Countywide Reach Code Working Group Kickoff

January 16, 2019

Presentation from 12:15-1:00pm
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.
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:

- Part 1 - California Building Standards Administrative Code
- Part 2 - California Building Code - Vol. I & II
- Part 3 - California Electrical Code
- Part 4 - California Mechanical Code
- Part 5 - California Plumbing Code
- Part 6 - California Energy Code
- Part 7 - No longer published in Title 24; see Title 8 CCR
- Part 8 - California Historical Building Code
- Part 9 - California Fire Code
- Part 10 - California Existing Building Code
- Part 11 - California Green Building Standards Code
- 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• Electric Vehicle Charging Infrastructure (EVCI) requirements in the 2016 code reflect an outdated and insufficient EV uptake rate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
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

<table>
<thead>
<tr>
<th>Community</th>
<th>Date Approved</th>
<th>Type</th>
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<tbody>
<tr>
<td>Alameda County</td>
<td>July 11, 2018</td>
<td>Solar PV</td>
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<tr>
<td>Brisbane, City of</td>
<td>July 12, 2017</td>
<td>Cool Roof, Solar PV</td>
</tr>
<tr>
<td>Chula Vista, City of</td>
<td>July 11, 2018</td>
<td>Outdoor Lighting</td>
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<tr>
<td>Del Mar, City of</td>
<td>September 21, 2018</td>
<td>Efficiency</td>
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<td>Davis, City of</td>
<td>December 13, 2017</td>
<td>Efficiency, Solar PV</td>
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<tr>
<td>Fremont, City of</td>
<td>April 27, 2017</td>
<td>Solar PV</td>
</tr>
<tr>
<td>Healdsburg, City of</td>
<td>July 12, 2017</td>
<td>Efficiency</td>
</tr>
<tr>
<td>Lancaster, City of</td>
<td>October 11, 2017</td>
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<td>Marin County</td>
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<tr>
<td>Mill Valley</td>
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<td>Novato, City of</td>
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<td>Efficiency</td>
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<td>Palo Alto, City of</td>
<td>September 14, 2016</td>
<td>Efficiency, Solar PV, EV</td>
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<tr>
<td>Portola Valley, Town of</td>
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<td>Efficiency</td>
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<tr>
<td>San Francisco, City of</td>
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<td>Solar PV or Solar Thermal</td>
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<tr>
<td>San Mateo, City of</td>
<td>September 14, 2016</td>
<td>Cool Roofs, Solar</td>
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</tbody>
</table>
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;
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 23.23 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 8, 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 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 developing the 2016 California Building Code, which has a targeted effective date of January 1, 2017. Staff is proposing to time the proposed amendments to the California Building Code to coincide 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)

<table>
<thead>
<tr>
<th>Notice of Exemption</th>
<th>Appendix E</th>
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<tbody>
<tr>
<td>To: Office of Planning and Research</td>
<td>From: California Energy Commission</td>
</tr>
<tr>
<td>P.O. Box 2044, Room 113</td>
<td>1560 Ninth Street</td>
</tr>
<tr>
<td>Sacramento, CA 95822, 2044</td>
<td>Sacramento, CA 95814-5812</td>
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<td>County Clerk(s): San Mateo</td>
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<td>County of San Mateo</td>
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<td>Project Approving Authority: City of San Mateo</td>
<td>Project Approving Authority: City of San Mateo</td>
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<td>Project Location – City: San Mateo</td>
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<td>Project Location – County: San Mateo</td>
<td>Project Location – County: San Mateo</td>
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<tr>
<td>Description of Nature, Purpose and Significance of Project:</td>
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<tr>
<td>Pursuant to Public Resources Code (PRC) section 25401.16(b)1 and 106-1061 of Title 24 of the California Code of Regulations, the City of San Mateo has submitted a CEQA determination and its adopted energy efficiency standard, as adopted by the Energy Commission. The Energy Commission’s building standards are set forth in Title 24, part of the California code of regulations, and the ordinance will require cool roofs and mandatory solar installations in new buildings according to occupancy type consistent with PRC section 25401.16(b)1, the energy Commission found that the City of San Mateo’s ordinance will require the elimination of energy consumption levels permitted by the 2016 building energy efficiency standards.</td>
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<td>Name of Public Agency Approving Project: City of San Mateo</td>
<td>&quot;California Energy Commission (responsible agency)&quot;</td>
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<td>Name of Person or Agency Carrying Out the Project: City of San Mateo</td>
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<td>Exempt Status:</td>
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<td>X</td>
<td>Minimally (Sec. 21000.01(d)(1), 15268)</td>
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<td>Declared Emergency (Sec. 21000.02(H), 15346(2))</td>
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<td>Emergency Project (Sec. 21000.04(d)), 15289(6)(c)</td>
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<td>Categorical Exemption: State and section number: califonia code of regulations, title 24, § 25401.16(b)1</td>
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<td>O</td>
<td>Statutory Exemption: State code number:</td>
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Reasons why project is exempt:
The finding of the Energy Commission required by PRC section 25401.16(b)1, that the City of San Mateo Ordinance will require the elimination 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 discretion on the part of the Energy Commission. It is therefore a ministerial act consistent with section 15262 of Title 24 of the California Code of Regulations, and is exempt from CEQA pursuant to Public Resources Code section 25401.16 and section 21066 of Title 24 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 7th 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

<table>
<thead>
<tr>
<th>Item</th>
<th>Date</th>
<th>Leader</th>
<th>Participant(s)</th>
<th>Content</th>
<th>Coordination</th>
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<td>Kickoff</td>
<td>Jan 2019</td>
<td>SVCE/PCE</td>
<td>Cities &amp; Consultant</td>
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<td>External Stakeholder Input</td>
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<td>Submit for Council Review**</td>
<td>Aug 2019</td>
<td>Cities</td>
<td>City Council, Consultant</td>
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<td>Application to Energy Commission (not for EV code)</td>
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<td>Cities</td>
<td>Consultant</td>
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<td>File with Building Standards Commission</td>
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<td>Consultant</td>
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<td>New Code Effective</td>
<td>Jan 2020</td>
<td>Cities</td>
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* 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 7th BayREN Forum at the Bay Area Metro Center, San Francisco
• Cities decide to proceed on proposed measures (March-April)

Sven Thesen
Clean Energy Programs Manager
Peninsula Clean Energy
sthesen@peninsulacleanenergy.com
Phone: 650-257-2116
Cell: 415-225-7645

Rachael Londer
Sustainability Coordinator
County of San Mateo, OOS
rlonder@smcgov.org
Phone: 650-363-4077

John Supp
Manager of Account Services
Silicon Valley Clean Energy
john.supp@svcleanenergy.org
Phone: 408-721-5301 x1014
Cell: 650-646-1524
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**.