

# Countywide Reach Code Working Group Kickoff

January 16, 2019

Presentation from 12:15-1:00pm



# Peninsula Clean Energy

Peninsula Clean Energy (PCE) is San Mateo County's official electricity provider, serving County residences and businesses with cleaner energy at lower rates.

PCE's mission is reduce greenhouse gas emissions in San Mateo County.



# PCE Electrification Programs

As part of its mission to reduce greenhouse gas emissions, PCE will be making significant investments in vehicle and building electrification in San Mateo County. PCE programs include:

- EV ride and drive events
- Technical assistance on EV charging infrastructure
- Low income home energy upgrades pilot
- Existing single family home electrification pilot
- EV low-income incentive program (soon)
- EV infrastructure incentive program (soon)

# 2019 Local Amendments (Reach Codes)

## Energy Code and Electric Vehicle Infrastructure

Sponsored by:

Silicon Valley Clean Energy (SVCE)

Peninsula Clean Energy (PCE)

County of San Mateo, Office of Sustainability (OOS)





# Agenda

- Background & Objective
- CEC Adoption Requirements for Building Electrification
- Example 2016 Reach Code
- Resources
- Timeline
- Q&A

# California Building Standards Code (Title 24)

Title 24 is Composed of 12 "Parts," Described Below:

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- ④ [Part 1 - California Building Standards Administrative Code](#)
- ④ [Part 2 - California Building Code - Vol. I & II](#)
- ④ [Part 3 - California Electrical Code](#)
- ④ [Part 4 - California Mechanical Code](#)
- ④ [Part 5 - California Plumbing Code](#)
-  ④ [Part 6 - California Energy Code](#)
- ④ Part 7 - No longer published in Title 24; see Title 8 CCR
- ④ [Part 8 - California Historical Building Code](#)
- ④ [Part 9 - California Fire Code](#)
-  ④ [Part 10 - California Existing Building Code](#)
- ④ [Part 11 - California Green Building Standards Code](#)
- ④ [Part 12 - California Reference Standards Code](#)

# Background

- 2016 Energy Code is generally more supportive of mixed fuel (natural gas + electricity) buildings
  - All-electric buildings could not count the savings of avoiding a natural gas hookup towards overall cost-effectiveness
  - Developers most frequently build mixed fuel buildings in spite of benefits of all-electric construction
  - The Energy Code must be cost-effective
- Electric Vehicle Charging Infrastructure (EVCI) requirements in the 2016 code reflect an outdated and insufficient EV uptake rate

# Objective for 2019 Code Cycle

*Adopt local amendments to the CA building code to promote all-electric building and electric vehicle charging infrastructure for new and modified buildings for 2020 implementation.*

- Adopted 2019 Energy code addresses some imbalances but may not sway builders to select all-electric pathway
  - Solar required. Electric heat pump water heater pre-wiring required for natural gas water heaters.
  - EV Charger density requirements likely insufficient for current uptake
  - <https://www.energy.ca.gov/2018publications/CEC-400-2018-020/CEC-400-2018-020-CMF.pdf>



# Why adopt a reach code?

- Cities have climate (emission reduction) goals
- All-electric buildings are more cost effective, safer, healthier
- Enable much greater EV adoption rates
- Fiscal prudence- more cost effective to address at new construction

# Types of Reach Codes

1. Prescriptive codes, which require one or more specific energy efficiency measures
2. Performance codes, which require a building to perform more efficiently based on accepted computer modelling and allow trade-offs between energy efficiency measures

# What a reach code could look like in 2019?

- Performance Approach: Simpler all-electric compliance pathway
  - Done by Marin and Palo Alto during 2016 code cycle
  - % above code for mixed fuel, no additional efficiency requirements for all electric
- Prescriptive Approach: Itemized measures for inclusion
  - EV charging infrastructure or charger
  - Pre-wiring for battery storage or for a future electric furnace if natural gas used now

# Local Amendments/Reach Codes 2016

These communities have all enacted local amendments exceeding Title 24 for the 2016 Code Cycle

Local Ordinances	Date Approved	Type
Alameda County	July 11, 2018	Solar PV
Brisbane, City of	July 12, 2017	Cool Roof, Solar PV
Chula Vista, City of	July 11, 2018	Outdoor Lighting
Del Mar, City of	September 21, 2018	Efficiency
Davis, City of	December 13, 2017	Efficiency, Solar PV
Fremont, City of	July 12, 2017	Solar PV
	April 27, 2017	Lighting
Healdsburg, City of	July 12, 2017	Efficiency
Lancaster, City of	October 11, 2017	Solar PV
Marin County	June 13, 2018	
	March 8, 2017	Efficiency
Mill Valley	April 27, 2017	Efficiency
Novato, City of	April 27, 2017	Efficiency
Palo Alto, City of	September 14, 2016	Efficiency, Solar PV, EV
Portola Valley, Town of	July 12, 2017	Efficiency
San Francisco, City of	November 9, 2016	Solar PV or Solar Thermal
San Mateo, City of	September 14, 2016	Cool Roofs, Solar

# Statewide Requirements for Local Energy Amendments (Building Electrification Codes only)

- 1 Proposed energy standards
- 2 Local jurisdictions findings and supporting analysis on the energy savings and **cost-effectiveness**
- 3 A statement or finding by the local jurisdiction that the local energy standards will require buildings to be designed to consume no more energy than permitted by Part 6
- 4 Any findings, determinations, declarations or reports, including any negative declaration or environmental impact report, required pursuant to the California Environmental Quality Act

Source: <https://www.energy.ca.gov/title24/2016standards/ordinances/>



# Proposed Changes

CITY OF SAN MATEO  
ORDINANCE NO. 2016-5

**AMENDING TITLE 23 BUILDING AND CONSTRUCTION OF THE SAN MATEO MUNICIPAL CODE TO ADOPT THE CALIFORNIA ENERGY CODE, 2016 EDITION AS A NEW CHAPTER 23.24 AND TO ADOPT LOCAL AMENDMENTS TO THE ENERGY CODE AND RELATED FINDINGS**

WHEREAS, the California Energy Code, 2016 Edition, Title 24, Part 6 of the California Code of Regulations has been released by the State and needs to be adopted by local jurisdictions; and

WHEREAS, the City's Climate Action Plan recommended that the City review local amendments to the Energy Code to promote increased energy efficiency and the use of renewable energy sources; and

WHEREAS, the City has completed an analysis and has determined that the requirements of the local amendments to the Energy Code would provide a positive cost benefit to new construction within the City of San Mateo.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF SAN MATEO DOES ORDAIN AS FOLLOWS:

**Section 1.** Chapter 23.24, Energy Code, is hereby incorporated to adopt California Energy Code, 2016 Edition with Local Amendments to read:

**Chapter 23.24 – Energy Code**

Sections:

- 23.24.010 Adoption
- 23.24.020 Local Amendment for Cool Roofs
- 23.24.030 Local Amendment for Mandatory Solar Installations
- 23.24.040 Infeasibility Exemption

**Section 23.24.010 ADOPTION.**

(a) The Building Energy Efficiency Standards for Residential and Non-residential Buildings, 2016 Edition, Title 24, Part 6 of the California Code of Regulations, as adopted and amended by the State of California, hereinafter called "Energy Code," are adopted as the rules, regulations and standards within this City as to all matters therein except as hereinafter modified or amended;



# Cost Effectiveness Study

**City of San Mateo 2016 Building Energy Efficiency Reach Code**

**Cost Effectiveness Study**

**Final Report (May 9, 2016)**



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## Statement / Findings

**TO:** City Council

**FROM:** Larry A. Patterson, City Manager

**PREPARED BY:** City Manager's Office

**MEETING DATE:** Monday, May 16, 2016

**SUBJECT:**

Local Amendments to the California Energy Code, 2016 Edition – Ordinance Introduction

### RECOMMENDATION

Introduce an Ordinance to amend Title 23 Building and Construction of the San Mateo Municipal Code to adopt the California Energy Code, 2016 Edition as a new Chapter 23.24 and to adopt local amendments to the Energy Code and related findings.

### BACKGROUND

The San Mateo City Council adopted the Climate Action Plan (CAP) on April 6, 2015. The CAP directs staff to develop policies to require new buildings to incorporate renewable energy readiness and Electric Vehicle (EV) charging capacity. During the adoption of the CAP, both the Planning Commission and City Council discussed whether mandatory solar installations and/or other energy efficiency measures should also be included. Although these measures were not included in the adopted CAP, the City Council directed staff to study these options and bring them back for further consideration.

Based on this direction, staff has been analyzing possible Building Code amendments to further the use of renewable energy, energy efficiency, water conservation, and the provision of electric vehicle infrastructure. This report outlines the proposed amendments to the Energy Code portion of the Building Code that the Council is being requested to adopt at this time and summarizes the Green Building Code amendments being considered for adoption later this fall.

### Code Amendment Process

Every three years, the State of California adopts new building standards that are organized in Title 24 of the California Code of Regulations, referred to as the California Building Standards Code. This regular update is referred to as a "code cycle". The last code cycle was adopted in 2013 and was implemented starting in 2014. The Building Standards Code is a compilation of several different codes that relate to different technical aspects of buildings. The California Building Standards Commission is currently concluding the development of the 2016 California Building Code, which has a target effective date of January 1, 2017. Staff is proposing to time the proposed amendments to the California Building Code to coordinate with the 2016 code cycle.

Cities can adopt requirements that are above and beyond what is included in the Building Code, referred to as a "reach code". All proposed reach codes must be filed with the State. The amendments under consideration by staff would impact the Green Building Code and Energy Code portions of the Building Code. The City adopted a "reach code" for the Green Building Code as part of the 2010 code cycle but did not pursue one for the 2013 code cycle.

## CEQA Declaration(s)

### Notice of Exemption

### Appendix E

**To:** Office of Planning and Research  
P.O. Box 3044, Room 113  
Sacramento, CA 95812-3044

**From:** California Energy Commission  
1516 Ninth Street  
Sacramento, CA 95814-5512

**County Clerk(s):** County Clerk  
County of San Mateo  
555 County Center  
Redwood City, CA 94063

**Project Title:** City of San Mateo Local Ordinance No. 2016-5, section 23.24.

**Project Applicant:** N/A

**Project Location – City:** San Mateo

**Project Location – County:** San Mateo

### Description of Nature, Purpose and Beneficiaries of Project:

Pursuant to Public Resources Code (PRC) section 25402.1(h)(2) and Section 10-106 of Title 24 of the California Code of Regulations, the City of San Mateo has applied to the Energy Commission for a determination that its locally adopted energy efficiency standard, enacted in Local Ordinance No. 2016-5 (the Ordinance), will require buildings to be designed to consume no more energy than permitted by the Building Energy Efficiency Standards adopted by the Energy Commission. The Energy Commission's Building Standards are set forth in Title 24, Part 6 of the California Code of Regulations. The Ordinance will require cool roofs and mandatory solar installation in new buildings according to occupancy type. Consistent with PRC section 25402.10(h)(2), the Energy Commission found that the City of San Mateo's Ordinance will require the diminution of energy consumption levels permitted by the 2016 Building Energy Efficiency Standards.

**Name of Public Agency Approving Project:** City of San Mateo (Lead Agency);  
California Energy Commission (Responsible Agency)

**Name of Person or Agency Carrying Out Project:** City of San Mateo

### Exempt Status:

- ☒ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number:  
California Code of Regulations, title 14, § 15061(b)(3).
- ☐ Statutory Exemption. State code number:

### Reasons why project is exempt:

The finding by the Energy Commission required by PRC section 25402.1(h)(2), that the City of San Mateo Ordinance will require the diminution of energy consumption levels permitted by the 2016 Building Energy Efficiency Standards, involves the comparison of the energy savings of the Ordinance pursuant to an objective fixed standard, and does not require the exercise of judgment or deliberation on the part of the Energy Commission. It is therefore a ministerial act consistent with section 15369 of Title 14 of the California Code of Regulations, and is exempt from CEQA pursuant to Public Resources Code section 21080(b)(1) and section 15268 of Title 14 of the California Code of Regulations.



# Resources

1) TRC/DNV-GL (Consultant support beginning February), funded by PCE & SVCE

- Draft model ordinance language
- Facilitate stakeholder meetings
- Technical Assistance with Code Adoption & Implementation
- Connect cities to BayREN and Statewide Codes and Standards team

2) SVCE, PCE and/or OOS staff support

3) \$10,000 Grant to support city efforts, funded by PCE & SVCE

- Letter of Intent from SVCE or PCE
- City invoices SVCE or PCE once the city staff has presented the reach code(s) to council for approval



# Even more resources!

## 3) Statewide Codes and Standards team, Building Decarbonization Coalition, BayREN

- Cost effectiveness calculations that we will be using for our model ordinance
- Feedback, expertise, collaboration
- March 7<sup>th</sup> BayREN Regional Forum on Reach Codes
  - Initial results of cost-effectiveness studies
  - Case studies of previous Bay Area reach code efforts
  - Tips for working with stakeholders
  - Opportunity to coordinate geographically
  - BayRENcodes.org



# Summary Timeline

Item	Date	Stakeholders		Consultant Support Available		
		Leader	Participant(s)	Content	Coordination	Technical
Kickoff	Jan 2019	SVCE/PCE	Cities & Consultant	✓		
Cost Effectiveness Study Review	Feb 2019	Consultant	SVCE/PCE	✓		✓
Review Code Options	Mar 2019	Consultant	Cities & SVCE/PCE	✓		✓
<b>Select Code Options*</b>	Mar 2019	Cities				
Draft Amendments	Apr 2019	Consultant		✓	✓	✓
External Stakeholder Input	May 2019	Consultant	Cities, SVCE/PCE, Community	✓	✓	✓
<b>Submit for Council Review**</b>	Aug 2019	Cities	City Council, Consultant			✓
Application to Energy Commission (not for EV code)	Oct 2019	Cities	Consultant			✓
File with Building Standards Commission	Dec 2019	Cities	Consultant			✓
New Code Effective	Jan 2020	Cities				

\* Letter of Intent for \$10,000 support grant from SVCE or PCE

\*\* Payment of \$10,000 support grant from SVCE or PCE

# What's Next

- Statewide group finalizes Cost-Effectiveness calculations (end of Feb.)
- Review cost-effective options with City staff (March)
  - March 7<sup>th</sup> BayREN Forum at the Bay Area Metro Center, San Francisco
- Cities decide to proceed on proposed measures (March-April)

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# Adoption Timing Considerations

**Three options local governments can consider in terms of timing are:**

- Adopt a reach code to **at the time the local updated Building Code is adopted.**
  - This will likely lead to reach code and building code not taking effect at the same time.
- Adopt a reach code **to take effect at the same time as the updated Building Code.**
  - This would require the Building Code and Reach Code package going to local Council in September or earlier to allow for reach code approvals
- Adopt a reach code **when it makes sense in terms of the local process.**