

DOCKETED

Docket Number:	22-BSTD-01
Project Title:	2025 Energy Code Pre-Rulemaking
TN #:	242459
Document Title:	2025 Energy Code Compliance Tools Staff Workshop Presentation
Description:	CEC presentation for the 2025 Energy Code Compliance Tools Staff Workshop held on March 22, 2022
Filer:	Daniel Wong
Organization:	California Energy Commission
Submitter Role:	Commission Staff
Submission Date:	3/25/2022 8:40:12 AM
Docketed Date:	3/25/2022



California Energy Commission

2025 Energy Code Compliance Tools Staff Workshop

Daniel Wong, Standards Compliance Office

March 22, 2022



Pre-Lunch Agenda

- **CEC Staff Opening Presentation (9:15 – 10:00)**
 - Part 1 – Introduction to 2025 Energy Code Proceeding
 - Part 2 – Opportunities to Improve Compliance
- **Panel 1: Designers & Energy Consultants (10:00 – 11:30)**
 - Introductions
 - Panelist discussion and questions
 - Public comments and Q&A
- **Lunch Break (11:30 – 12:30)**



Post-Lunch Agenda

- **Panel 2: Authorities Having Jurisdiction (12:30 – 2:00)**
 - Introductions
 - Panelist discussion and questions
 - Public comments and Q&A
- **Panel 3: Contractors and Installers (2:00 – 3:30)**
 - Introductions
 - Panelist discussion and questions
 - Public comments and Q&A
- **Public comments for overall workshop (3:30 – 3:50)**
- **Summary and key take-aways (3:50 – 4:00)**



Key Web Links

- **Comments for the workshop can be submitted at:**
<https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=22-BSTD-01>
- **2025 Energy Code Webpage:**
<https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2025-building-energy-efficiency>
- **Notices, presentation, and workshop recording will be available at Docket 22-BSTD-01:**
<https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=22-BSTD-01>



How to Submit Written Comments

- **We strongly encourage submitting written comments via e-file.**
Comments on today's workshop can be submitted to:
<https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=22-BSTD-01>
- **Comments can also be submitted physically or by e-mail, here:**
California Energy Commission
Dockets Office, MS-4
Re: Docket No. 22-BSTD-01
715 P Street
Sacramento, CA 95814-5504
Docket@energy.ca.gov



Questions?



Introduction to the 2025 Energy Code Proceeding

2025 Energy Code and the Measure Proposal Template

Javier Perez

March 22, 2022



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

The cover of the book "WARREN-ALQUIST ACT" by the California Energy Commission. The cover features the state seal of California in the background. The text on the cover includes: "WARREN-ALQUIST ACT", "Warren-Alquist State Energy Resources Conservation and Development Act", and "Public Resources Code Section 25000 et seq.". At the bottom left is the California Energy Commission logo, and at the bottom right is the text: "CALIFORNIA ENERGY COMMISSION", "Gavin Newsom, Governor", "2022 EDITION", "JANUARY 2022", and "CEC-140-2022-001".

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

Source: California Energy Commission



Priorities of the California Energy Code

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, PV generation and energy storage
- Covered process loads
- Equity & affordable new housing program integration
- Additions, alterations, and smaller homes (e.g. ADUs)
- Electric vehicle (EV) readiness
- Interagency Coordination



Tentative 2025 Schedule

Milestone	Estimated Dates
CEC Workshop: 2025 Compliance Efforts, 2025 Measure Proposal Template Update	March 22, 2022
Deadline to Submit Measures to CASE Team	April 15, 2022
Measure Identification & Selection	Now through April 2022
Energy Code Accounting Metrics Update Workshop	May 2022
Update Energy Code Accounting Metrics	Now through November 2022
Final Energy Code Metric Workshop	November 2022
Research Version of Compliance Software	November 2022
Utility Sponsored Workshops	August 2022 – March 2023
Draft CASE Reports to CEC, Public	March 2023 – June 2023
CEC Pre-Rulemaking Workshops	April 2023 – July 2023
Final CASE Reports to CEC, Public	July 2023 – August 2023
Express Term Review	October 2023
Rulemaking	January 2024 – May 2024



2025 Energy Standards Page

- 2025 Energy Standards page is live
 - 2025 Prerulemaking docket is available
 - Information on public participation available
 - <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2025-building-energy-efficiency>

California Energy Commission > Programs and Topics > All Programs > Building Energy Efficiency Standards - Title 24 > 2025 Building Energy Efficiency Standards

2025 Building Energy Efficiency Standards

The Building Energy Efficiency Standards (Energy Code) apply to newly constructed buildings, additions, and alterations. It is a vital pillar of California's climate action plan. The 2025 Energy Code pre-rulemaking activities include research and gathering of information necessary to conduct a formal rulemaking proceeding.

BUILDING ENERGY EFFICIENCY STANDARDS - TITLE 24

- 2025 Building Energy Efficiency Standards
- 2022 Building Energy Efficiency Standards
- 2019 Building Energy Efficiency Standards
- 2016 Building Energy Efficiency Standards
- Past Building Energy Efficiency Standards
- Climate Zone tool, maps, and information supporting the California Energy Code
- Online Resource Center
- Solar Assessment Tools

Expand All

Pre-Rulemaking	+
Public Participation	+

Source: California Energy Commission



Upcoming CALBEM Workshops

- California Building Energy Modeling (CalBEM) Workshops
 - **Webinar 1: Complexities in the Energy Code**
 - April 26th, 11am
 - Prescriptive Compliance
 - Challenges around Application and Documentation
 - **Webinar 2: Potential Solutions**
 - May 17th, 11am

<https://calbem.ibpsa.us/>



Source: <https://calbem.ibpsa.us/>



The 2025 Measure Proposal Template



Background & Purpose

- Template first released to the public during the 2016 Energy Code update cycle
- Will be downloadable here:
<https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2025-building-energy-efficiency>
- Measure Proposals are Foundational Documents
 - Meets statutory requirement to show cost effectiveness
 - Documents necessary research supporting purposed changes to the Energy Code
 - Necessary to finalize key components of the rulemaking package:
 - Fiscal and Economic Impact Report (Form 399)
 - Nine Point Criteria
 - California Environmental Quality Act

Public Participation

The CEC encourages public participation in its proceedings.

To participate, you can attend the workshops and provide verbal comments to the record. Written comments can be submitted to the rulemaking docket. Instructions for submitting comments can be found on workshop notices.

The public can propose an energy efficiency measure for consideration in current or future Energy Code updates. To document the proposed measure and cost-effectiveness, use the [Building Energy Efficiency Measure Proposal Template](#). Samples of past proposals are available in the [2019 Energy Code docket](#) or by request.

The [Public Advisor's Office](#) can help anyone with questions about the proceedings.

Sign up for the [Building Standards listserv](#) to keep up to date about ongoing activities.

The investor-owned utilities hold stakeholder meetings to discuss their sponsored measure proposals. The CEC does not run those meetings, and participation in them is not required to participate in the CEC proceeding.

Source: California Energy Commission



2025 Code Cycle Considerations

- Things to consider before beginning:
 - Reach out to the appropriate Subject Matter Expert(s) before starting
 - Consider priorities identified in Slide 3 (Priorities of the California Energy Code)
 - Get key data sets for the analysis
 - Tentatively scheduled to be available in the 4th quarter of 2022



2025 Energy Code Cycle Subject Matter Experts

- Javier Perez – Project Manager
- Payam Bozorgchami – Technical Lead, Envelope, Additions and Alterations, ADUs
- Haile Bucaneg – Demand Response, Covered Process, Nonresidential and Residential ACM
- Muhammad Saeed – Solar Photovoltaic and Energy Storage Systems
- Bach Tsan – HVAC Systems, Refrigeration
- Ronald Balneg – Nonresidential and High-Rise HVAC Systems
- Cheng Moua – Low-Rise Residential and Multifamily HVAC Systems
- Danny Tam – Water Heating, Solar Photovoltaic and Energy Storage Systems (backup)
- Thao Chau – Load Management, Lighting and Demand Response (backup)
- Simon Lee – Lighting, Electric Vehicle Charging, Electrical Power Distribution Systems
- Michael Shewmaker – Documents, Envelope, Software
- RJ Wichert – Software, Nonresidential and Residential ACM
- Haider Alhabibi – Third Party Software Certifications, Data Registry Requirements, Documents
- Danuta Drozdowicz – Part 11 Development, Reach Codes
- **Email Convention at the Energy Commission: firstname.lastname@energy.ca.gov**



Template Sections: Important Updates

- Market Analysis
 - 2025 Update: Jobs section updated to more appropriately identify which jobs detail is needed
 - Jobs created/lost outside of CA not considered for Form 399
 - 2025 Update: Added request to discuss impacts on small businesses
- First Year Statewide Impacts
 - 2025 Update: Updated detail about statewide goals, supporting legislation
- Energy Savings, Prototypes
 - 2025 Update: Added detail for opportunities for other prototypes to be used
- General Revisions
 - Updated language for clarity and consistency



Appendix A – Statewide Savings Methodology

- Appendix A will be updated with data for the following:
 - Existing and Newly Constructed Housing
 - Existing and Newly Constructed Nonresidential square footage
- An updated version will be posted to the docket here:
 - <https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=22-BSTD-01>



Appendix E – Environmental Analysis



- Appendix E is new for 2025
 - Addresses additional information needed to determine compliance with the California Environmental Quality Act (CEQA)
 - Intent is to identify what impacts on the environment a proposed measure will have
 - Added to template to better streamline CEC's rulemaking process

Source: Javier Perez, California Energy Commission



Questions and Answers

- Any questions you don't think of now, send to:
 - Javier Perez
 - javier.perez@energy.ca.gov
- Comments or suggestions for changes to Measure Proposal Template can be made through our online docket visit:
 - <https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=22-BSTD-01> (links to the comment page for this docket)
- Comments may be included in the “Comment Text” box or attached in a downloadable, searchable Microsoft® Word (.doc, .docx) or Adobe® Acrobat® (.pdf) file
 - Maximum file size is 10 MB.

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Add Comment

Docket #: 22-BSTD-01 Project Title: 2025 Energy Code Pre-Rulemaking

Fields denoted by an asterisk (*) are required.

Contact Information

Full Name * Business or Entity Name or Your Name (if filing for yourself)

Contact Address

Email Address *

Address 2

Role in this Proceeding

City State Zip

Comment

Comment Title *

Subject(s) select one or more

128 Character left out of 128

Comment Text not required if you include a document attachment

Source: California Energy Commission



California Energy Commission

Opportunities to Improve Compliance

Lorraine White, Manager, Standards Compliance Office

March 22, 2022



Compliance Improvements

- Learn and gather information:
 - New or innovative methods being used to make permitting more efficient or less costly
 - Learn what is and is not working with compliance
 - Identify changes the Energy Commission can make to support local agencies & industry
 - Identify ways to remove or overcome barriers
 - Determine costs and economic impacts
- Build next generation of compliance tools
 - Interconnected digital ecosystem of compliance to inform and verify



What we mean by Compliance

When a business or organization follows state, federal, and international laws and regulations relevant to its operations and for individuals, to their activities.



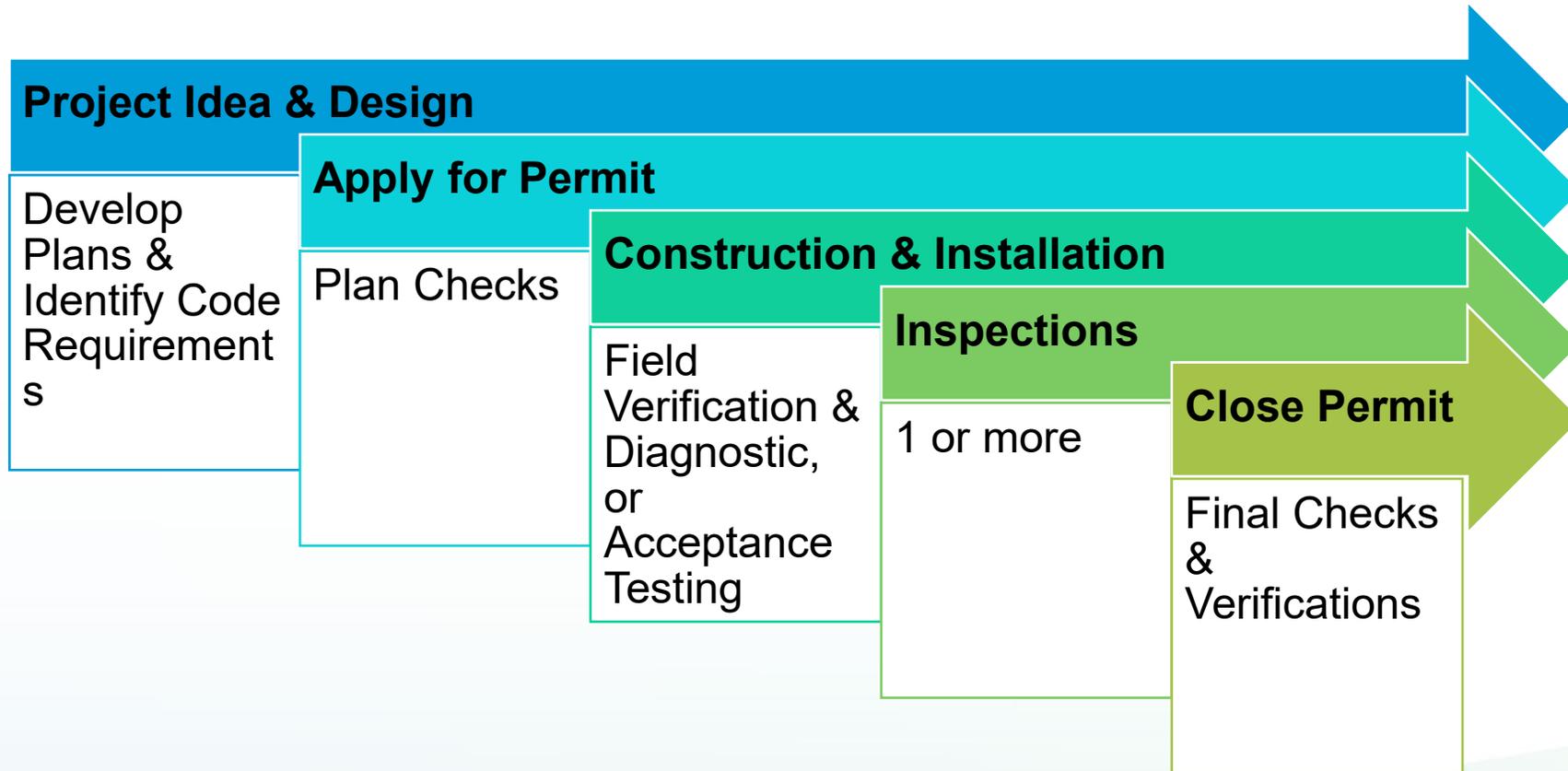


Why we care about Compliance

- Works to ensure proper construction/installation
- Levels the playing field in the construction market
- Protects consumers from shoddy work/risk
- Pushes the markets to higher standards/performance
- Helps us achieve social, economic, environmental and energy goals
- Avoids some issues with insurance or selling properties



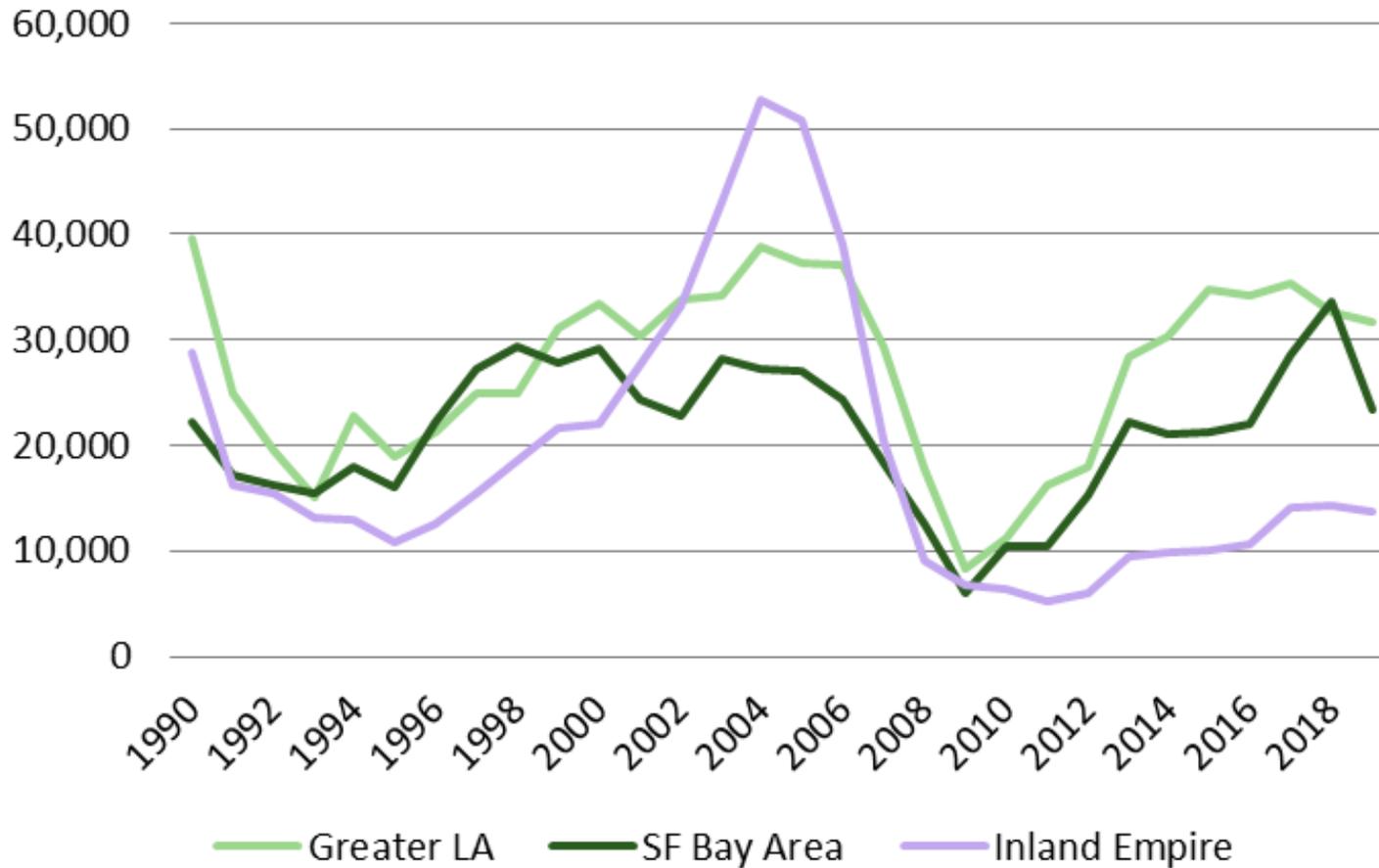
Compliance Process





Lots of Permits are Pulled

Annual Housing Permits



Source: CIRB



Pulling Permits Isn't Compliance

- Not all projects are field tested (HERS) or acceptance tested (ATTCP)
- Not all jurisdictions enforce the Energy Code the same
 - Not require certain projects to obtain permits
 - Varying expertise
 - Don't enforce HERS or ATTCP requirements
- Not all permits pulled are closed
 - Varies significantly between new construction and existing buildings



Lots of Work is Unpermitted

- Exact numbers are not known
 - Estimates range from 50 to 80 percent or more depending on the location
- What is known is that in the existing building sector, it is sizable
- Some possible reasons include:
 - Costs
 - Permit Process
 - Time and Possible Delays
 - Lack of Knowledge
 - Affects on Property Taxes

A red "ORDER TO STOP WORK NOTICE" form from the County of Sonoma. The form includes the text "CORRECTIONS MUST BE MADE BEFORE ANY FURTHER WORK IS DONE." and a "CAUSE:" field. It also has fields for "By" and "Date" with a signature line, and "Title" with a line. The footer contains the County of Sonoma Permit and Resource Management Department contact information and the instruction "Do Not Remove This Notice".

ORDER TO STOP WORK
NOTICE

CORRECTIONS MUST BE MADE BEFORE ANY FURTHER WORK IS DONE.

CAUSE: _____

COUNTY OF SONOMA By _____ Date _____
Permit and Resource Management Department
2550 Ventura Avenue Santa Rosa, CA 95403-2829
(707) 566-1900 Title _____

Do Not Remove This Notice

sonoma_1109meENF-005.cdr Rev 10/14/99

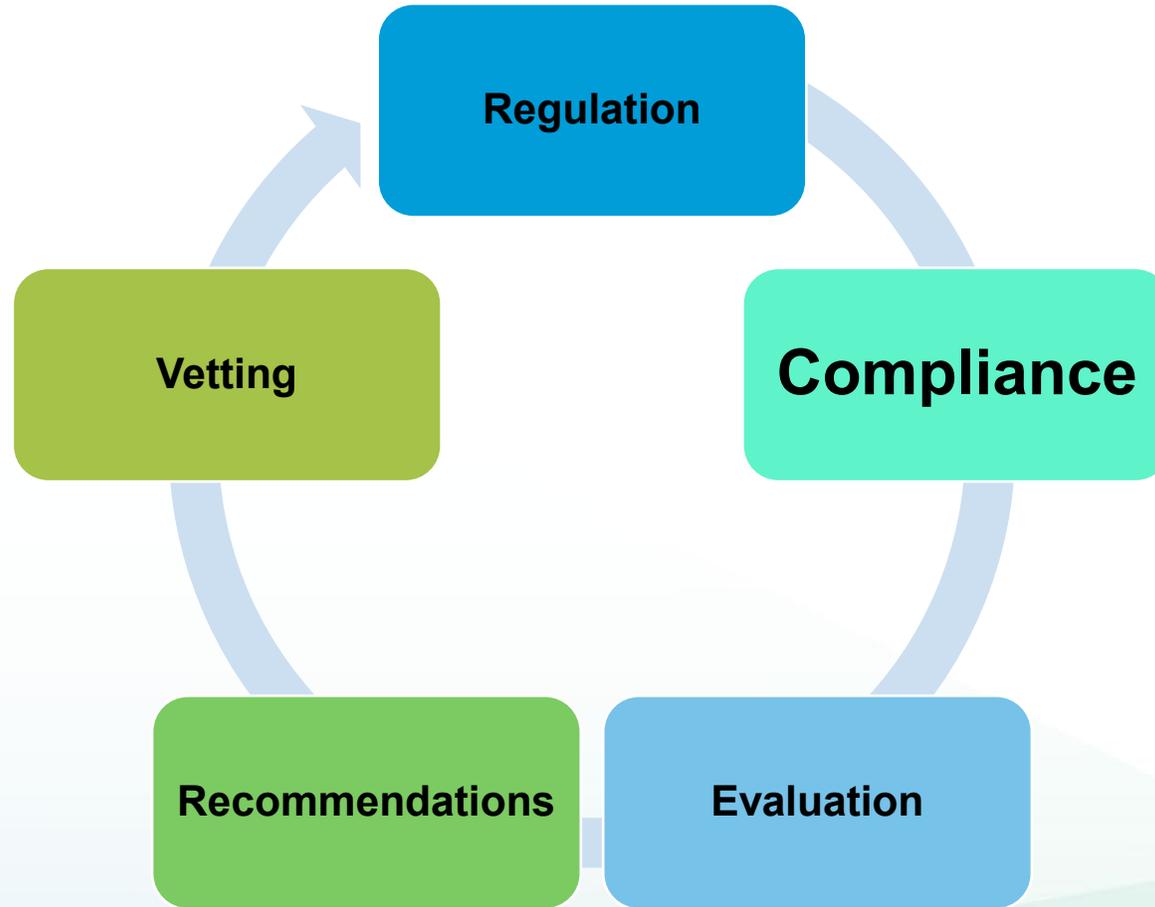


What We are Doing

- Convening this workshop to identify compliance improvements
 - This will be the first of many discussions
 - Will actively seek input throughout the 2025 Proceedings
- Developing the commission compliance document repository
 - Collecting & analyzing data
 - Acting on findings
- Working with partners, consumers and industry to:
 - Improve compliance processes
 - Incorporate best practices
 - Innovate and enhance compliance tools and technical assistance
- Enhancing compliance programs
 - HERS Improvements Proceeding
 - ATTCP Mechanical Mandate Implementation



Regulatory Compliance Life Cycle





The Fixes: Striking a Balance



- Invest in regulations development, implementation AND compliance
- Rapidly deploy innovation AND provide consumer protection
- Minimize construction delays AND maximize quality work
- Remove barriers AND reduce risk
- Keep costs reasonable AND provide targeted incentives
- Estimate energy savings AND verify savings



Today's Format

- Three Panels
 - Panel 1: Designers & Energy Consultants
 - Panel 2: Authorities Having Jurisdiction
 - Panel 3: Contractors and Installers
- Opportunity for Questions
- Summary and Close



Thank You!





Panel 1: Designers and Consultants

- **Moderator**
 - Will Vicent, Manager, Building Standards Office
- **Panelists**
 - Erik Kolderup, Kolderup Consulting
 - Vicki Burlingham, Highland Energy Services
 - Maureen Guttman, Energy Solutions
 - Gina Rodda, Gabel Energy



Lunch Break (11:30 – 12:30)



Panel 2: Authorities Having Jurisdiction

- **Moderator**

- Lorraine White, Manager, Standards Compliance Office

- **Panelists**

- Christopher Harris, City of Concord
- James Zhan, City of San Francisco
- Greg Mahoney, Sacramento County
- Oscar Diaz, City of Modesto
- Bill Tott, City of Milpitas



Panel 3: Contractors and Installers

- **Moderator**

- Charles Operfman, Supervisor, Standards Compliance Office

- **Panelists**

- Bob Wiseman, Institute of Heating and Air Conditioning Industries
- Tom Paine, California Building Industry Association
- Charles Cormany, Efficiency First
- Bruce Cheney, Anchors Aweigh Energy



Questions or Comments

- Overall questions or comments for today's workshop
 - 2025 Energy Code
 - Compliance tools



Summary of Today's Workshop

- **Recap**
 - 2025 Energy Code background
 - Deadline to submit measures to the CASE team for consideration
April 15, 2022
 - Discussions on compliance tools
- **Key take-aways**
- **Reminder, submit public comments to 22-BSTD-01**



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Sacramento, CA 95814-5504
Docket@energy.ca.gov



Thank You!

