

DOCKETED	
Docket Number:	24-BSTD-05
Project Title:	2025 Energy Code Compliance Initiatives
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Document Title:	2025 Energy Code Compliance Initiatives Staff Workshop 2 Presentation
Description:	2025 Energy Code Compliance Initiatives Staff Workshop 2 Slides
Filer:	Che Geiser
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Energy Code Compliance Workshop #2

Standards Compliance Branch

September 30, 2025



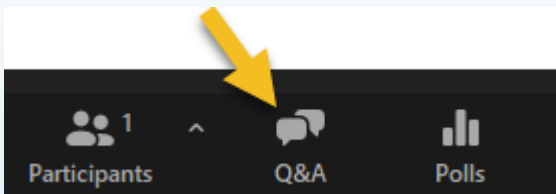
Housekeeping Rules

General Notes

- The workshop will be recorded.
- The slide presentation will be posted on the docket.
- Comments or suggestions can be made through our online docket 24-BSTD-05 visit:
 - <https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=24-BSTD-05>

Public Comments

- We will have Chat turned off, but please feel free to use the Zoom Q/A feature



Public Comments

Zoom App/Online

- Click “raise hand”

Telephone

- Press *9 to raise hand
- Press *6 to Mute/Unmute

When called upon

- CEC will open your line
- Unmute on your end
- Spell name and state affiliation, if any
- 2 minutes or less per speaker, 1 speaker per entity



Agenda

Welcome and Introductions

Commissioner Opening Remarks

Introduction and overview of compliance initiatives

Che Geiser

Office of Compliance Assistance & Enforcement

Maunee Sanchez

Discussion and Feedback

Break – 10 min

Overview of federally funded projects

Danielle Hughes

Compliance Rates Study and Gap Analysis

Yung Nguyen

Discussion and Feedback

2028 Energy Code Compliance Updates

Joe Loyer

Discussion and Feedback

Closing remarks (5 mins)



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Commissioner Opening Remarks



Introduction & Overview of Compliance Initiatives

Che Geiser, Manager
Standards Compliance Branch, Efficiency Division

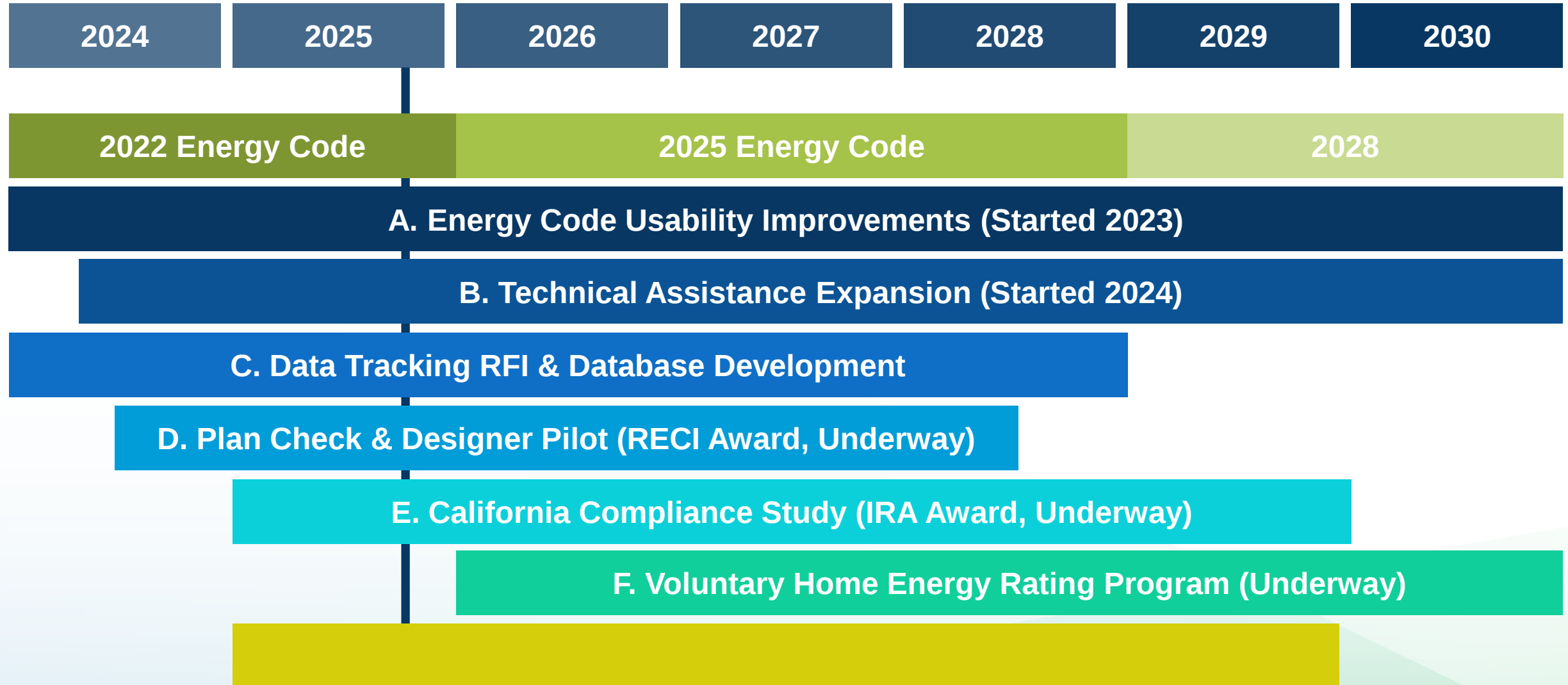


Compliance Feedback

- Clearly define: compliance, enforcement, goals
- Energy Code layout and formatting is too complex
- Compliance documents are onerous
- Incomplete compliance rate understanding
- AHJs lack resources to become experts in the complexities of the Energy Code and have competing priorities



Compliance Initiatives Timeline





Compliance Definitions

Energy Code Compliance – A project that satisfies both process compliance and performance compliance criteria.

- **Process-based Compliance** – Obtaining required permits, completing all permitting and inspection procedures, and maintaining accurate documentation from design through project completion.
- **Energy-based Compliance** – When completed projects perform at or above the requirements of the Energy Code.
- **Enforcement** – Ensuring compliance with rules through notices, fees, de-certifications, injunctions, or other legal actions.



AB130 – Building Standards Moratorium

- AB130 signed into law June 30, 2025.
- Moratorium on adoption of new or more restrictive residential building standards
 - Both the state and local levels
 - Effective October 1, 2025, through June 1, 2031
 - Exceptions include emergencies, fire safety, and model code
- 2028 Energy Code updates will prioritize nonresidential measures
- California Building Standards Commission (CBSC)
 - <https://www.dgs.ca.gov/BSC/News/Page-Content/Building-Standards-Commission-News-List-Folder/IB-25-03-AB-130>



Residential Compliance

➡ AB 130 gives opportunity to focus on nonresidential compliance

Current Efforts

- Home Energy Rating System (HERS) | Energy Code Compliance (ECC)
- ECC application review and approval – targeting Q4 2025
- AHJ outreach and engagement



Nonresidential Compliance

- AB 130 gives opportunity to focus on nonresidential compliance

Current Efforts

- AHJ outreach and engagement
- ATTCP – 2025 Energy Code implementation
- ATTCP program regulatory updates – 2028

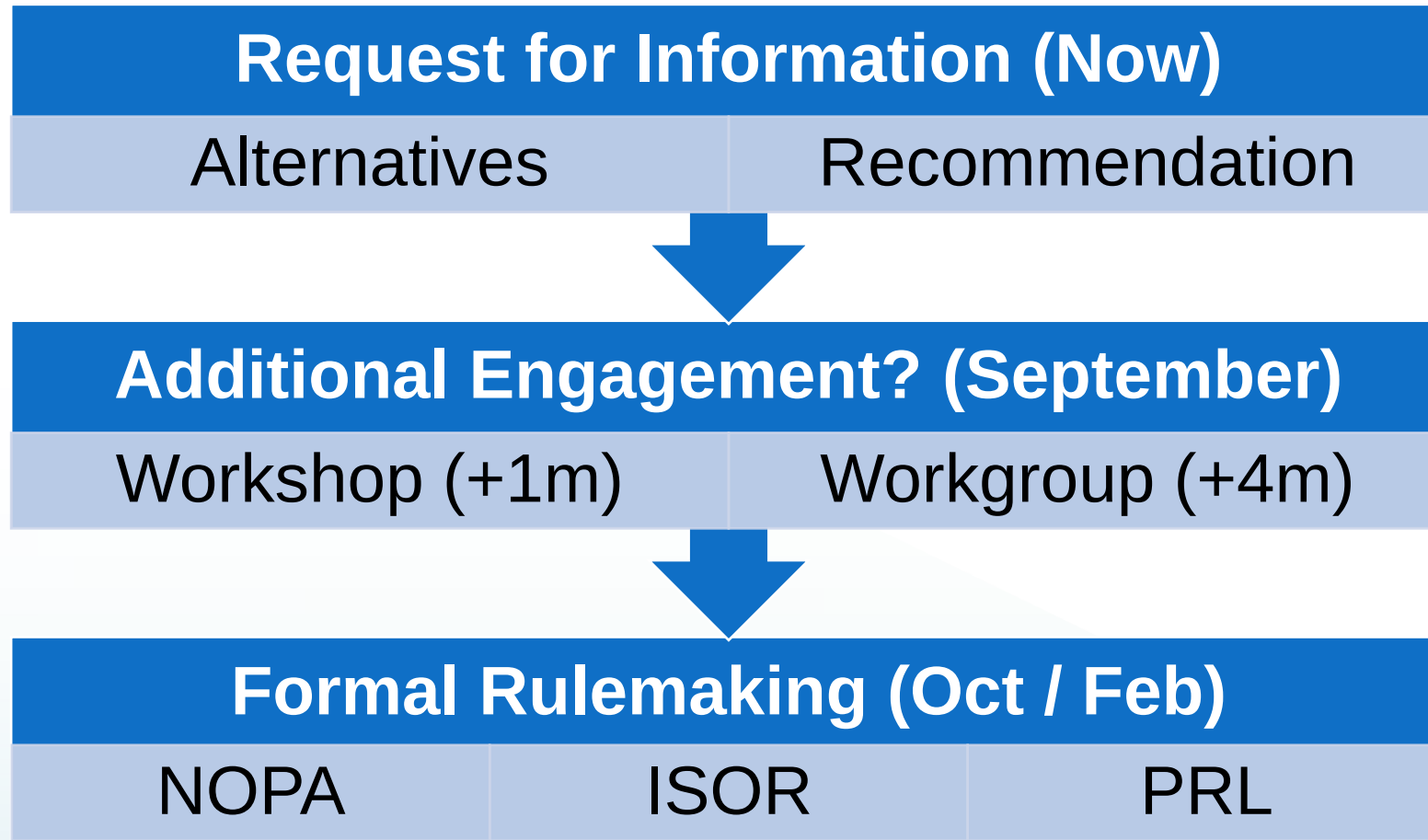


Equipment Data Tracking (EDT)

- CEC is considering data collection regulations to ensure access to sufficient information for analytical, policy and program mandates
 - Data collection would apply to space conditioning equipment, and water heating equipment
- CEC has initiated pre-rulemaking discussion of data tracking requirements via a Request for Information (RFI)
 - RFI shows staff's initial reasoning and asks specific questions of affected businesses (distributors, wholesalers, retailers, etc.)
 - RFI may reveal need for further public engagement and input
- Energy Data Collection ([Docket 24-OIR-03 link](#))
- [Energy Data Collection Rulemaking](#)



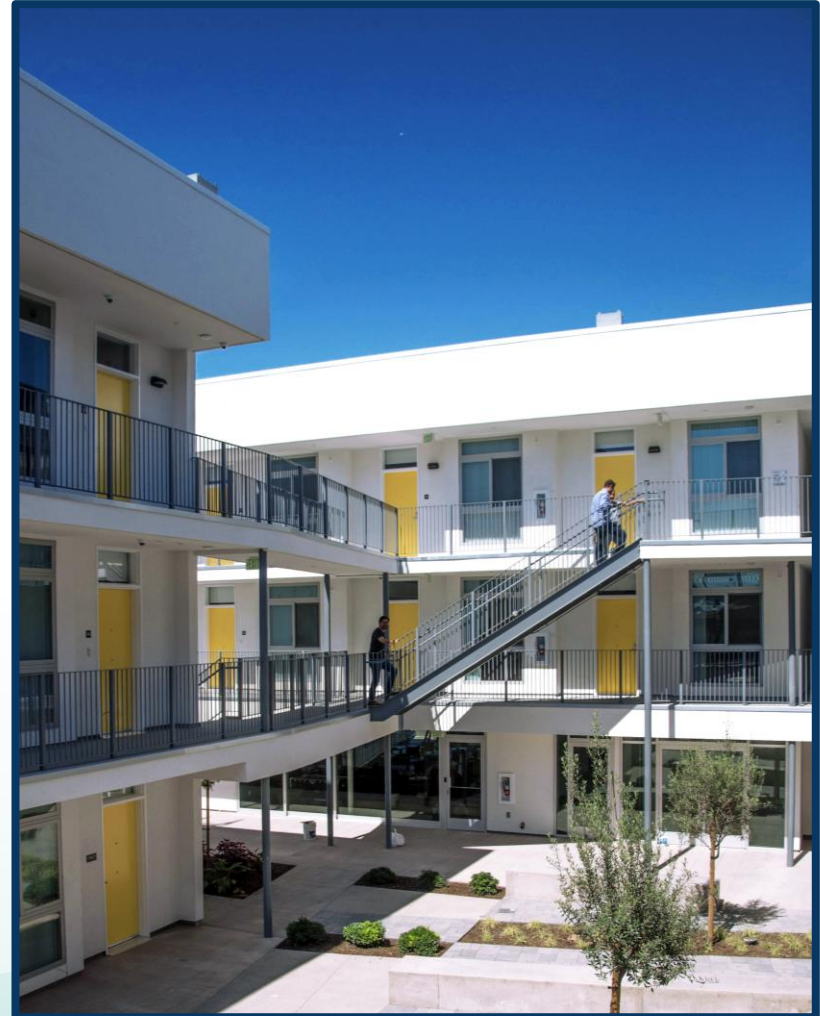
Next Steps





Benefits to California

- **\$200 billion** statewide energy cost savings from building and appliance energy efficiency standards from 1975 through 2024
- **\$3 billion** statewide energy cost savings potential for 2022 Energy Code improvements



Source: Natalia Knezevic



2022 Energy Code Cost of Noncompliance

		1. Annual Site Electricity Savings [GWh] ¹	2. Annual Site Gas Savings [MTherms] ¹	3. 30-Year Economic Benefits to CA [LSC\$] ²	4. Staff Estimated Noncompliance Rates [%]	5. Savings Not Realized Due to Process & Performance	6. Staff Estimated 30-Year Cost of Noncompliance [Columns 3x4x5]
Building Sector							
Newly Constructed	Single-Family	-48.54	5.27	\$970M	10-20%	50%	\$73M (7.5%)
	Multifamily	116.77	3.81	\$1,135M	10-20%	50%	\$85M (7.5%)
	Nonresidential	511.04	2.21	\$2,332M	20-60%	50%	\$466M (20%)
Alterations	Single-Family	91.22	0.81	\$611M	70-90%	50%	\$244M (40%)
	Multifamily	126.94	0.24	\$891M	70-90%	50%	\$357M (40%)
	Nonresidential	398.35	0.23	\$1,955M	70-90%	50%	\$782M (40%)
Covered Processes		369.36	1.82	\$4,218M	20-60%	50%	\$844M (20%)
Totals		1,565.14	14.39	\$12,112M			\$2,851M

These savings are for the new measures adopted in the 2022 Energy Code cycle only.



Office of Compliance Assistance & Enforcement

Maunee Sanchez, Director
Office of Compliance Assistance & Enforcement
buildingenforcement@energy.ca.gov

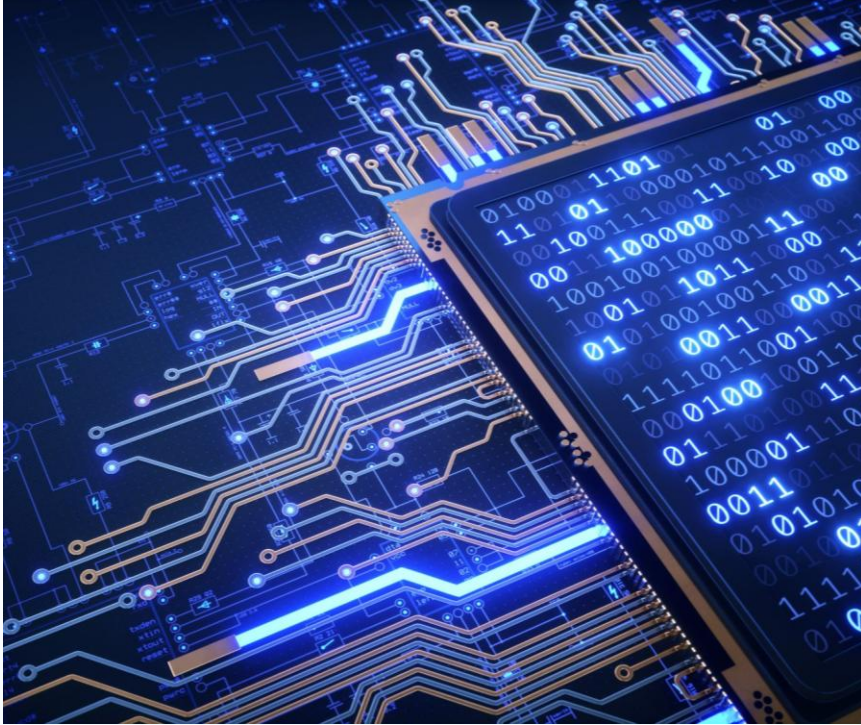


Overview of Federally Funded Projects

Danielle Hughes, Supervisor
Standards Compliance Branch, Efficiency Division



Digital Infrastructure to Support Energy Code Compliance and Implementation



- Commission Compliance Document Repository (CCDR)
 - House HERS (ECC) and ATTCP data
 - Automate compliance data collection for data analysis
- Support AHJ digital tool software improvements



California Energy Code Documentation, Certification, and Plan Check Support Program

- Scaling the Associate Energy Analyst (AEA) and Certified Energy Analyst (CEA) credentialing programs
- Supporting AHJs with third-party plan check guidance and resources
- Expanding Code Coach services to provide on-call expert support
- Offering direct outreach and education to AHJs across the state
- Creating a replicable model for other states facing similar challenges



California Energy Code Documentation, Certification, and Plan Check Support Program

- Pilot cohort taking exams January 2026 with CABEC
- June 2025 cohort in full swing
- Reserving space for January cohort
- Offering direct outreach and education to AHJs across the state
- Third-party plan check manual available soon
- Code coaching and online testing delayed
- Interested parties contact danielle.hughes@energy.ca.gov



Compliance Rates Evaluation and Streamlining Compliance Assistance Services

- Gap Analysis and Energy Code Study to provide comprehensive understanding of compliance rates and root causes to noncompliance
- Workforce Development Action Plan & Implementation
- AHJ Compliance Assistance and Technical Support



Compliance Rates Study and Public Feedback on the Gap Analysis

Yung Nguyen, Mechanical Engineer
Standards Compliance Branch, Efficiency Division

Agenda & Objectives

1

Context

2

Gap Analysis Overview

3

Summary of Feedback

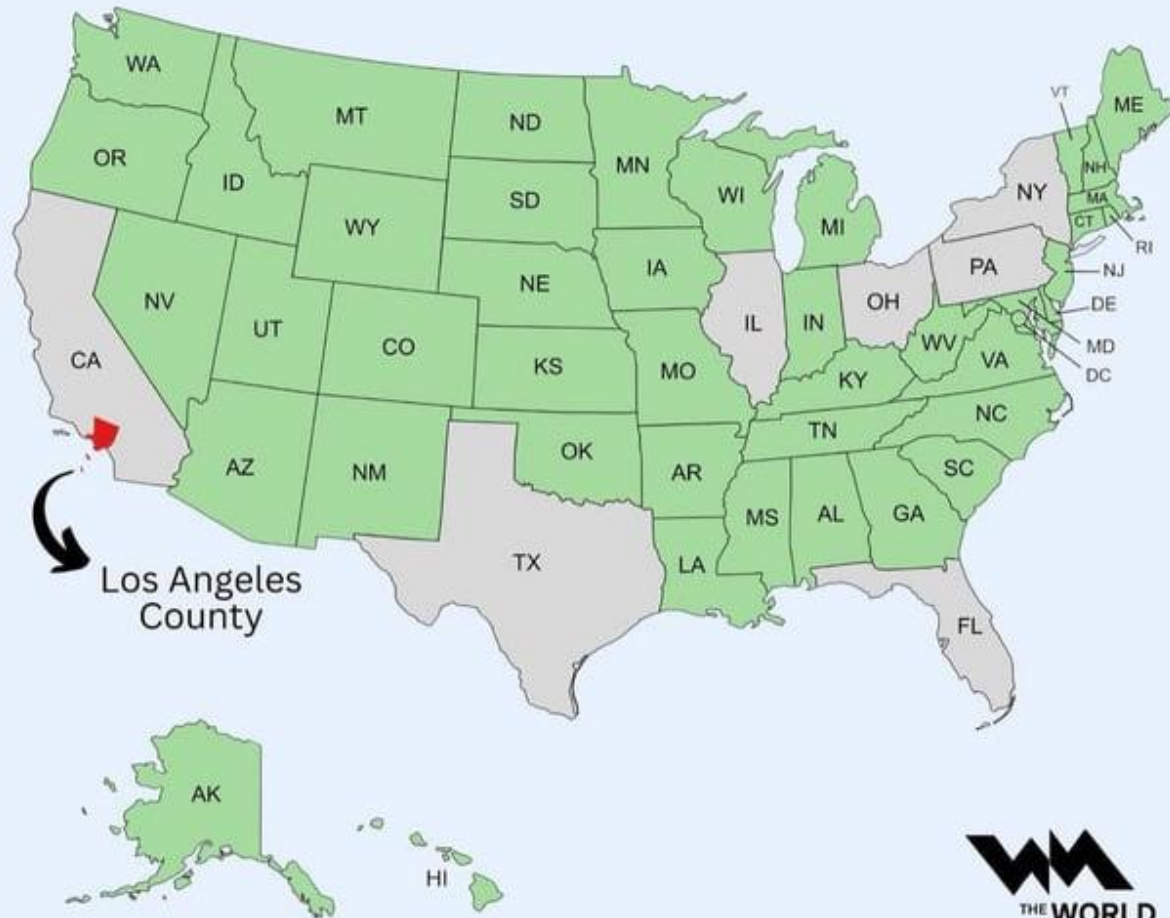
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Next Steps



The Bigger Picture

U.S. STATES WITH SMALLER POPULATION THAN LOS ANGELES COUNTY



- Most populous state
- 540+ jurisdictions
- Largest building stock
- Diverse climate zones
- Mix of dense urban center, suburban sprawl, and rural/agricultural



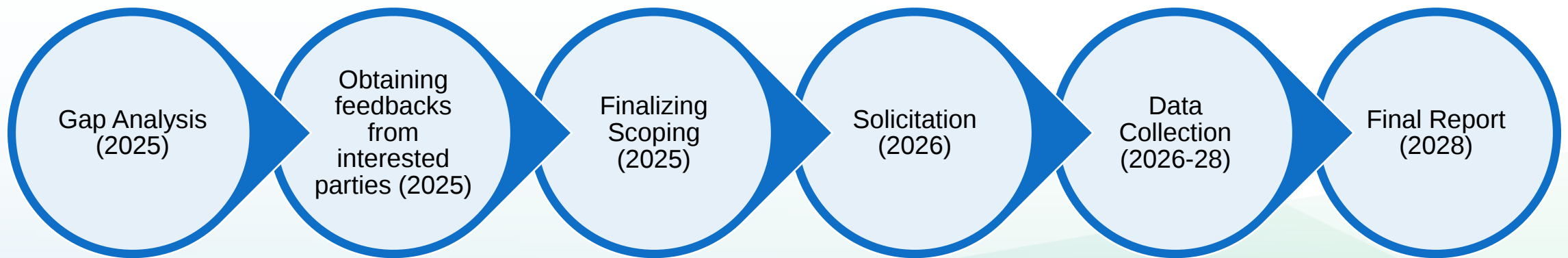
Energy Code Study Overview

What's it about? Quantifying and understanding Energy Code compliance landscape across the state to improve implementation

What is trying to do?

- Articulate quantitatively the various compliance rates across California
- Understand root causes and develop strategic solutions to streamline and improve the compliance infrastructure

How and When?





Why the Gap Analysis is Needed

- Comprehensive analysis that document the challenges to quantify Energy Code compliance
- Clarifies the conversation for interested parties
- Provide framework for future action
- Solutions oriented next steps





The Puzzle Pieces

Niche Literature /
Methodologies

Data Issues

Existing
Policy & Process

Deep history
of prior work and
prior discourse

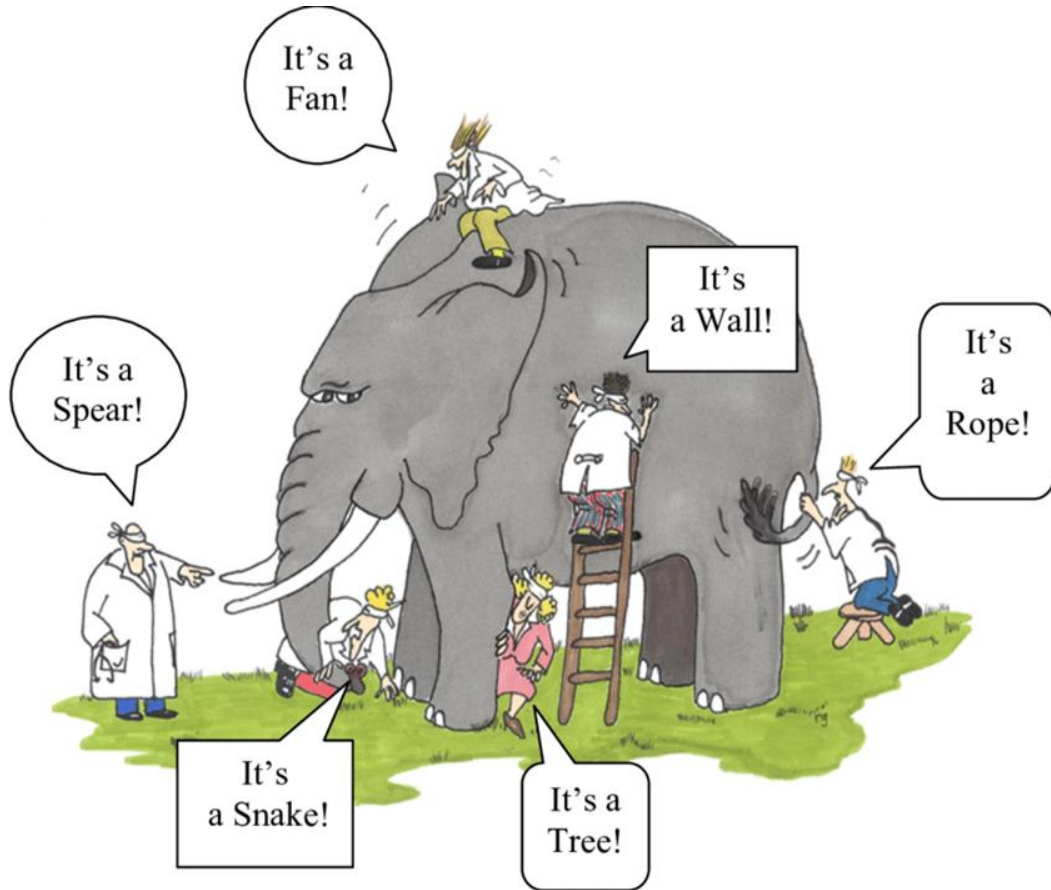
Resource
Constraints

Interested
Parties'
Inputs





The Challenge of Compliance



Wide variation to compliance definitions.

No single methodology to address different aspects of compliance comprehensively.

Source: G. Renee Guzlas, artist, Himmelfarb et al, 2002



The Compliance Definitions

PROCESS-BASED COMPLIANCE

where projects obtain permit, close permits, provide accurate documentation through compliance forms and permitted drawings, meet all Energy Code requirements through design to installation/construction, and passes field verifications.



ENERGY-BASED COMPLIANCE

where projects actual performance of projects at installation completion is equal or better than the projected energy code savings

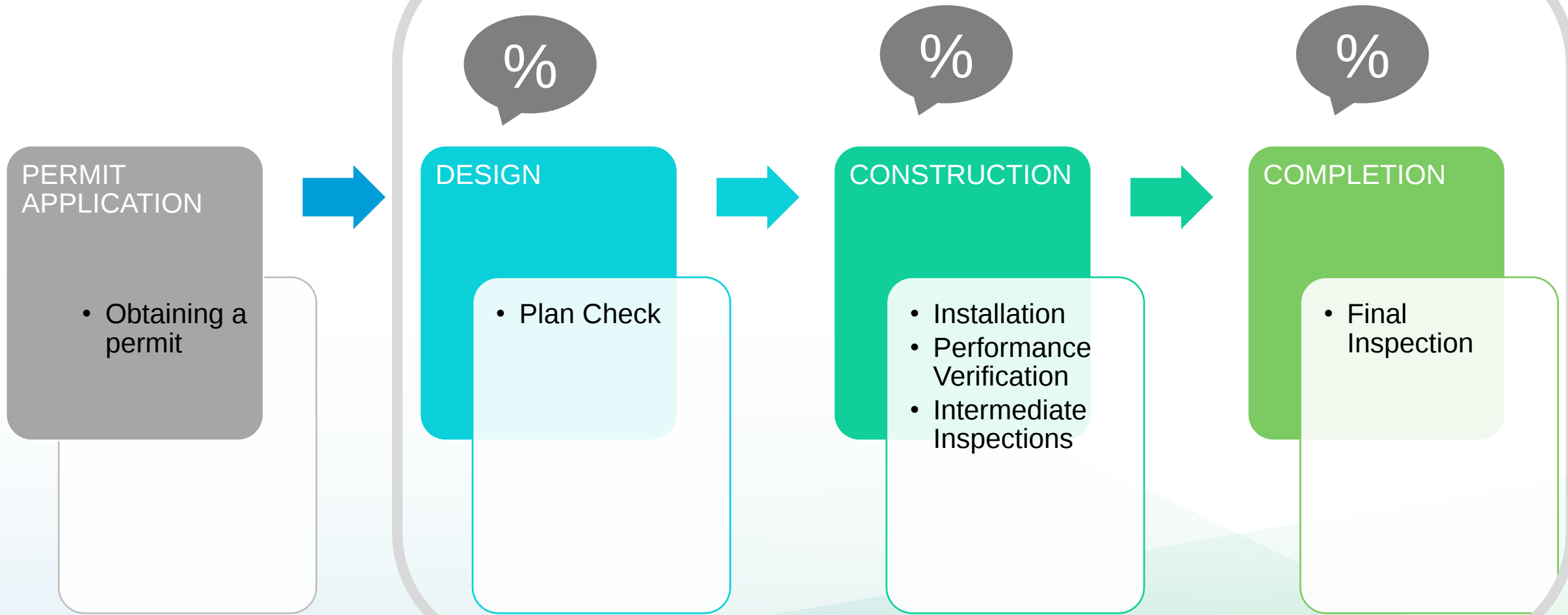


FULL COMPLIANCE



Process-based Compliance

PERMITTED PROJECTS



Prioritize identifying trends in permitted projects.

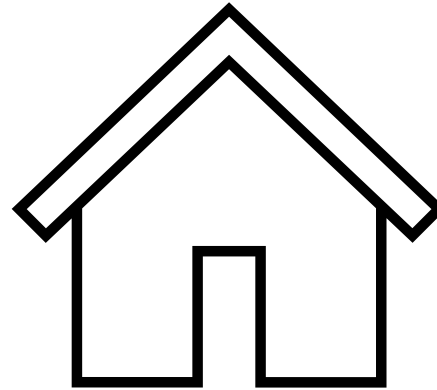


Energy-Based Compliance

%
compliance
by measure
by region?



Standard Design Model



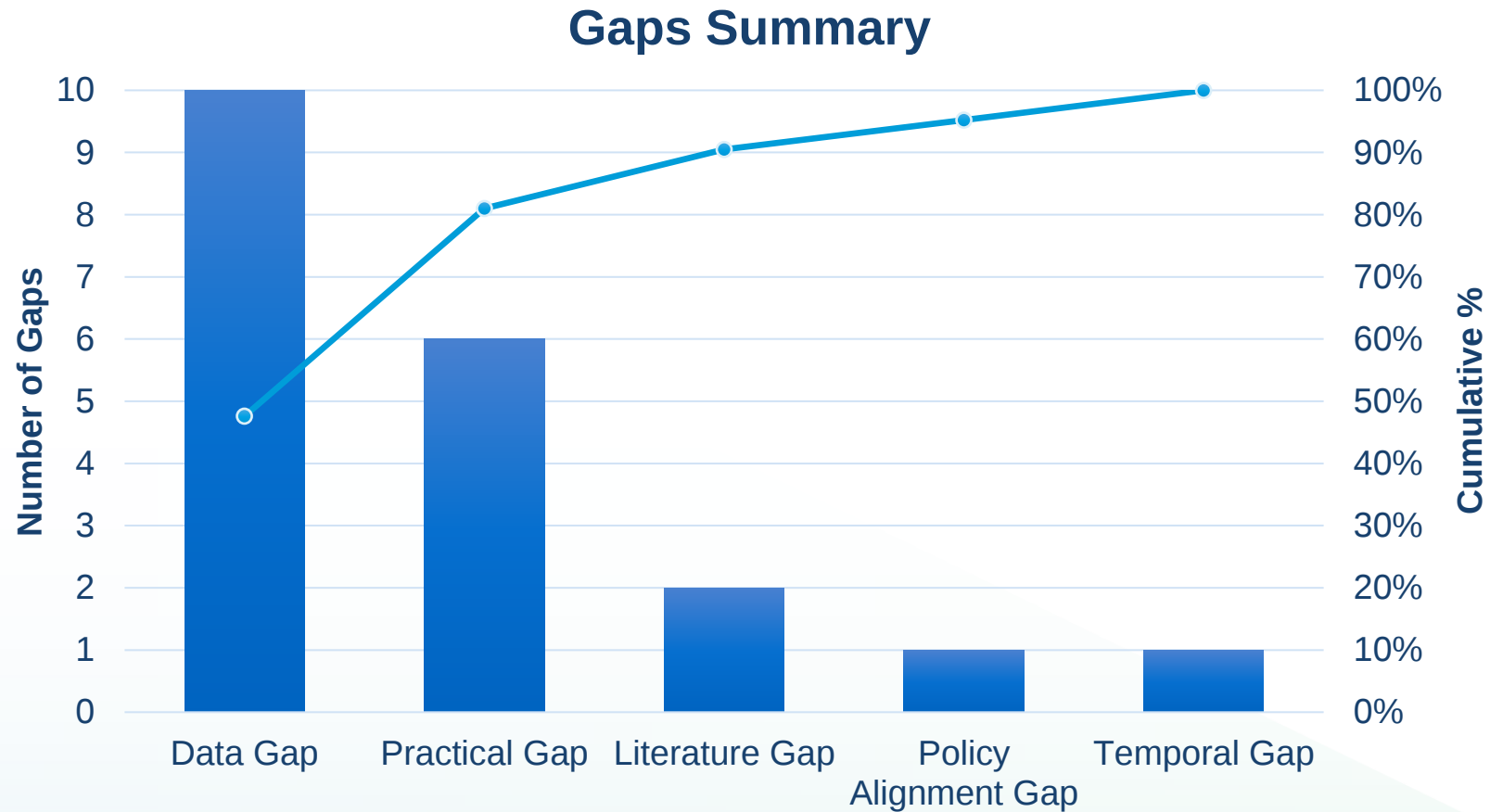
As-built Building Model

%
compliance
on average?

What is the distribution of projects where its energy performance meets or exceeds the expectations set by the Energy Code?



The Data Challenge



Source: CEC, California Code Compliance Gap Analysis Staff Report, 2025



Menu of Solutions



Tailored Field Study to provide snapshot understanding of compliance

- Provide a quantitative baseline of compliance rates
- Process and energy-based compliance
- 7 different building categories



Data driven methodologies to estimate “proxy” rates of unpermitted work, not compliance rates directly

- Difficult to correlate without additional data on the level of performance of noncompliance in unpermitted work
- Ongoing parallel projects and efforts within the CEC to pursue long-term approaches



Why Field Studies Are Critical



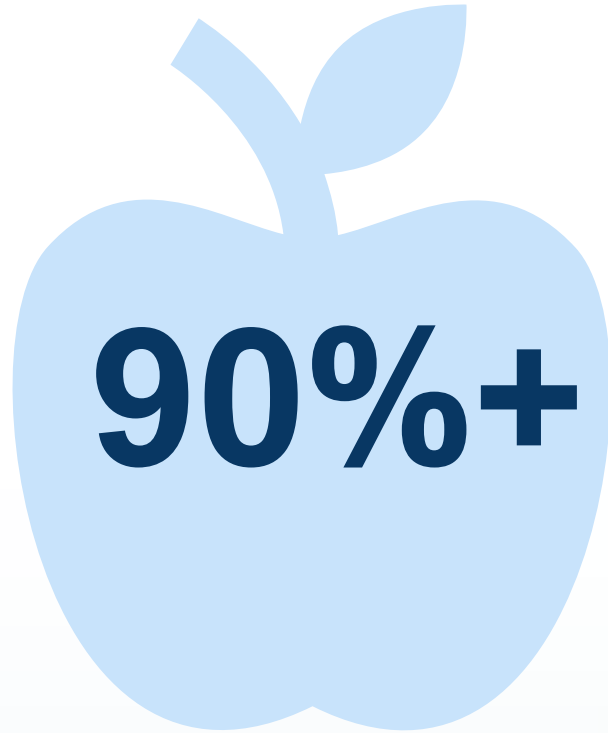
AHJs have the permitted data.
Granular field data is not easily available.

Target high-impact issues and identify which actions matter most.

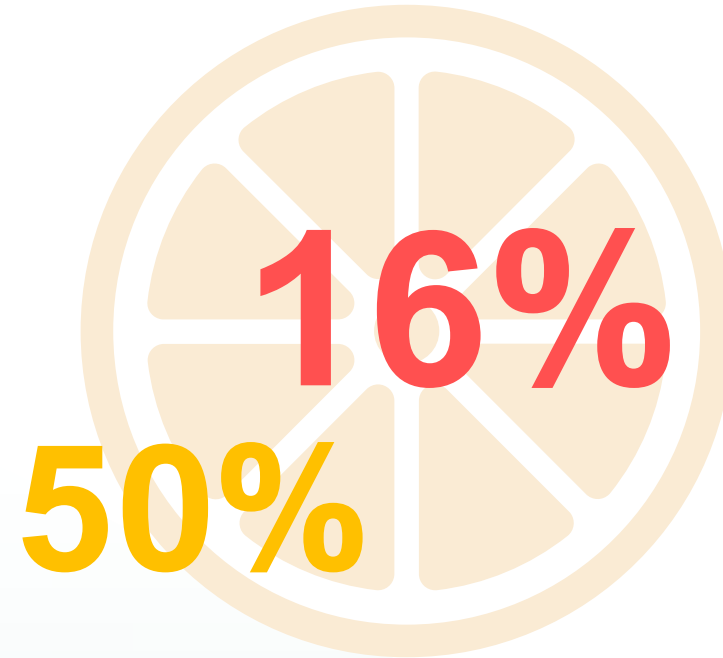
Compliance is not uniform.
Granular data provides region-specific solutions



A Tale of Two Stories



IOU-administered programs report high “energy savings factor” adjustment rates related to Codes & Standards Programs savings adjustments.

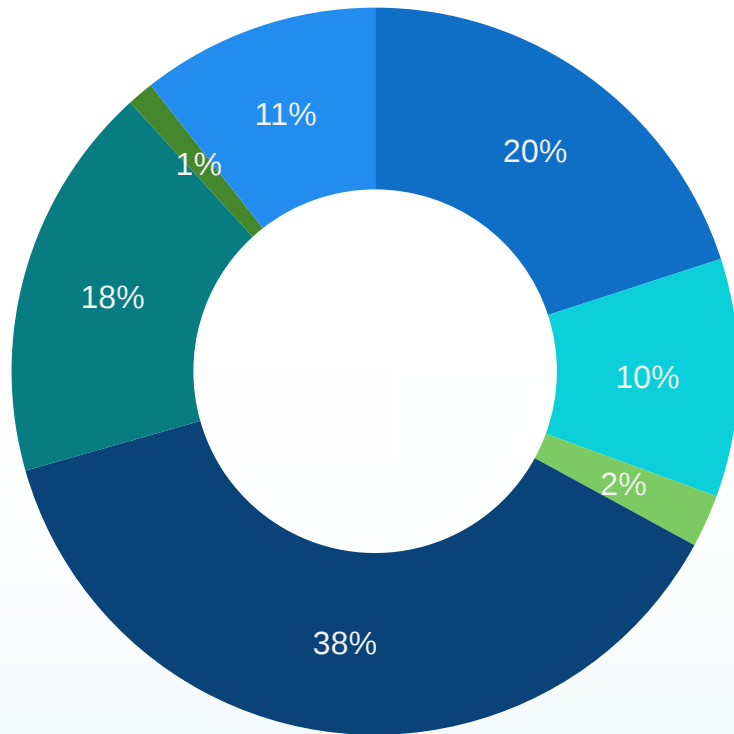


BayREN PROP Study found 16% of projects with complete documentation and 50% of projects performed as well as the documentation predicted.



Finding the Right Approach

Field Evaluation Methods by Category
Out of 89 studies

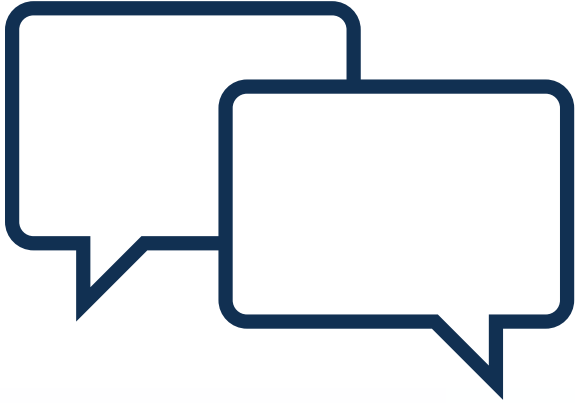


- DOE BECP 2010 → Binary “yes/no” lacks depth
- Simulated Performance → Data & cost intensive, lacks insight to the process
- IMT/CEP Assessment → Design for cities
- DOE BECP 2022 → Relies on technical support from PNNL, focused on savings outcome
- Northwest → Multi-prong approaches to Northwest codes
- Delphi Panel → Mostly qualitative, not quantitative approach
- California → Objectives are for attribution savings

A tailored California field study is needed to address scope, data integrity, and utility.



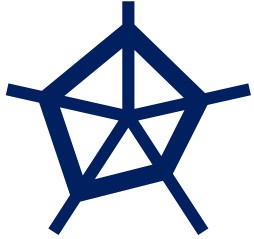
What We Heard



- Strong support for process-based compliance
- Desire for immediate actions
- Mixed perspectives on detailed techniques
- Challenges ahead relating to recruitment, sampling, and biases
- Preference to data driven deliverables



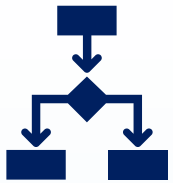
Feasibility and Cost Balance



- **Trade-offs** between the level of detail and cost



- Field studies have higher upfront cost, but they are the only way to get granular, actionable data.



- **CEC staff** will drive the scope and scale as budget allows, working closely with consultant team and **interested parties' advisory groups**.



- Get the most accurate information possible to inform an effective energy code compliance solutions.



What Will This Study Do?

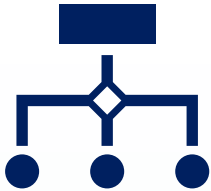
This is a statewide effort to make Energy Code compliance easier, clearer, and better supported.



Document real-world trends



Capture regional variations



Identify streamlined processes



Find solutions that work with existing processes



Justifications supported by real world data



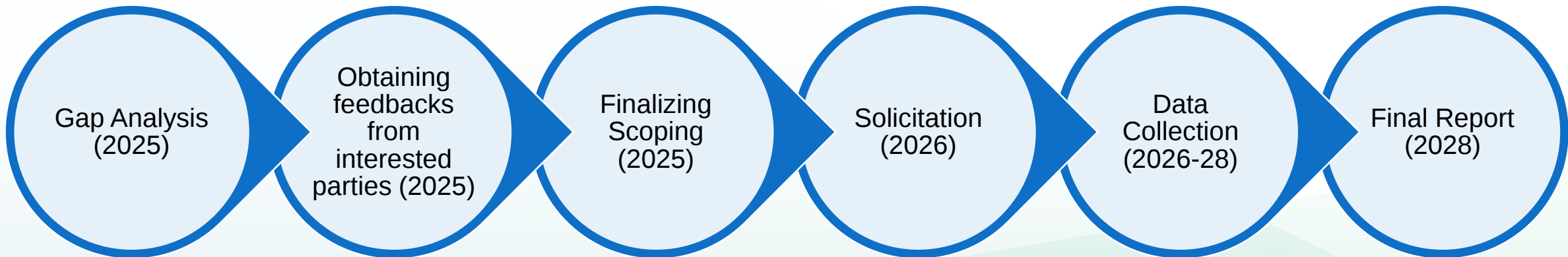
Inform future policy



Next Steps

Checkpoints & Communication:

- **Quarterly** AHJ Advisory Board: 29 AHJs and counting
- **Quarterly** Subject Matter Experts (SMEs) Advisory Board: 44 SMEs and counting
- **Want to sign up?** Email sco@energy.ca.gov with “Energy Code Study” in the subject.





Energy Code Compliance Updates

Compliance Proposals from Knowledgeable Experts

Joe Loyer, Senior Mechanical Engineer
Standards Compliance Branch, Efficiency Division



Potential 2028 Programmatic Changes

Energy Commission Issues

- Data collection
- Building trust in ECC and ATTCP programs – AHJ outreach
- Revision of QII requirements – possibly additional testing
- Nonresidential compliance improvement

ATTCP Proposals

- Modify in-lab audits & quality assurance procedures
- Allow ATTs to perform Sample-Groups for highrise multifamily

ECC Providers Proposals

- Eliminate EDDS requirements
- Require all Providers to support all single and multifamily compliance documents

Other Proposed Changes for the ECC Program

- Eliminate Sample-Groups
- Streamline compliance verifications for major residential developments
- Allow Rater Companies to sign CF3Rs instead of Raters



Journeymen Proposed Measures

- Expert input for Energy Code updates
 - ATTCPs, ATTs, and ATEs
 - HERS/ECC Providers, Raters, and Rater Companies
 - Others as recommended
- Invitation to submit proposed measures
 - Assist in documentation for proposed measures
 - Staff and Commissioner review of proposed measures



Scope of Effort

- Interested parties
 - ATTCPs, ARCXIS, CEA, HERS/ECC Providers, Raters & ATTs/ATEs.
 - Get engaged!
- Focus on improved code compliance.
 - Host three “charrettes”, beginning in October-November
 - Staff will provide:
 - Introduction and scope limitations
 - Starting point for discussion
 - Identify any issues and additional needed information
 - Identify stakeholder-ownership of each proposed measure



Proposed Process for Stakeholders

1. Staff communicate to management and Commissioners
2. Stakeholders communicate with staff regarding
3. Stakeholders encouraged to provide necessary information for each measure
4. Stakeholders invited to submit draft material to staff
5. Staff update management and Commissioners
6. Staff update stakeholders of management or Commissioner feedback



Moving into Pre-rulemaking and Rulemaking

- Management/Commissioners approved measures only
- Staff verified information
- Staff assistance for the stakeholders
- Included in pre-rulemaking workshops
- Staff will champion each proposed measure



Contact Info & Comments

Comments on Today's Workshop

- Due Date:

Comments for today's Staff workshop to be submitted to:

- <https://efiling.energy.ca.gov/EComment/EComment.aspx?docketnumber=24-BSTD-05>

Comments/Questions on compliance programs to be emailed to:

- Standards Compliance Branch: sco@energy.ca.gov

Comments/Questions on enforcement to be emailed to:

- Office of Compliance Assistance & Enforcement:
buildingenforcement@energy.ca.gov