

**TITLE 24, PART 6 2025 CODE CYCLE**

# 2025 Title 24 Energy Code Update

California Statewide Utility Codes & Standards Enhancement (CASE) Team  
October 27, 2022

*The webinar will begin shortly.*

2

## Agenda

Objectives	10 min
Welcome from CEC and PG&E	10 min
Measure History and Background	10 min
Introduction to 2025 Proposals	45 min
Conclusion and Questions	15 min

Welcome to the 2025 T24 Code Cycle - October 2022

3

## Objectives

- Build involvement in the California Energy Code update process
- Introduce the CASE Team measure package & offer opportunity for clarifying questions
- Connect early in the cycle

“  
Public involvement is an important part of California Energy Commission proceedings. The Commission promotes an open process that enables those who are interested to have an opportunity to stay informed, have a voice, and influence the outcome of proceedings.”  
—CEC

Welcome to the 2025 T24 Code Cycle - October 2022

4

## Meeting Guidelines

- Audio:  
**If you can't hear, you can use your phone to call in instead of your computer audio**
- Questions
- Handouts
- Chat
- Polls
- Survey

Go to Webinar Dashboard

The screenshot shows a webinar dashboard with a sidebar on the left and a main content area on the right. The sidebar contains icons for Webcam, Audio, Dashboard, Attendees, Questions, Handouts, Chat, Polls, and Survey. The main content area shows a list of attendees (Sue Miller, Jane Doe, Hank Smith) and a search bar. Red arrows point from the guidelines to the Audio icon, the Questions icon, the Handouts icon, the Chat icon, the Polls icon, and the Survey icon. A red circle highlights the 'All' button in the attendee list.

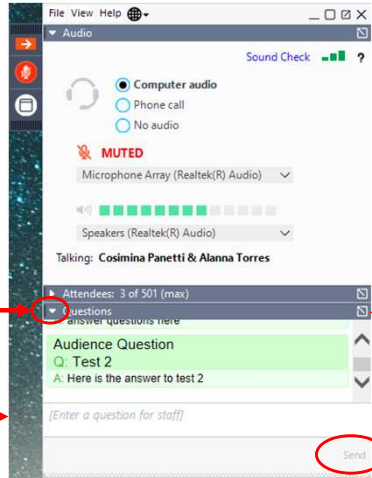
Welcome to the 2025 T24 Code Cycle - October 2022

5

## Ask a Question or Share a Comment

Click the arrow next to Questions

Type your question



Undock the Question box

Press send

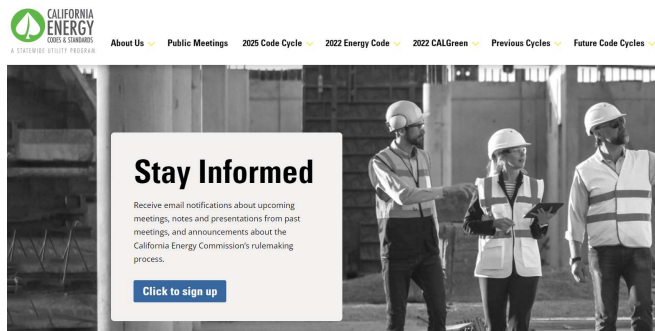
Welcome to the 2025 T24 Code Cycle - October 2022

6

## Participate In the Process

Stakeholder engagement is encouraged throughout the code cycle:

- ✓ Share knowledge and data
- ✓ Attend our utility-sponsored stakeholder meetings
- ✓ Participate in CASE surveys
- ✓ Review CASE Reports
- ✓ Submit comments



Sign up for our listserv at [Title24stakeholders.com](https://Title24stakeholders.com)

Welcome to the 2025 T24 Code Cycle - October 2022

7

**California Energy Code & Standards**  
A STATEWIDE QUALITY PROGRAM

About Us | Public Meetings | 2025 Code Cycle

Navigation Menu:  
 About Us  
 Glossary of Terms  
 Code Development Process & Timeline  
 Other Resources  
 News and Updates  
 Contact Us

## Glossary of Terms

Search the Glossary...

All 0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

**0-9**

**15-Day Express Terms/Language**  
As a countdown to code measure adoption, the California Energy Commission's Energy Efficiency Lead Commissioner will hold public hearings to receive public comments on the proposed action that will be schedule to take place 15 days from the date of the hearing. At these hearings, any person may present statements or arguments relevant to the proposed regulatory action. Only minimal changes can be made at this stage.

**45-Day Express Terms/Language**  
As a countdown to code measure adoption, the California Energy Commission's Energy Efficiency Lead Commissioner will hold public hearings to receive public comments on the proposed action that will be schedule to take place 45 days from the date of the hearing. At these hearings, which represent the first opportunity for the public to see the CEC's proposed code language, any person may present statements or arguments relevant to the proposed regulatory action.

**A**

**Acceptance Test Technician (ATT)**  
An installation technician that is certified to perform nonresidential acceptance testing for lighting controls (Title 24, Part 6, Section 130.4) or mechanical systems (Title 24, Part 6, Section 120.5).

**Alternative Calculation Methods (ACM)**  
Compliance softwares, or alternative component packages, or exceptional methods approved by the Commission under Section 10-109. ACMs are also referred to as Compliance Software.

**B**

TITLE24STAKEHOLDERS.COM

8

**Poll**

*Where are you attending from?*

9

## CEC Introduction

- Authority and Process
- Drivers and Themes
- Contacts

**Javier Pérez**  
California Energy Commission  
[Javier.Perez@energy.ca.gov](mailto:Javier.Perez@energy.ca.gov)



10

## California Energy Commission's Authority and Process

**Public Resources Code (PRC 25402):** Reduction of wasteful, uneconomic, inefficient, or unnecessary consumption of energy

- Warren Alquist Act Signed into law in 1974
- Mandates updates Building Efficiency Standards and requires the building departments to enforce them through the permit process

### WARREN-ALQUIST ACT

Warren-Alquist  
State Energy Resources  
Conservation and  
Development Act

Public Resources Code  
Section 25000 et seq.



CALIFORNIA  
ENERGY COMMISSION  
Gavin Newsom, Governor

2022 EDITION  
JANUARY 2022  
CEC-140-2022-001

11

## 2025 Energy Code Drivers and Themes

### State Goals

- Contribute to the state's GHG reduction goals
- Increase building energy efficiency cost-effectively

### 2025 Energy Code Strategies

- Heat pump baselines
- Promote demand flexibility, Solar PV generation and energy storage
- Covered process loads
- Equity & affordable new housing program integration
- Additions, alterations, and smaller homes (e.g., ADUs)
- Electric vehicle readiness support
- Interagency coordination



12

## Building Decarbonization, PV, and Energy Storage

### Efforts Led by the CEC

- Prescriptive heat pump space and water heating requirements
  - Proposals for prescribing or expanding where heat pumps are prescribed will be led by the CEC
- Prescriptive photovoltaic system and energy storage system requirements
  - Proposals for prescribing or expanding photovoltaic systems or energy storage systems will be led by the CEC
- CEC will hold workshops on these topics and will lead work centered around these measures
  - Workshops will be separate from CASE workshops

Subscribe for CEC Building Standards updates under the "Efficiency Topics" at

[www.energy.ca.gov/subscriptions](http://www.energy.ca.gov/subscriptions)



13

## 2025 Energy Code Senior Staff Contacts

**Javier Perez** – Project Manager

**Payam Bozorgchami** – Technical Lead,  
Envelope, Additions and Alterations, ADUs

**Haile Bucaneg** – Covered Process, Demand  
Response, Nonresidential and Residential ACM

**Muhammad Saeed** – Solar Photovoltaic and  
Energy Storage Systems

**Bach Tsan** – HVAC Systems, Refrigeration

**Email Convention at the Energy Commission:**  
firstname.lastname@energy.ca.gov

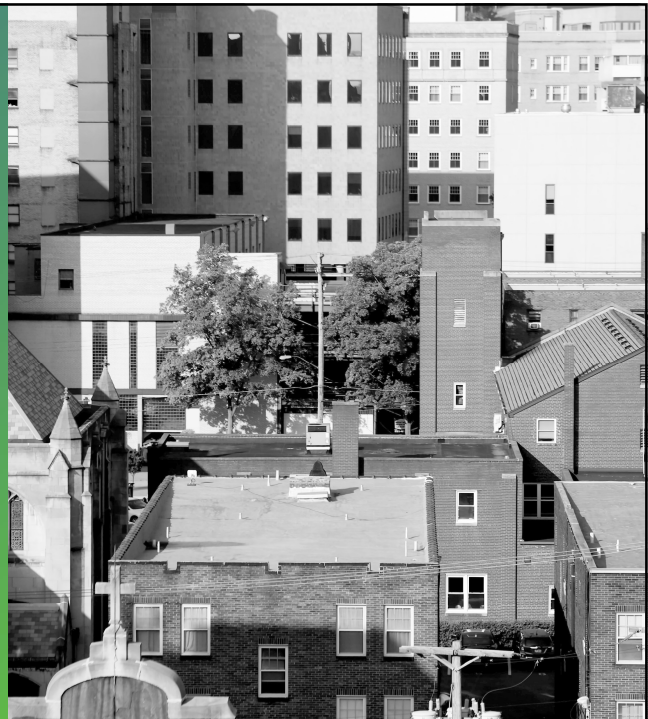


14

## PG&E Introduction

- Statewide Utility Codes and Standards Team
- Project Schedule & Milestones

**Kelly Cunningham**  
PG&E  
[Kelly.Cunningham@pge.com](mailto:Kelly.Cunningham@pge.com)



15

## Statewide Utility Codes and Standards Team

Actively supports the California Energy Commission in developing proposed changes to the Energy Code (Title 24, Part 6) to achieve significant statewide energy use reductions through the development of code change proposals for the 2025 cycle that are:

**Feasible | Cost effective | Enforceable | Non-proprietary**



Welcome to the 2025 T24 Code Cycle - October 2022

16

## How Utility Team Supports the 2025 Code Cycle

### General priorities:

- Support CEC in achieving statewide policy goals
- Cost-effective energy savings (kWh, kW, Therms)
- GHG emissions reductions

### Options for utility team support:

- Develop Code Change Proposals (CASE Reports)
- Provide data for proposals CEC develops
- Collaborate with other stakeholders who are developing proposals
- Support software development

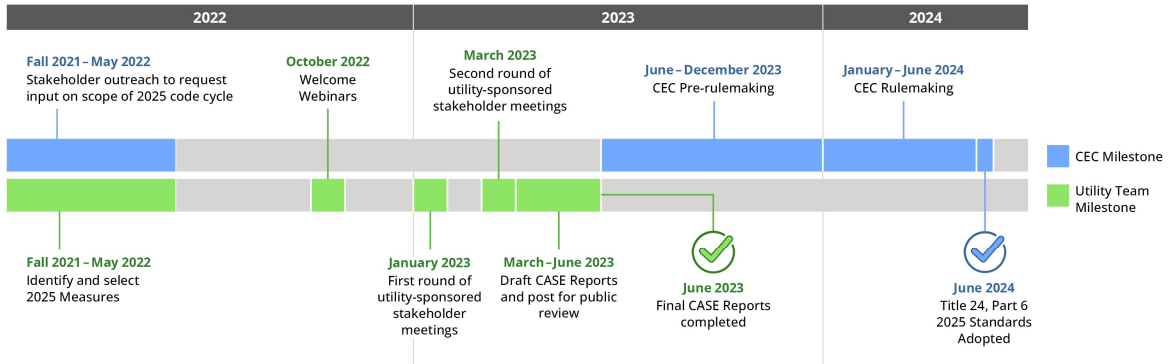
Maximize number of cost-effective code changes for each cycle that will allow the state to achieve long-term policy goals

Welcome to the 2025 T24 Code Cycle - October 2022

17



## 2025 Cycle – Tentative Project Schedule & Milestones



Welcome to the 2025 T24 Code Cycle - October 2022


18

## Estimated Schedule for 2025 Code Cycle

Milestone	Tentative Dates
Measure identification and selection	June 2021 – May 2022
CEC Updates Weather Files and Develops 2025 TDV	November 2021 – October 2022
Research version of CBECC with 2025 TDV and weather files available	October 2022
Welcome Webinars	October 2022
First Round of Utility-Sponsored Stakeholder Meetings	January 2023
Utilities Submit Draft CASE Reports to CEC and Post for Public Review	February – March 2023
Second Round of Utility-Sponsored Stakeholder Meetings	March - April 2023
CEC Pre-rulemaking Workshops	June 2023 – December 2023
Utilities Submit Final CASE Reports to CEC and Post for Public Review	No Later than June 30, 2023
Express Term Review	October 2023
45-Day Express Terms Review	January – February 2024
15-Day Express Term Review	Beginning of April 2024
2025 Title 24, Part 6 Adopted	End of June 2024
2025 Title 24, Part 11 (CALGreen) Adopted	July 2024
2025 Compliance Manuals and ACM Reference Manuals Approved	November 2024
CASE Study Results Reports and CSSRs Complete	December 31, 2024
2025 Compliance Software Available to Public	January 1, 2025
2025 Standards Effective	January 1, 2026

Welcome to the 2025 T24 Code Cycle - October 2022

19



## 2025 T24 Measure History & Background


- Items to Balance
- Proposal Identification
- Current Measures

20

20

## Items to Balance

- **Energy savings** and **GHG emissions**
- Load management to support **grid reliability**
- Distribution of proposals across **building types** and **system types**
- Impacts on those who work to **comply** with the code
- Enabling savings to **persist** over time
- Energy **equity**
- Interaction with CALGreen and local reach codes
- Support statewide policies to improve energy performance of the **entire building sector**



21

# Environmental and Social Justice (ESJ)

Codes and Standards Enhancement (CASE) Initiative  
 2025 California Energy Code

To ensure accountability and transparency in our processes and establishing clear goals and objectives with historically underrepresented community.

## Planning and Strategy

We created an [Action Plan](#) focused on working with ESJ and Community Based Organizations (CBOs)

<https://title24stakeholders.com/wp-content/uploads/2022/10/2025-T24-ESJ-Action-Plan.pdf>

## Environmental and Social Justice Engagement Action Plan

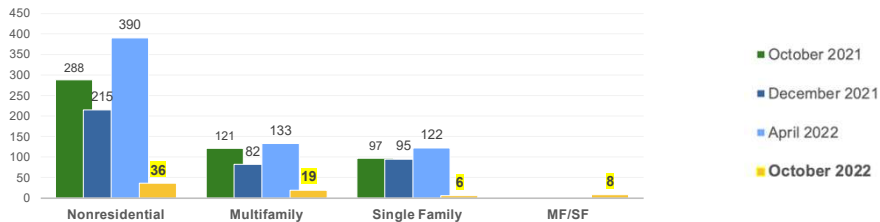


Welcome to the 2025 T24 Code Cycle - October 2022

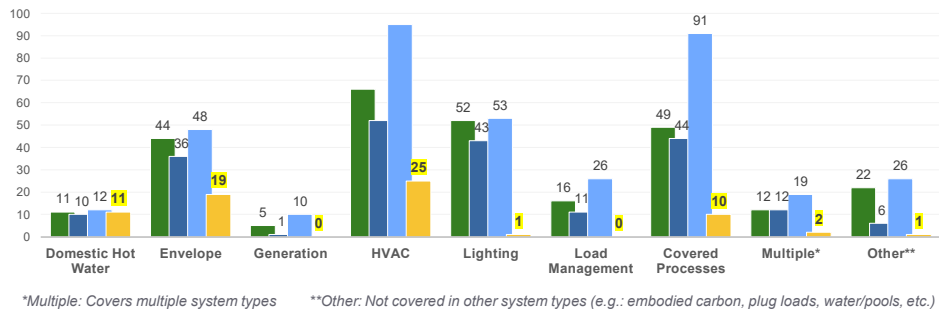
22

# All Measures Considered Over Time

## By Building Type:



## By System Type:

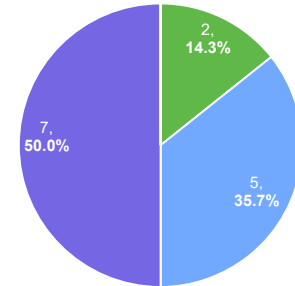
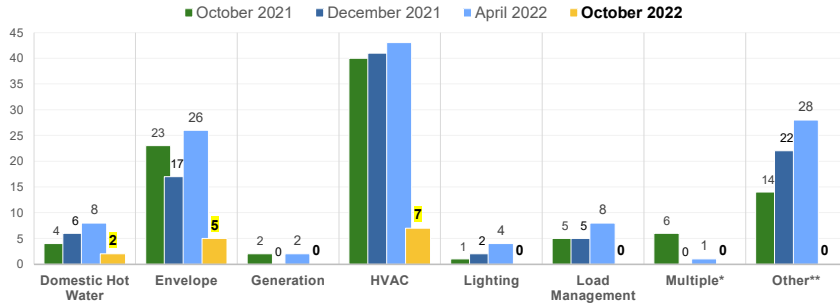


Welcome to the 2025 T24 Code Cycle - October 2022

23

## Single Family Proposal Identification by System Type

14 measures total (including 8 SF/MF measures)



	DHW	Envelope	HVAC	Lighting	Multiple	Other	Total
<b>Single Family only</b>	0	5	1	0	0	0	<b>6</b>
<b>SF AND MF</b>	2	0	6	0	0	0	<b>8</b>
<b>Total</b>	<b>2</b>	<b>5</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>

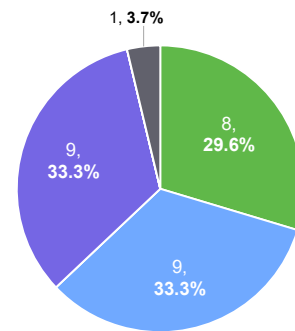
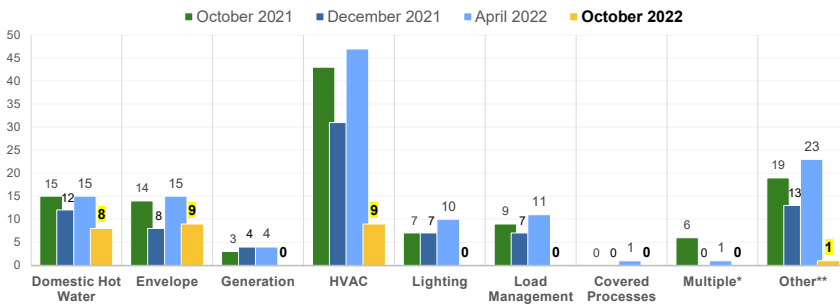
\*Multiple: Covers multiple system types  
 \*\*Other: Not covered in other system types (e.g.: embodied carbon, plug loads, water/pools, etc.)

Welcome to the 2025 T24 Code Cycle - October 2022

24

## Multifamily Proposal Identification by System Type

27 measures total (including 8 MF/SF measures)



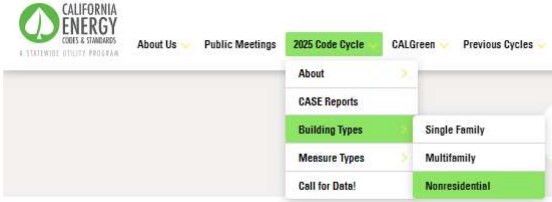
	DHW	Envelope	HVAC	Lighting	Multiple	Other	Total
<b>Multifamily only</b>	6	9	3	0	0	1	<b>19</b>
<b>SF AND MF</b>	2	0	6	0	0	0	<b>8</b>
<b>Total</b>	<b>8</b>	<b>9</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>27</b>

\*Multiple: Covers multiple system types  
 \*\*Other: Not covered in other system types (e.g.: embodied carbon, plug loads, water/pools, etc.)

Welcome to the 2025 T24 Code Cycle - October 2022

25

# title24stakeholders.com



Navigation menu items: About Us, Public Meetings, 2025 Code Cycle, CALGreen, Previous Cycles. Sub-menu for 2025 Code Cycle includes: About, CASE Reports, Building Types (Single Family, Multifamily), Measure Types, Call for Data! (Nonresidential).

2025 Cycle  
Building Type  
**Multifamily**

### Related Measures

**Compartmentalization and Balanced Ventilation »**

**Multifamily Domestic Hot Water »**

**Multifamily Envelope »**

**Multifamily Restructuring »**

[title24stakeholders.com/measures/building-types/single-family/2025/](https://title24stakeholders.com/measures/building-types/single-family/2025/)

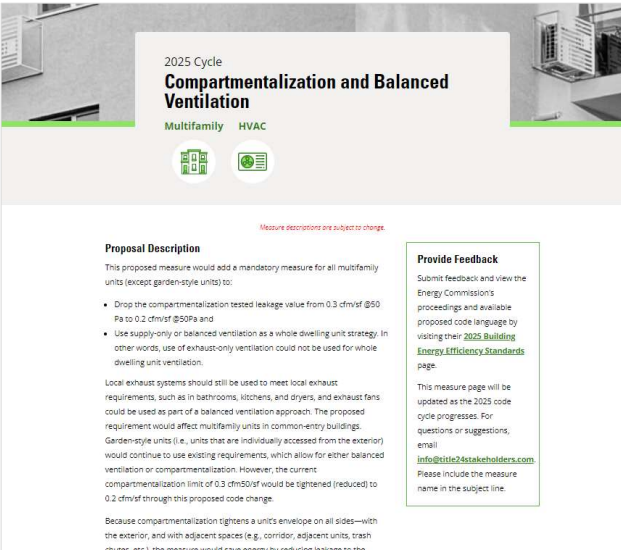
[title24stakeholders.com/measures/building-types/multifamily/2025/](https://title24stakeholders.com/measures/building-types/multifamily/2025/)

Welcome to the 2025 T24 Code Cycle - October 2022

26

# title24stakeholders.com

- **More in-depth measure descriptions**
- **Lead Authors contact information**
- **Data needs**



2025 Cycle  
**Compartmentalization and Balanced Ventilation**  
Multifamily HVAC

*Measure descriptions are subject to change.*

**Proposal Description**  
This proposed measure would add a mandatory measure for all multifamily units (except garden-style units) to:

- Drop the compartmentalization tested leakage value from 0.3 cfm/sf @50 Pa to 0.2 cfm/sf @50Pa and
- Use supply-only or balanced ventilation as a whole dwelling unit strategy. In other words, use of exhaust-only ventilation could not be used for whole dwelling unit ventilation.

Local exhaust systems should still be used to meet local exhaust requirements, such as in bathrooms, kitchens, and dryers, and exhaust fans could be used as part of a balanced ventilation approach. The proposed requirement would affect multifamily units in common-entry buildings. Garden-style units (i.e., units that are individually accessed from the exterior) would continue to use existing requirements, which allow for either balanced ventilation or compartmentalization. However, the current compartmentalization limit of 0.3 cfm/sf would be tightened (reduced) to 0.2 cfm/sf through this proposed code change.


Because compartmentalization tightens a unit's envelope on all sides—with the exterior, and with adjacent spaces (e.g., corridor, adjacent units, trash rooms, etc.), the measure would cause an energy efficiency leakage to the

**Provide Feedback**  
Submit feedback and view the Energy Commission's proceedings and available proposed code language by visiting their [2025 Building Energy Efficiency Standards](#) page.

This measure page will be updated as the 2025 code cycle progresses. For questions or suggestions, email [info@title24stakeholders.com](mailto:info@title24stakeholders.com). Please include the measure name in the subject line.

Welcome to the 2025 T24 Code Cycle - October 2022

27



## Single Family Measures

- Proposed CASE Report
- Measure Descriptions
- Data Needs

Alea German  
Single Family Lead  
agerman@frontierenergy.com

28

28

## Single Family CASE Reports for 2025 Code Cycle

CASE Report	System Type	# of Measures
Single Family Buried Ducts	Envelope/HVAC	2
Single Family High-Performance Envelope	Envelope	4
Residential HVAC Performance*	HVAC	6
Total 3		Total 12

\* Contains measures relevant to both SF and MF Buildings

Welcome to the 2025 T24 Code Cycle - October 2022

29

## CASE Report: Single-Family Buried Ducts

Measure Name	Measure Description
Buried Duct Prescriptive Package	Add an alternative prescriptive path to high performance attics with ducts fully covered by ceiling insulation and a "radial" duct layout.
Prescriptive Attic Insulation	Evaluate increasing attic insulation to R-49 to accommodate fully buried of ducts. Consider raised heel trusses as an alternative.

### Data Needs:

1. Are there case studies where the impact on energy efficiency has been looked at for buried ducts?
2. Are there practical challenges to effectively burying ducts?
3. What are the additional material and labor costs associated with raised heel trusses?

### Contact Info:

Simon Pallin ([SPallin@frontierenergy.com](mailto:SPallin@frontierenergy.com), cc [info@title24stakeholders.com](mailto:info@title24stakeholders.com))

System Type: HVAC/Envelope

30

## CASE Report: Single Family High-Performance Envelope

Measure Name	Measure Description
Prescriptive Path for Cathedral Ceilings	Develop prescriptive code requirements for roofs constructed as cathedral ceilings.
Cool Roofs	Evaluate prescriptive cool roofs with higher reflectance and thermal emittance values for new buildings and alterations. Also evaluate expansion of requirements to new climate zones.

### Data Needs:

1. Are there market barriers to introducing more stringent code requirements for cool roofs and introduce the requirements in new climates zones?
2. What materials/products can provide higher reflectance and thermal emittance cool roofs and what information do we have on aged performance?
3. What are the material cost considerations for cool roof materials/system?

### Contact Info:

Simon Pallin ([SPallin@frontierenergy.com](mailto:SPallin@frontierenergy.com), cc [info@title24stakeholders.com](mailto:info@title24stakeholders.com))

System Type: Envelope

31

## CASE Report: Single Family High-Performance Envelope, Continued

Measure Name	Measure Description
High Performance Windows	Evaluate lower prescriptive U-factor and SHGC requirements for windows in certain climate zones.
Mandatory R-value Requirements for Framed Walls	Consider increasing mandatory wall insulation to R-15 for 2x4 and R-21 for 2x6 framed walls.

### Data Needs:

1. Are there recent field studies where installation of high-performance windows in homes have been evaluated in CA?
2. Are there market barriers for introducing more stringent code requirements for windows?
3. What are the additional material costs of high-performance windows and will triple pane windows require more labor to install?
4. What are the material costs for R-15 and R-21 insulation?

### Contact Info:

Simon Pallin ([SPallin@frontierenergy.com](mailto:SPallin@frontierenergy.com), cc [info@title24stakeholders.com](mailto:info@title24stakeholders.com))

System Type: Envelope

32

## CASE Report: Residential HVAC Performance (SF/MF)

Measure Name	Measure Description
Limits on Supplementary Heating	Prescriptively disallow supplementary heating (strip heating) except in CZ1/16. Where used, impose mandatory requirements on sizing, morning warm-up, and outdoor air lockout and require verification of proper configuration.
Mandatory Refrigerant Charge Verification in All Climate Zones, and for Heat Pumps	Require refrigerant charge verification in all climate zones. Add a preferred approach of verified charge weigh-in with performance testing and provide an option for remote verification.
Mandatory Optimal and Verified Sizing, Depending on Project Type	Require self-certification that load calculations and duct/diffuser design meet best practices and that installed systems reflect the design. Provide limits on over- and under-sizing, based on both heating and cooling loads, dependent upon system type.

### Data Needs:

1. Is there data on scenarios where supplementary heating may still be required in CZs 2-15?
2. How can remote verification be used to reduce installation costs while still maintaining quality assurance?
3. What are typical sizing practices in heating- and cooling-dominated climates, that avoid energy penalties of oversizing?

### Contact Info:

Kristin Heinemeier ([kheinemeier@frontierenergy.com](mailto:kheinemeier@frontierenergy.com), cc [info@title24stakeholders.com](mailto:info@title24stakeholders.com))

System Type: HVAC

33



## CASE Report: Residential HVAC Performance (SF/MF), Continued

Measure Name	Measure Description
Mandatory Defrost Configuration or Smart Control Compliance Option	Require verification that defrost controls are configured optimally. Provide a compliance option for installation of smart controls.
Crankcase Heaters for Heat Pumps and Air Conditioners	Consider prescriptive requirements for manufacturer certification of crankcase heater controls. Allow for an alternative path without crankcase heater control requirements that would require additional efficiency measures be integrated. Also prohibit use of field-applied crankcase heaters in most cases.
Ducted Variable Capacity System Efficacy Verification and Duct Modeling	Require fan watt draw testing in all control modes for variable speed compressors unless integrated zonal controls are installed. Expand CBECC modeling to fully account for duct losses with variable speed compressors and ducts in the attic.

### Data Needs:

1. Is there field data on energy performance of various defrost and crankcase heater configurations?
2. Will manufacturers share crankcase heater performance data if it provides a Title 24 compliance credit?
3. Under what scenarios would field-applied crankcase heaters be required?
4. What is the current and expected market penetration of ducted high efficiency variable speed compressors?

### Contact Info:

Kristin Heinemeier ([kheinemeier@frontierenergy.com](mailto:kheinemeier@frontierenergy.com), cc [info@title24stakeholders.com](mailto:info@title24stakeholders.com))

System Type: HVAC

34

## Poll

*Choose all that apply*

*Based on what you've heard, which of the following single-family topics are you interested in engaging with our team on?*

35

**Poll**

*Choose one answer.*

*What do you think about the proposal to prescriptively disallow supplemental heating for heat pumps other than in very cold climates?*

36



## Multi-Family Measures

- Proposed CASE Report
- Measure Descriptions
- Data Needs

**Elizabeth McCollum**  
Multifamily Lead  
[emccollum@trcsolutions.com](mailto:emccollum@trcsolutions.com)

37

37

## MF CASE Reports for 2025 Code Cycle

CASE Report	System Type	# of Measures
Compartmentalization and balanced ventilation	Envelope/HVAC	2
Multifamily Domestic Hot Water*	Domestic Hot Water	8
Multifamily Envelope	Envelope	3
Multifamily Restructuring	Envelope/HVAC/Other	8

Total 4

Total 21

\* Contains measures relevant to both SF and MF Buildings

Welcome to the 2025 T24 Code Cycle - October 2022

38

## CASE Report: MF - Compartmentalization and Balanced Ventilation

Measure Name	Measure Description
<b>New Construction:</b> Compartmentalization	Would require a mandatory compartmentalization at $\leq 0.3$ cfm/sf @50Pa, and an ACM compliance option for compartmentalization value of $\leq 0.2$ cfm/sf @50Pa
<b>New Construction:</b> Balanced or supply-only ventilation	Use supply-only or balanced ventilation as a whole dwelling unit strategy (exhaust-only prohibited)

### Data Needs:

1. Typical compartmentalization levels achieved for units targeting 0.3 cfm50/sf
2. Typical MF ventilation strategies under T24-2019

### Contact Info:

Marian Goebes ([mgoebes@trccompanies.com](mailto:mgoebes@trccompanies.com), cc [info@title24stakeholders.com](mailto:info@title24stakeholders.com))

System Type : HVAC

39

## CASE Report: Multifamily Domestic Hot Water

Measure Name	Measure Description
CPC Appendix M Pipe Sizing	Would add a prescriptive requirement for pipe sizing according to Appendix M
Pipe Insulation Verification	Would add a prescriptive requirement for field verification of insulation quality
Balancing Valves	Would add a prescriptive requirement to install automatic balancing valves and variable speed recirculation pumps on centralized Domestic Hot Water (DHW) systems with multi-riser recirculation systems
Master Mixing Valves	Would add a compliance credit to install digital master mixing valves on central distribution systems

### Data Needs:

1. Have you sized piping using Appendix M? If no, why not? If yes, do you have any concerns or feedback on the design, submittal or installation process?
2. What standard pipe insulation requirements do you provide on drawings as a designer or apply from drawings as an installer?
3. What is common practice for balancing valves serving multi-riser distribution systems?

### Contact Info:

Dove Feng ([jfeng@trccompanies.com](mailto:jfeng@trccompanies.com)), cc [info@title24stakeholders.com](mailto:info@title24stakeholders.com))

System Type: Domestic Hot Water

40

## CASE Report: Multifamily Domestic Hot Water, Continued

Measure Name	Measure Description
Individual HPWH ventilation	Would establish verification criteria and requirements for individual HPWHs installed in confined space
Central HPWH Clean-up	Updates prescriptive requirements to include a pathway for alternative Central HPWH designs
Central DHW Electric-Ready	Would add plumbing, space, electrical, ventilation, and other requirements at the time of construction of gas appliances to accommodate future all-electric retrofits
Individual DHW Electric Ready	Review current code language electrical requirements. Add plumbing, space, and ventilation requirements at the time of construction of gas appliances to accommodate future all-electric retrofits

### Data Needs:

1. Typical ventilation approach for individual HPWH installation in DHW closet?
2. What are the different design configurations that the code should address for central heat pump water heaters?
3. For installers who have been called back to a site for HPWH issues, what have the issues been and how were they resolved?
4. Scope and approach to accommodate plumbing, space, electrical, and ventilation requirements for individual and central heat pump water heater retrofit projects

### Contact Info:

Dove Feng ([jfeng@trccompanies.com](mailto:jfeng@trccompanies.com)), cc [info@title24stakeholders.com](mailto:info@title24stakeholders.com))

System type: Domestic Hot Water

41

## CASE Report: Multifamily Envelope

Measure Name	Measure Description
Cool roof improvements	Would increase aged solar reflectance, thermal emittance and solar reflectance index value requirements and expand cool roof requirements to new climate zones
Improved wall performance	Evaluates Increase in mandatory R-value of wall insulation to R-15 in 2x4 construction and R-21 in 2x6 construction
High performance windows	Would improve prescriptive U-factor and SHGC for all categories of MF fenestration

### Data Needs:

1. Are there limitations to the range of SRI that can be introduced while still maintaining the range of esthetic options desired for architectural purposes?
2. What are the cost implications of increasing the SRI of roofing products?
3. What are the cost implications of increasing the minimum R-value from 14 to 15 in 2x4 walls, and from 19 to 21 in 2x6 walls?
4. Are there any barriers to introducing higher performance windows into the CA market?
5. What product types are used when specifying high performance windows? What are their associated cost implications?

### Contact Info:

Avani Goyal ([agoyal@trccompanies.com](mailto:agoyal@trccompanies.com)), cc [info@title24stakeholders.com](mailto:info@title24stakeholders.com))

System Type: Envelope

42

## CASE Report: Multifamily Restructuring

Measure Name	Type of Code Change
Slab Perimeter Insulation	Would extend R-7 slab insulation requirements to all multifamily buildings in Climate Zone 15
Fenestration Properties	Apply existing Visual Transmittance (VT) requirements to common use areas (and not dwelling units)
Skylight Properties (Additions and Alterations)	Investigate aligning U-factor and SHGC requirements across multifamily buildings up to three habitable stories and with four or more habitable stories, or having distinct requirements for dwelling units and common use areas
Radiant Barrier (Additions and Alterations)	Extend the radiant barrier requirements for additions less than 700 square feet with exposed attic deck undersides to all multifamily buildings with attics

### Data Needs:

1. What barriers exist to applying slab edge insulation to multifamily buildings with four or more habitable stories?
2. What is the prevalence of daylight zones (with photo controls for lighting) in multifamily dwelling units and common use areas?
3. Do structural requirements for skylights vary by building height?

### Contact Info:

Lucy Albin ([lalbin@trccompanies.com](mailto:lalbin@trccompanies.com)), cc [info@title24stakeholders.com](mailto:info@title24stakeholders.com))

System Type: Multi-Family Restructuring

43

## CASE Report: Multifamily Restructuring, Continued

Measure Name	Type of Code Change
Snapshot Quality Insulation Installation (QII)	Investigates QII inspection of all open envelope cavities at a point in time for multifamily buildings with staged construction.
Central Ventilation Shaft Sealing	Would extend the central ventilation shaft sealing for multifamily buildings with four or more habitable stories to all multifamily buildings with central ventilation
Verification (HERS/ATT) Clean-Up	Considers extending HERS compliance credits to all applicable multifamily buildings
Additions and Alterations Clean-Up	Would simplify language and structure and ensure that dwelling units and common use areas are appropriately addressed

### Data Needs:

1. What is the trigger or threshold (e.g., square footage) for multi-phase construction, particularly where the building air sealing and insulation installation are not completed throughout an entire multifamily building in a single phase.
2. What are your concerns about extension of HERS compliance credits to systems serving individual dwelling units in multifamily buildings with four or more habitable stories?
3. What challenges have you experienced with the new Sections 180.1 and 180.2?

### Contact Info:

Lucy Albin([lalbin@trccompanies.com](mailto:lalbin@trccompanies.com)), cc [info@title24stakeholders.com](mailto:info@title24stakeholders.com))

System Type: Multi-Family Restructuring

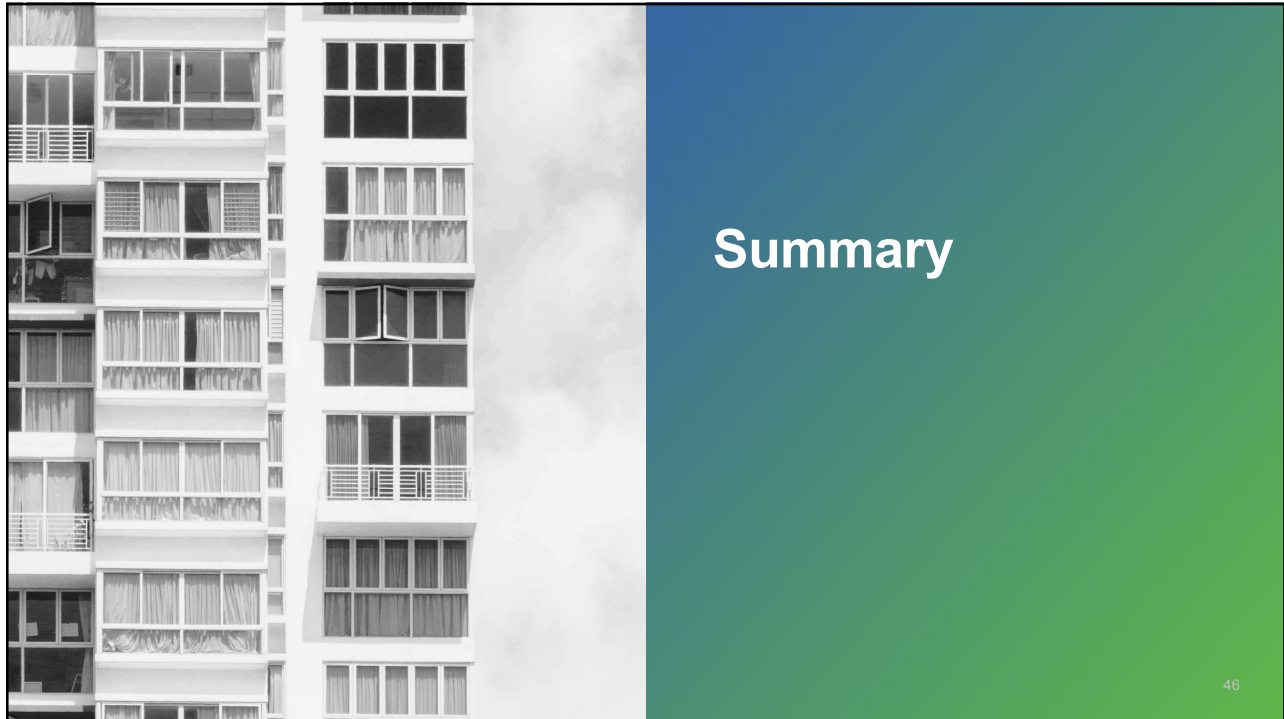
44

### Poll

*Choose all that apply*

*Based on what you've heard, which multifamily topics are you interested in engaging with our team on?*

45



46

**Poll**

*Choose one*

*The information provided by the CASE Team is meant to give the necessary context on the proposed code changes. How would you rate the sufficiency of this information in providing context?*

47

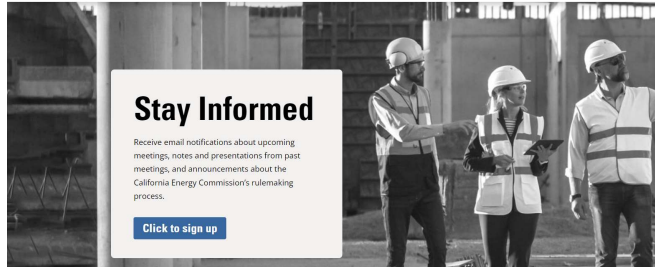
## Participate In the Process

Stakeholder engagement is encouraged throughout the code cycle:

- ✓ Share knowledge and data
- ✓ Attend our utility-sponsored stakeholder meetings
- ✓ Participate in CASE surveys
- ✓ Review CASE Reports
- ✓ Submit comments



[About Us](#)
[Public Meetings](#)
[2025 Code Cycle](#)
[2022 Energy Code](#)
[2022 CALGreen](#)
[Previous Cycles](#)
[Future Code Cycles](#)



Sign up for our listserv at [Title24stakeholders.com](https://Title24stakeholders.com)

Welcome to the 2025 T24 Code Cycle - October 2022

48

### Poll

*Choose all that apply*

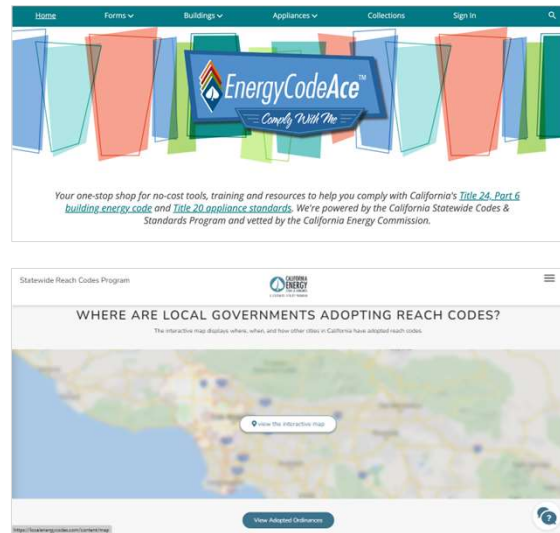
*What is the best way(s) for you to receive information about the Title 24, Part 6 code cycle from the CASE Team?*

49



## Get in Touch

1. Visit [Title24stakeholders.com](https://title24stakeholders.com) to sign up for our listserv, or contact [info@title24stakeholders.com](mailto:info@title24stakeholders.com)
2. Follow 'Title 24 Stakeholders' on [LinkedIn](#)
3. Visit [Energy Code Ace](#) for compliance support and the [Local Energy Codes](#) program for information on statewide reach code activity
4. Contact the CEC [Building Energy Efficiency Standards - Title 24](#)



Welcome to the 2025 T24 Code Cycle - October 2022

50

## CASE Lead Contact Information

CASE Report	Name	Contact Information
Single-Family Buried Ducts	Simon Pallin	<a href="mailto:spallin@frontierenergy.com">spallin@frontierenergy.com</a>
Single Family High-Performance Envelope	Simon Pallin	<a href="mailto:spallin@frontierenergy.com">spallin@frontierenergy.com</a>
Residential HVAC Performance	Kristin Heinemeier	<a href="mailto:kheinemeier@frontierenergy.com">kheinemeier@frontierenergy.com</a>
Compartmentalization and balanced ventilation	Marian Goebes	<a href="mailto:mgoebes@trccompanies.com">mgoebes@trccompanies.com</a>
Multifamily Domestic Hot Water*	Dove Feng Jose Garcia Amin Delagah	<a href="mailto:jfeng@trccompanies.com">jfeng@trccompanies.com</a> <a href="mailto:jmgarcia@trccompanies.com">jmgarcia@trccompanies.com</a> <a href="mailto:adelagah@trccompanies.com">adelagah@trccompanies.com</a>
Multifamily Envelope	Avani Goyal Michael Mutmansky	<a href="mailto:agoyal@trccompanies.com">agoyal@trccompanies.com</a> <a href="mailto:mmutmansky@trccompanies.com">mmutmansky@trccompanies.com</a>
Multifamily Restructuring	Lucy Albin Grant Marr	<a href="mailto:albin@trccompanies.com">albin@trccompanies.com</a> <a href="mailto:gmarr@trccompanies.com">gmarr@trccompanies.com</a>

51

# Thank You



[info@title24stakeholders.com](mailto:info@title24stakeholders.com)

## Questions?

**Kelly Cunningham**  
PG&E

[Kelly.Cunningham@pge.com](mailto:Kelly.Cunningham@pge.com)

**Cosimina Panetti**  
Stakeholder Engagement

[cpanetti@energy-solution.com](mailto:cpanetti@energy-solution.com)

**Nikki Westfall**  
Program Coordination

[nwestfall@energy-solution.com](mailto:nwestfall@energy-solution.com)

**Javier Pérez**  
California Energy Commission

[Javier.Perez@energy.ca.gov](mailto:Javier.Perez@energy.ca.gov)

**Alea German**  
Single Family Lead

[agerman@frontierenergy.com](mailto:agerman@frontierenergy.com)

**Elizabeth McCollum**  
Multifamily Lead

[emccollum@trcsolutions.com](mailto:emccollum@trcsolutions.com)