

DOCKETED

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Project Title:	2022 Rulemaking for Part 11 (CalGreen) and Parts 2-5 of the Building Standards Code
TN #:	239213
Document Title:	Presentation - August 6, 2021 Lead Commissioner Hearing for 2022 Update to Title 24
Description:	Collected presentations made by staff at the August 6, 2021 Lead Commissioner Hearing on the proposed updates to 2022 Title 24, Part 11, and Parts 2, 2.5, 3, 4, and 5.
Filer:	Javier Perez
Organization:	California Energy Commission
Submitter Role:	Commission Staff
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Docketed Date:	8/9/2021



Lead Commissioner Hearing for 2022 Update to Title 24, Part 11 and Parts 2, 2.5, 3, 4, 5

Payam Bozorgchami, P.E.

DATE: August 6, 2021

Start Time: 9:00 AM



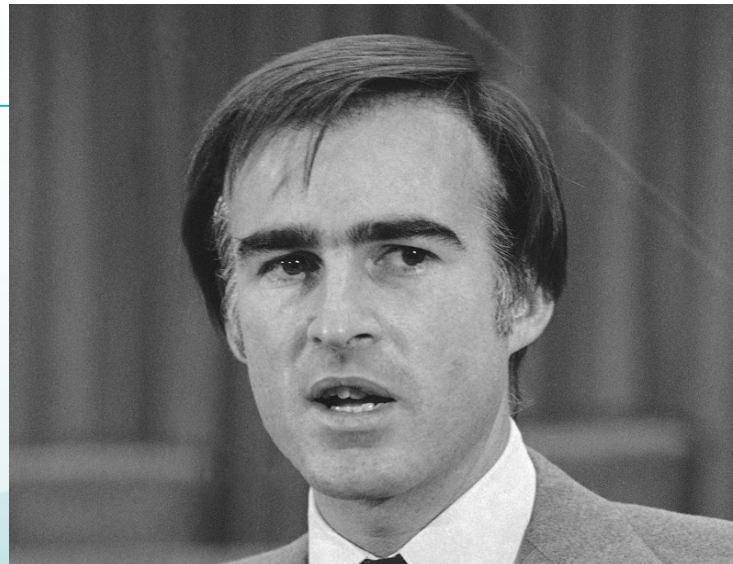
Agenda for Today's Hearing

- **History of Title 24, Part 11, California Green Building Standards and the California Energy Commission's Adoption Authority**
- **Title 24, Part 11, Appendix A4 and A5**
- **Break (15 Minutes)**
- **Title 24, Parts:**
 - **Part 2 – California Building Code**
 - **Part 2.5 – California Residential Code**
 - **Part 3 – California Electric Code**
 - **Part 4 – California Mechanical Code**
 - **Part 5 – California Plumbing Code**



Energy Commission's Authority & Process

- **Public Resources Code (PRC 25402):** Reduction of wasteful, uneconomic, inefficient, or unnecessary consumption of energy
 - (a)(1) Prescribe, by regulation, lighting, insulation, climate control system, and other building design and construction standards that increase the efficiency in the use of energy and water...
 - Warren Alquist Act Signed into law in 1974 by Governor Ronald Reagan and launched by Governor Jerry Brown in 1975 which mandates updates Building Efficiency Standards and requires the building departments to enforce them through the permit process.





Benefits of the Energy Code

- Increases building energy efficiency feasibly and cost-effectively
- Least-cost means to achieve CA's climate action goals – homes and businesses use nearly 70 percent% of CA's electricity and are responsible for a quarter of CA's greenhouse gas (GHG) emissions
- Encourages load flexibility and grid harmonization
- Provides compliance flexibility by setting minimums (baselines) and allowing for trade-offs



Authority & Process

- **Assembly Bill (AB 32):** California Global Warming Solution Act to reduce
 - Reduce greenhouse gases to 1990 levels by 2020
- **Senate Bill (SB 1473):** Gave authority to California Building Standards Commission to develop Green Building Standards where no other state agency has the authority to adopt Standards.



2022 Update Process

From Here on to the Effective Date

2022 STANDARDS UPDATE SCHEDULE	
DATE	MILESTONES
November 2018 - November 2019	Updated Weather Files
November 2018-December 2019	Metric Development
November 2018-July 2019	Measures Identified and approval
August 2019 to January 2021	Stakeholder meeting/workshop & final staff workshop for Part 6
July 2, 2021	Beginning of the 45-Day for Part 11 & Parts 2, 2.5, 3, 4, 5
July 27, 2021	45-day Lead Commissioner Hearings
August 6, 2021	Second 45-Day Lead Commissioner Hearings
August 16, 2021	Comments for the 45-Day Language due date
September 30, 2021	Adoption of Part 11, Special Business Meeting
December of 14 to 16. 2021	CBSC Approval Hearing
January 1, 2023	Effective Date



Key Web-Links

45-Day Rulemaking Comments to be Submitted to:

<https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=21-BSTD-03>

NOTE: For this hearing final deadline for written comments is **August 16, 2021**
by 5:00 PM

Building Energy Efficiency Program

<http://www.energy.ca.gov/title24/>



How to submit Written Comments

- **We strongly encourage submitting written comments via e-file.** Comments on the proposed 2021 Energy Code can be submitted to:
[https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber= 21-BSTD-03](https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=21-BSTD-03)
- Comments can also be submitted physically or by e-mail, here:
California Energy Commission
Dockets Unit, MS-4
Docket No. 21-BSTD-03
715 P Street
Sacramento, CA 95814-5512
Docket@energy.ca.gov

Final deadline for written comments is August 16, 2021



CALGreen – Title 24, Part 11

Presenter: Danuta Drozdowicz,
Danny Tam

DATE: August 6, 2021

Lead Commissioner Hearing for 45-Day Language



CALGreen – Part 11 - Overview

- CEC is responsible for updating Voluntary Appendices A4 and A5
 - Appendices contain model “above code” or “reach code” energy efficiency standards
 - Proposed changes have no regulatory effect themselves, though they may serve as the basis for a local ordinance
 - Local jurisdictions are not obligated to use this model language
- Proposed changes are exclusive to residential appendix (A4)
- Menu of prerequisite options is expanded, and EDR values revised
- Additional changes are made to update terminology, clarify language, improve consistency, revise and correct numbering, and remove redundant language as needed



CALGreen – Part 11 - Process

- CEC Staff worked with stakeholders including the Codes and Standards Enhancement (CASE) Initiative to propose changes to code language intended as templates and examples for jurisdictions to use in considering above code local ordinances
- CASE team prepared a report titled ‘Voluntary Energy Efficiency Requirements for Title 24, Part 11 (CALGreen)’
- Report included single family code change recommendations and additions to the prerequisite options
- Staff revised and updated EDR targets for California climate zones 1 - 16 into one consolidated table and removed CALGreen tiers 1 and 2



Prerequisite Options

- **One option to be selected**
 - **Existing options:**
 1. Roof deck insulation or ducts in conditioned space
 2. High performance walls
 3. Compact hot water distribution system
 4. Drain water heat recovery
 - **New options:**
 5. High performance vertical fenestration
 6. Heat pump water heater demand management
 7. Battery storage system controls
 8. Heat pump space and water heating



Energy Design Rating (EDR)

- CEC staff updated EDR targets to reflect changes in Part 6
 - Heat pump space heating or water heating as primary changes
- Single EDR target for Tier 1 and Tier 2
- Proposed margins are for improvement in EDR1, which is based on hourly source energy.
 - 2019 EDR targets based on TDV



Energy Design Rating (EDR) - Cont

Climate Zone	EDR1 Margin below Part 6	Examples of Heat Pump Compliance Path	Examples for Mixed Fuel Compliance Path
1	4.3	HPSH + HPWH	Dual Fuel HP + IWH, or 3p Windows
2	4.4	HPSH + HPWH	Dual Fuel HP + IWH + 3p Windows + Compact HW Dist
3	6.0	HPSH + HPWH	5kWh Battery TOU
4	5.8	HPSH + HPWH	5kWh Battery TOU
5	5.8	Double HP + Compact HW Dist	5kWh Battery TOU
6	3.5	Double HP + Compact HW Dist	5kWh Battery TOU
7	2.9	Double HP + Compact HW Dist	5kWh Battery TOU
8	2.1	Double HP + Compact HW Dist	5kWh Battery TOU
9	3.6	Double HP + Compact HW Dist	5kWh Battery TOU
10	6.5	HPSH + HPWH	5kWh Battery TOU
11	4.3	HPSH + HPWH	5kWh Battery TOU
12	4.4	HPSH + HPWH	5kWh Battery TOU
13	4.9	HPSH + HPWH	5kWh Battery TOU
14	5.8	HPSH + HPWH	5kWh Battery TOU
15	1.8	3p Windows + Electric cooktop	14kWh Battery TOU
16	4.3	HPSH + HPWH	Dual Fuel HP + IWH + 3p Windows



Questions?





Title 24, Parts 2, 2.5, 3, 4, 5

Presenter: Peter Strait

DATE: August 6, 2021

Lead Commissioner Hearing for 45-Day Language



Nonsubstantive Pointers

- CEC staff worked with staff from the California Department of Housing and Community Development (HCD) to identify areas in Parts 2 – 5 that applied to building systems and equipment also subject to efficiency standards.
- Staff added informative language (“pointers”) to make readers aware of applicable standards, and included brief descriptions of said standards where appropriate.
- These pointers are not considered substantive because the underlying standard applies regardless of the informative language,
- Staff is interested in knowing if there are other areas where similar informative language would benefit readers.

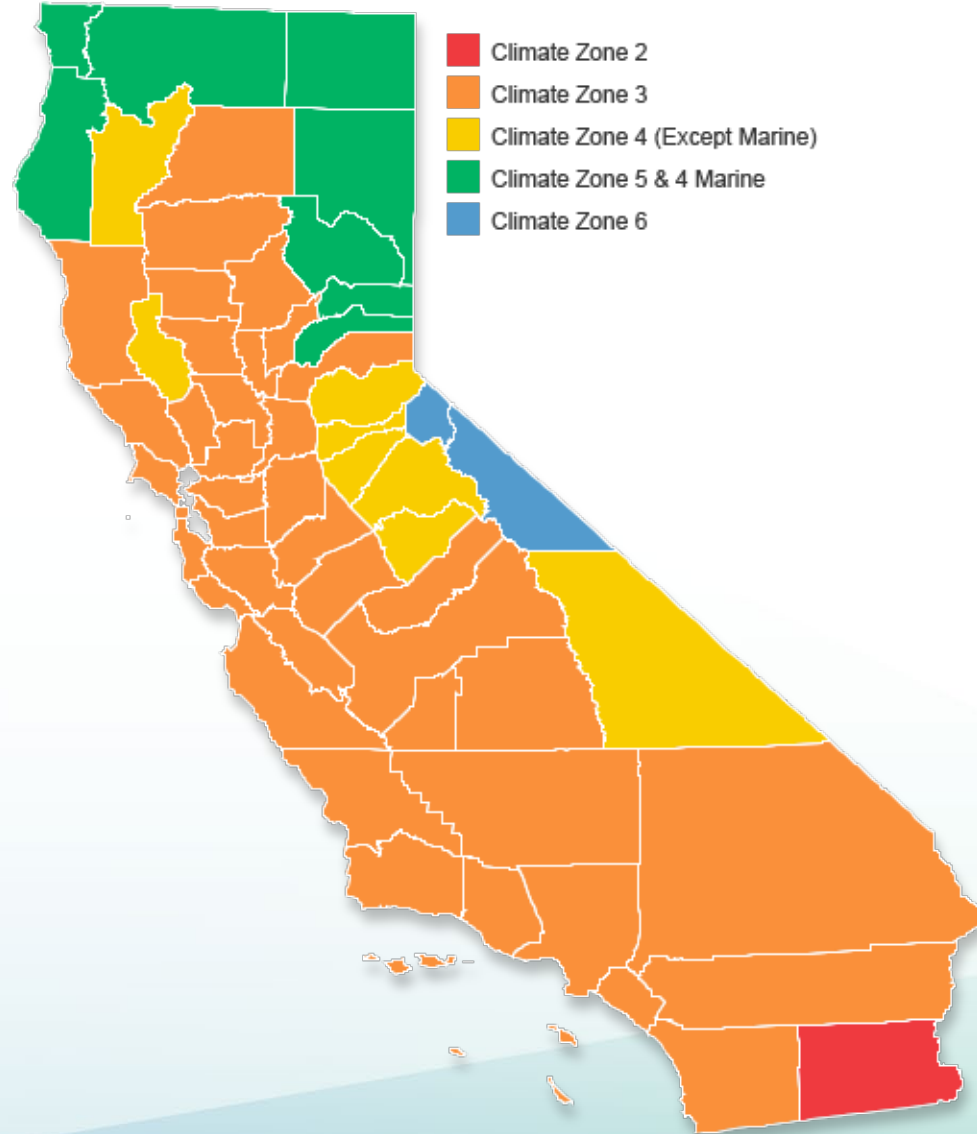


Building Code (Part 2) Pointers

- Retain references to the California Energy Code in Chapters 2 and 12, replacing reference to IECC where needed
- Clarify relationship of Energy Code and IECC Climate Zones in Chapters 12, 14, 21, and 25



IECC Climate Zone Map for California

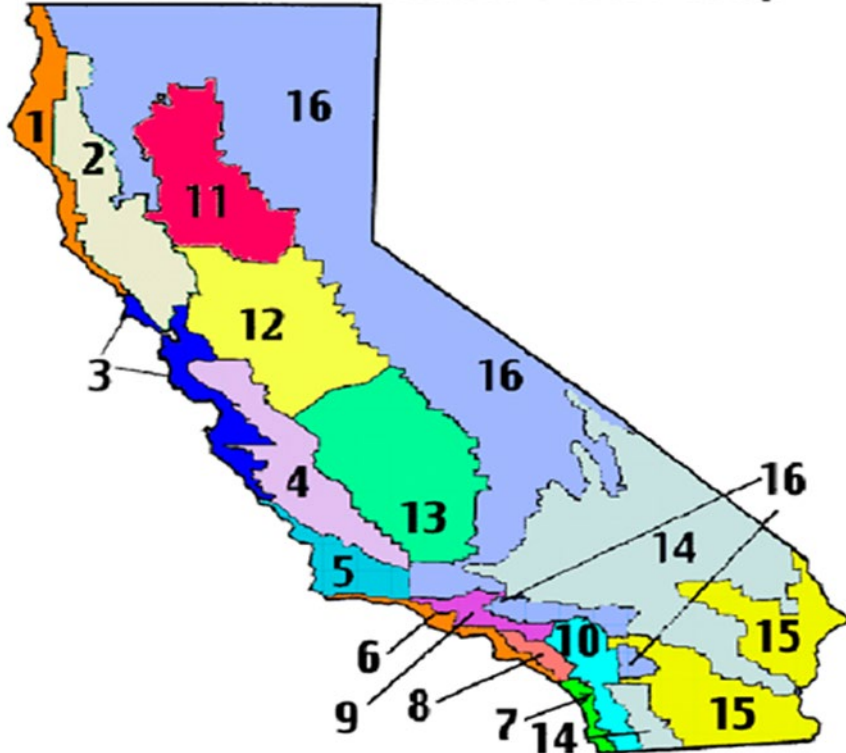




California Standards for California Climates

- Focus on CA Climate Diversity
 - Standards set expectations for climate-specific designs
 - CA weather data captures statewide coincident peak demand climate conditions

California Climate Zone Map



Coastal - 1, 3, 5, 6, 7, 8

Inland - 2, 4, 9, 10

Central Valley - 11, 12, 13

Desert - 14, 15

Mountains -16



Residential Code (Part 2.5) Pointers

- Clarify relationship of Energy Code and IECC Climate Zones in Chapters 4, 7, 8, and Appendix S



Electrical Code (Part 3) Pointers

- Point to California-specific Local Ordinance requirements in Article 89
- Point to new Energy Code electric ready requirements in Article 408 (Panelboards), Article 422 (Appliances), and 440 (Space Heaters)
- Point to new Energy Code storage ready requirements in Article 706



Mechanical Code (Part 4) Pointers

- Point to California-specific Local Ordinance requirements in Chapter 1
- Point to Energy Code air filter standards in Chapter 3
- Point to Energy Code duct sizing and leakage testing standards in Chapter 6
- Point to Energy Code pipe insulation and slab floor insulation standards in Chapter 12



Plumbing Code (Part 5) Pointers

- Point to California-specific Local Ordinance requirements in Chapter 1
- Point to California water-related appliance standards applicable to plumbing fittings and fixtures in Chapter 4
- Point to Energy Code water heating system standards in Chapter 5
- Point to Energy Code pipe insulation standards in Chapter 6



Questions?





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Thank You!

