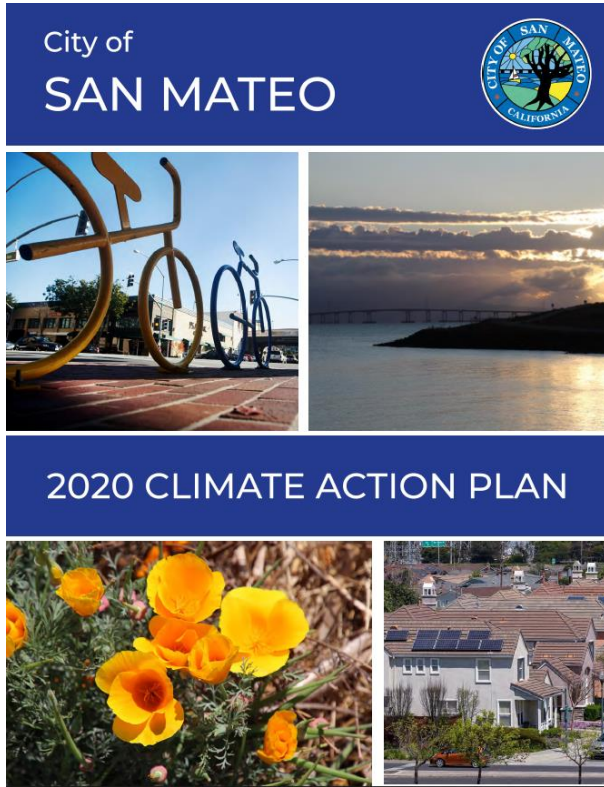
Andrea Chow

Sustainability Analyst, City Manager's Office

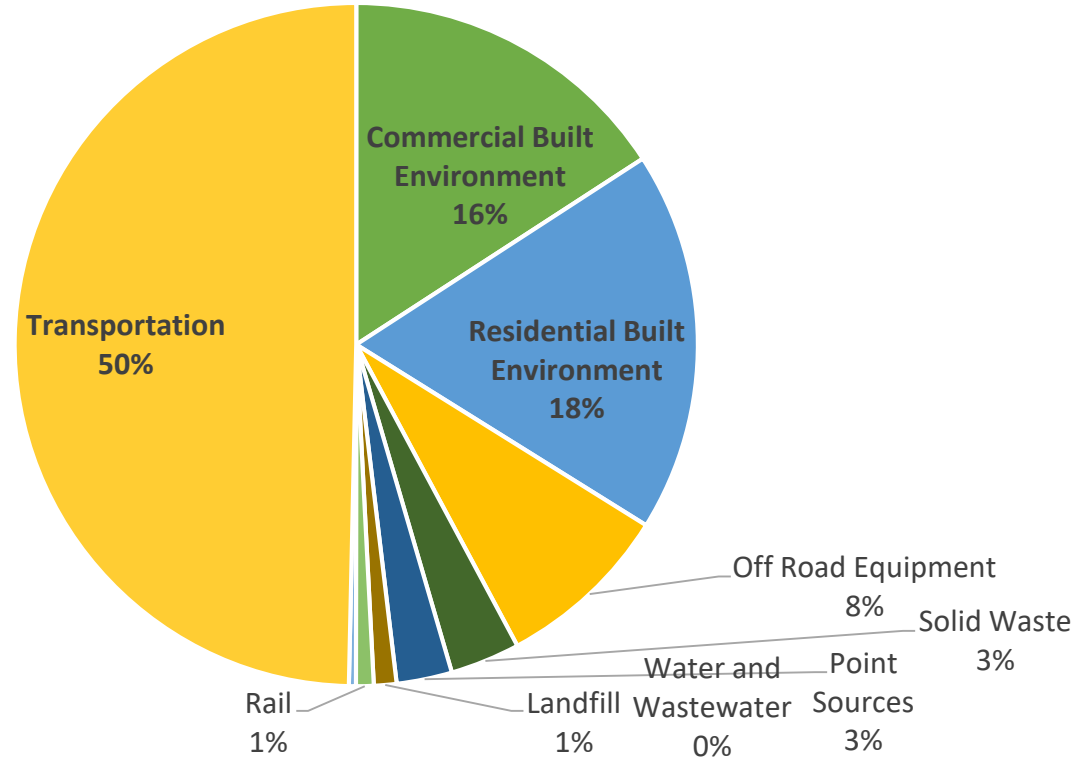
# Presentation Agenda

1. Background
2. City's Current Reach Codes – New Construction
3. Reach Code Options – New Construction
4. Reach Code Options – Existing Buildings

# Background



## 2017 Greenhouse Gas Emissions



# Building Electrification

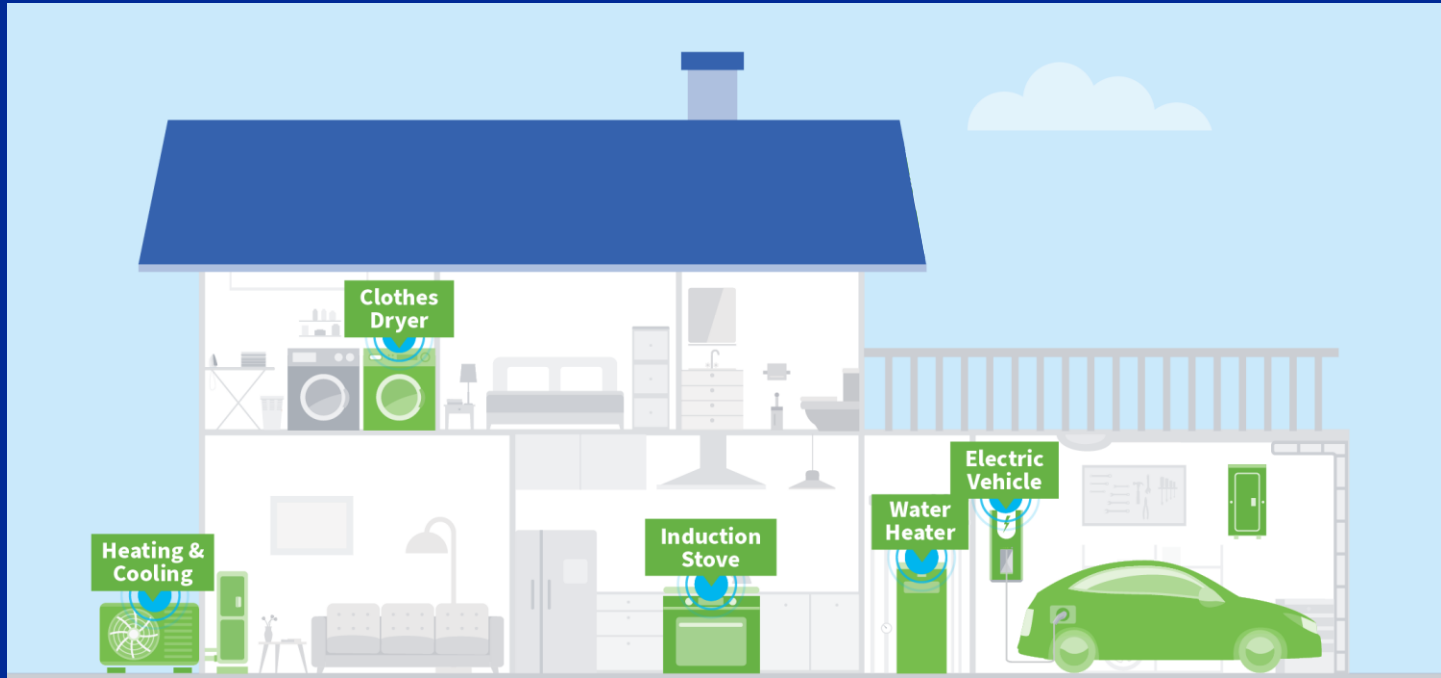
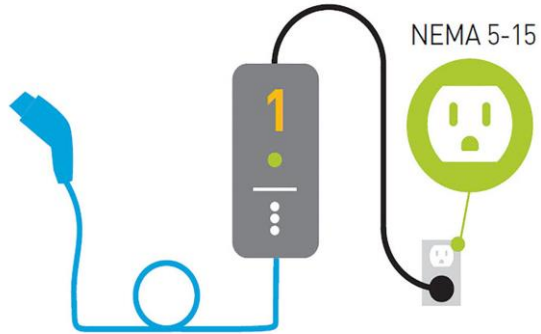


Image credit: <https://www.peninsulacleanenergy.com/all-electric-homes/>

# EV Infrastructure

## Level 1: 110V



## Level 2: 240V

May require service upgrade

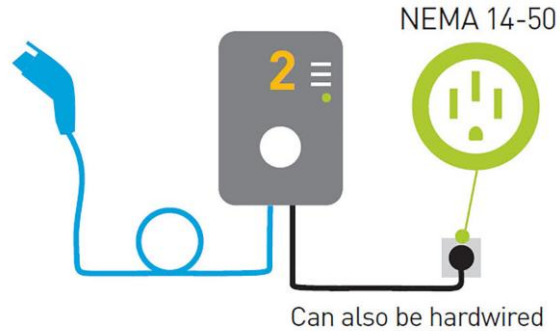


Image Credit: [https://www.pge.com/en\\_US/residential/solar-and-vehicles/options/clean-vehicles/electric/charger-options/electric-vehicles-charging-pge.page](https://www.pge.com/en_US/residential/solar-and-vehicles/options/clean-vehicles/electric/charger-options/electric-vehicles-charging-pge.page)



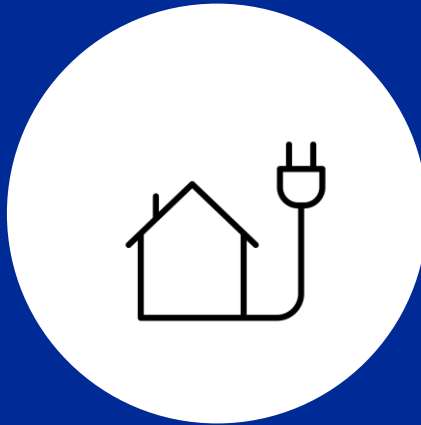
# Current Reach Codes – New Construction

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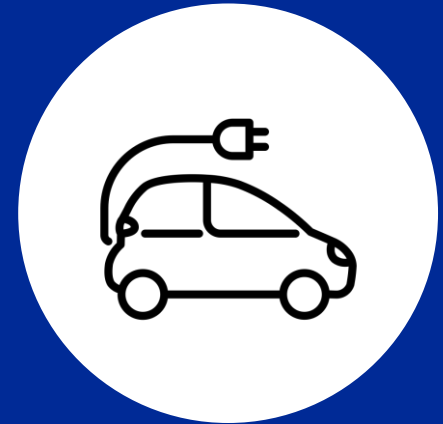
Solar



Building  
Electrification



EV Readiness





# Reach Code Options – New Construction

# Building Electrification Reach Code Option

Current Reach Code	Bay Area Reach Code Model Code
<ul style="list-style-type: none"><li>• Requires <b>specific building types</b> to be all-electric<ul style="list-style-type: none"><li>• Residential buildings</li><li>• Office buildings</li></ul></li><li>• Establishes a process and criteria for exceptions</li></ul>	<ul style="list-style-type: none"><li>• Requires <b>all building types</b> to be all-electric</li><li>• Establishes a process and criteria for exceptions.</li></ul>

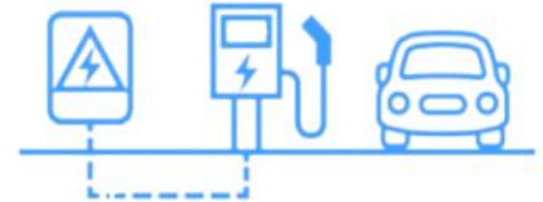
# EV Readiness Terminology



EV Capable



EV Ready



EV Charging Space  
EVSE Installed

Image credit: <https://cleanenergy.org/blog/ev-readiness-and-why-we-need-it-now/>

# EV Readiness Requirements

	2019 State Code	2019 City Reach Code (currently in effect)	2022 State Code
Single Family and Two-Family Townhomes	One Level 2 EV Capable space per dwelling unit	One Level 2 EV Ready space per dwelling unit	One Level 2 EV Capable space per dwelling unit
Multifamily	10% Level 2 EV Capable	15% Level 2 EV Capable	5% Level 2 EVCS 25% Level 2 EV Ready (low-power) 10% Level 2 EV Capable Total: 40% of spaces
Non Residential	6% Level 2 EV Capable	5% Level 2 EVCS 10% Level 2 EV Capable Total: 15% of spaces	5% Level 2 EVCS 15% Level 2 EV Capable Total: 20% of spaces

# EV Readiness Reach Code Options

	CalGreen Tier 1	CalGreen Tier 2	Bay Area Reach Codes Model Code
Single Family and Two-Family Townhomes	None	None	One Level 2 EV Ready per dwelling unit; One Level 1 EV Ready space if second space provided
Multifamily	10% Level 2 EVCS 35% Level 2 EV Ready (low-power) Total: 45% of spaces  *also applies to hotel and motel	15% Level 2 EVCS 40% Level 2 EV Ready (low-power) Total: 55% of spaces  *also applies to hotel and motel	40% Level 2 EVCS 60% Level 1 EV Ready Total: 100% of dwelling units with spaces  <u>Affordable Housing</u> 15% Level 2 EVCS 25% Level 2 Ready (low-power) 60% Level 1 EV Ready Total: 100% of dwelling units with spaces

# EV Readiness Reach Code Options (continued)

	CalGreen Tier 1	CalGreen Tier 2	Bay Area Reach Codes Model Code
Non Residential	10% Level 2 EVCS 20% Level 2 EV Capable Total: 30% of spaces	15% Level 2 EVCS 30% Level 2 EV Capable Total: 45% of spaces	<u>Office Use</u> 20% Level 2 EVCS 30% Level 2 EV Capable Total: 50% of spaces  <u>All Other Uses</u> 10% Level 2 EVCS 10% Level 2 EV Capable Total: 20% of spaces

# Reach Code Options – Existing Buildings

# Existing Building Policy Considerations

- Along with mandates through reach codes:
  - Outreach and education to the community
  - Financing options
  - Workforce training
- Equitable electrification policy
- Permit evasion



# Electric- readiness

- 1) Electric-readiness (panel capacity) at time of electric panel upgrade
- 2) Electric-readiness (outlets installed) at time of kitchen or laundry room renovation

# Electric equipment

- 3) Heat pump air conditioning –  
Residential and Small Commercial
- 4) Heat pump pool heating –  
Residential
- 5) Heat pump water heating – Single  
Family Residential

# Recommendation

Provide feedback on potential amendments to the 2022 Building Code for new construction and existing buildings related to building electrification and electric vehicle readiness.

# Staff Recommendation: New Construction

## Building Electrification Bay Area Reach Code Model Code

- Requires **all building types** to be all-electric
- Establishes a process and criteria for exceptions

	EV Readiness Bay Area Reach Codes Model Code	
Single Family and Two-Family Townhomes	One Level 2 EV Ready per dwelling unit; One Level 1 EV Ready space if second space provided	
Multifamily	40% Level 2 EVCS 60% Level 1 EV Ready Total: 100% of dwelling units with spaces	<u>Affordable Housing</u> 15% Level 2 EVCS 25% Level 2 Ready (low-power) 60% Level 1 EV Ready Total: 100% of dwelling units with spaces
Nonresidential	<u>Office Use</u> 20% Level 2 EVCS 30% Level 2 EV Capable Total: 50% of spaces	<u>All Other Uses</u> 10% Level 2 EVCS 10% Level 2 EV Capable Total: 20% of spaces

# Discussion: Existing Buildings

- 1) Electric-readiness (panel capacity) at time of electrical panel upgrade – Residential
- 2) Electric-readiness (outlets installed) at time kitchen or laundry room renovations – Single Family Residential
- 3) Heat pump air conditioning – Residential and Small Commercial
- 4) Heat pump pool heating – Residential
- 5) Heat pump water heating – Single Family Residential

# Thank You

Andrea Chow

Sustainability Analyst, City Manager's Office

[achow@cityofsanmateo.org](mailto:achow@cityofsanmateo.org)