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The joint comments from WSC and SMART Local 104 support the CECâ€™s compliance initiatives and emphasize that projected energy savings depend on equipment being properly installed and operating as designed. They recommend preventing deficiencies through technician preparation, using Californiaâ€™s existing state-approved apprenticeship infrastructure, and bringing apprenticeship providers, technicians, and contractors together to explore incentives that expand participation. The comments also recommend practical training for inspectors and plan checkers, support for local enforcement, and better tools to identify unpermitted installations. They respectfully ask the CEC to slow code development within applicable statutory schedules and devote equal or greater resources to implementation, compliance, and enforcement. WSC and Local 104 offer their training network, contractor relationships, and field expertise as active partners in achieving energy savings, affordability, and healthy buildings

Additional submitted attachment is included below.

Joint Comments on Energy Code Compliance

Western States Council of SMART and SMART Local 104

California Energy Commission
Docket Number: 24-BSTD-05
Project Title: 2025 Energy Code Compliance Initiatives
Regarding: September 28, 2026 workshop and presentation slides TN 272985
Version 5 dated October 6, 2026

Dear Commissioners and CEC Staff:

The Western States Council of SMART (WSC) and SMART Local 104 appreciate the California Energy Commission's past, current, and planned efforts to strengthen Energy Code compliance and enforcement. We recognize the dedication of CEC staff who work every day to advance California's energy, affordability, and climate goals. We want to be active partners in helping that work succeed and improving the built environment for all Californians.

The CEC has devoted substantial expertise and resources to developing one of the nation's most comprehensive energy codes. Successful implementation enables those standards to deliver their intended benefits while maintaining indoor air quality and protecting occupants' thermal health. We encourage continued collaboration on workforce preparation, local leadership, enforcement, and verification so that the requirements adopted by the state are consistently achieved in the field.

WSC represents sheet metal workers' local unions in California, Arizona, Nevada, and Hawaii. Our members fabricate, install, service, and perform testing, adjusting, and balancing on residential and commercial HVAC systems as well as architectural roofing and siding systems. WSC and Local 104 work with joint labor-management apprenticeship programs and contractor partners to prepare the technicians responsible for translating design intent and code requirements into functioning systems. We offer these recommendations in that practical spirit.

Build on the CEC compliance initiatives

The September 28, 2026 workshop identified practical opportunities to improve permitting, installation quality, verification, and local enforcement. The slides estimate that only 18 percent of residential HVAC changeouts are permitted, with a range of 8 to 28 percent. Bringing more installations into the compliance process and confirming their performance are essential to achieving the Energy Code's intended benefits. [1]

We support the initiatives presented at the workshop, including the enhanced Energy Code Compliance (ECC) program, direct training for building departments, code reformatting and streamlined supporting tools, the Commission Compliance Document Repository, and equipment sales data tracking. We also appreciate the Office of Compliance Assistance and Enforcement's partnerships with local agencies and the strengthened ECC training, audits, and accountability described in the CHEERS presentation. [1]

Our recommendations focus on helping these current initiatives succeed by using California's existing training infrastructure, recognizing contractor investment in apprenticeship training, assisting local enforcement staff, and giving implementation greater resources and time.

Use installation research to guide practical improvements

Inspection and enforcement help identify and correct installation deficiencies. We also have an opportunity to prevent those deficiencies by investing in technician preparation before work begins. Technicians translate design intent and code requirements into operating systems. Their knowledge and practical skills are essential to achieving intended performance and meeting or exceeding applicable Energy Code requirements. We encourage the CEC to make this proactive approach a central part of its compliance initiatives.

The U.S. Department of Energy's 2018 Residential HVAC Installation Practices review examined 44 reports, primarily field studies. Its summary reports that most reviewed duct studies found 90–100 percent of systems tested needed sealing or repairs, low airflow occurred in more than half of systems in the regions studied, and reported refrigerant undercharge and overcharge rates varied widely. One small study in the review measured central air conditioner performance at 59–84 percent of rated seasonal efficiency. These are findings from specific studies of installation and maintenance problems, not a current California compliance estimate. [2]

A 2015 Ontario evaluation by Sullivan and colleagues found installed air conditioner efficiency approximately 20 percent below rated efficiency and no statistically significant improvement following the eight-hour installation optimization course evaluated. The study supports looking beyond course attendance to demonstrated field performance; it did not compare apprenticeship graduates with other technicians or establish that every short course is ineffective. [3]

These findings support making technician competency a core component of compliance and implementation. We recommend that the CEC use California's existing apprenticeship infrastructure, hands-on training, and practical competency assessment to prepare technicians for compliant work from the outset. Technicians also need clear guidance on adopted code requirements and access to the tools needed to verify performance. Inspection, acceptance testing, and enforcement can then reinforce that preparation and provide feedback for continued improvement.

Use the apprenticeship infrastructure California has already developed

California already has an established apprenticeship infrastructure, overseen by the Division of Apprenticeship Standards (DAS), that combines supervised on-the-job training with supplemental classroom instruction. We encourage the CEC to use this existing system as a primary resource for compliance-related workforce development and to strengthen the programs already preparing technicians for California's building industry. [4]

Our HVAC apprenticeship programs integrate technical instruction and supervised work experience with training in applicable California codes and standards. Technicians learn how equipment, duct systems, ventilation, filtration, and controls work together, as well as how to measure performance and correct deficiencies. This preparation supports both the quality of the installation and an understanding of the requirements governing the work.

Our joint labor-management training network offers established facilities, instructors, equipment laboratories, contractor relationships, and pathways into employment. The CEC can work with apprenticeship sponsors, DAS, utilities, and program administrators to expand enrollment, update laboratories and curricula, support instructors, and provide continuing education through this existing network. Training can be aligned with the Energy Code and the heat pumps, ventilation systems, and controls being installed today.

Compliance initiatives should also encourage contractors to employ apprentices and apprenticeship graduates from state approved programs, creating demand for the skills these programs develop. Supporting existing programs and the employers that participate in them can expand California's training capacity while

preparing technicians to understand and follow adopted codes from the beginning. Targeted courses for equipment and code updates can build on this comprehensive preparation.

Workforce preparation should be treated as an investment in compliance and system performance, alongside inspection and enforcement. A technician who can identify and correct a problem with airflow, controls, or ducts during installation can help avoid a failed inspection, a callback, and lost energy savings.

Explore incentives for contractor investment in California apprenticeships

We recommend that the CEC begin exploring incentives that recognize contractors' investment in California's state-approved apprenticeship programs as a proactive way to improve Energy Code compliance. Contractors that employ apprentices and apprenticeship graduates help sustain the training infrastructure that prepares technicians to follow adopted codes, achieve design intent, and verify system performance. By increasing demand for skilled and trained technicians, these incentives can help expand apprenticeship participation and strengthen compliance from the beginning of a project.

The CEC should meet with state-approved apprenticeship providers and the technicians and contractors they work with, in coordination with DAS and relevant program administrators. These working sessions should identify barriers to enrollment, completion, and contractor participation and discuss potential incentives that recognize workforce investment and expand use of existing apprenticeship programs.

These discussions should establish how apprenticeship preparation and contractor workforce investment support compliant installations, and which incentives would encourage wider participation. The CEC and its partners should agree on practical measures of progress, including apprenticeship enrollment and completion, technician competency, and verified field performance. WSC and Local 104 welcome the opportunity to help organize these meetings and contribute our training network and field experience.

Help inspectors and plan checkers use acceptance testing effectively

Local inspection staff often work within limited staffing and time. We propose collaborating with CEC staff, building departments, labor unions, and approved Acceptance Test Technician Certification Providers to develop and offer separate in-person training sessions for inspectors and plan checkers. WSC and Local 104 can contribute field expertise, practical demonstrations, and access to our training network.

Instruction should build on existing CEC resources, including the 2025 Inspector Field Sheet, and use actual project examples to explain when acceptance testing applies, how to identify the required tests, how to verify technician and employer credentials, and how to review completed forms. Training should also help staff recognize missing information, unresolved failures, and circumstances requiring follow-up. [5, 6]

Properly completed acceptance documentation can be a useful inspection tool. It records specialized testing performed by certified technicians and helps inspectors assess compliance efficiently. Practical instruction can help departments incorporate these results into their normal review process and direct limited inspection time to items needing attention.

Support local leadership and reach unpermitted work

We support coordinated outreach to city councils, boards of supervisors, building officials, and regional partners about the energy, affordability, and occupant benefits of compliance. Local leadership can help departments secure the staffing, training, and procedures needed to implement statewide requirements consistently. WSC and Local 104 are willing to assist with technical briefings and outreach.

We support the equipment sales data tracking and compliance repository initiatives presented on September 28. Connecting equipment, contractor, permit, and verification information could help agencies identify installations that never enter the compliance process and target assistance and enforcement effectively. Reliable data and coordinated follow-up can support compliant contractors and provide a clearer picture of installed systems and improve permit compliance.[1]

Efficient permitting, clear technical assistance, and meaningful accountability should work together. These measures can help contractors comply, support correction of mistakes, and protect those who invest in qualified workers and complete the required processes.

Slow code development and prioritize implementation

We respectfully ask the CEC to slow the pace of code development, within applicable statutory schedules, and devote equal or greater resources to implementation, compliance, and enforcement. A more deliberate pace for developing and introducing new requirements would give technicians, contractors, designers, and local agencies greater capacity to implement the requirements already adopted.

The September 28 presentation identifies $4.8 billion in projected savings in energy costs over 30 years from the 2025 Energy Code if the code is implemented as written. [1]

The CEC's August 3, 2026 comments to the U.S. Department of Energy provide further context for these projected benefits. The comments describe a 30-year analysis of construction and maintenance costs, expected energy savings, and long-term energy system costs. They also illustrate lower annual energy bills for newly built homes under the 2025 California Energy Code than under the 2024 national model code. We support this focus on affordability over the life of a building, including the utility bills paid by owners and renters. [7]

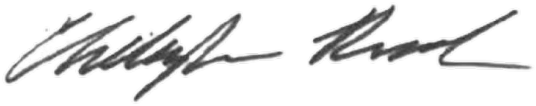
Achieving these benefits depends on the code being followed and the required measures being properly fabricated, installed, tested, maintained, and operated. Workforce competency, local enforcement, and verification help ensure that actual installations deliver the performance assumed in the analysis. We encourage the CEC to treat investment in implementation as essential to realizing these expected savings and protecting long-term affordability.

We recommend a dedicated implementation work plan with staffing, funding, and milestones that receive at least the same priority as the next code cycle. Near-term priorities should include strengthening existing apprenticeship programs, exploring incentives for contractor investment in apprenticeships, providing inspector education, and assisting local agencies. The planned compliance study can evaluate these interventions while practical improvements proceed. Independent field evaluation should examine whether verification is accurate, deficiencies are corrected, and installed systems perform as intended throughout their life.

More involvement from apprenticeship providers, technicians, and contractors should support this implementation priority. Earlier technical working sessions and field review of draft requirements and compliance tools can help staff identify practical issues while revisions remain possible. We recognize the deadlines and responsibilities staff must manage and offer our training centers, instructors, technicians, and contractor relationships to help resolve these issues collaboratively.

We welcome a follow-up working session to advance these implementation priorities. We appreciate the Commission's leadership and the daily work of its staff, and offer our training resources, contractor relationships, and field expertise to help achieve affordable, efficient buildings with healthy indoor air and safe, comfortable conditions for all Californians.

Respectfully submitted,



Christopher Ruch
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Jeremy Zeedyk
Western States Council of SMART

References

[1] California Energy Commission. September 28, 2026 Presentation Slides From Compliance Initiatives Workshop. TN 272985, Docket 24-BSTD-05. See slides 9 and 11–14 for projected savings, compliance challenges, initiatives, and permitting estimates; also see the OCAE and CHEERS presentations.

https://www.energy.ca.gov/event/workshop/2026-09/compliance-initiatives-workshop

[2] U.S. Department of Energy. Residential HVAC Installation Practices: A Review of Research Findings. June 2018. See Introduction, Table 1, and Research Topic 3. The 59–84 percent seasonal efficiency finding is from one small study reviewed, not all systems in the review.

https://www.energy.gov/sites/prod/files/2018/06/f53/bto-ResidentialHVACLitReview-06-2018.pdf

[3] Sullivan, Michael, Jesse Smith, Kausar Afrat, and Phil Bosco. Impacts of the OPA HVAC Installation Optimization Training Program on Realized Energy Efficiency of Retrofit AC Systems. 2015 International Energy Program Evaluation Conference, Long Beach. See Conclusions and Recommendations. The Ontario study compared field and rated EER.

https://www.iepec.org/wp-content/uploads/2015/papers/087.pdf

[4] California Department of Industrial Relations. Apprenticeship. Description of the Division of Apprenticeship Standards and its role in on-the-job training and supplemental classroom instruction.

https://www.dir.ca.gov/apprenticeship.html

[5] California Energy Commission. Acceptance Test Technician Certification Provider Program and Frequently Asked Questions. See mandatory testing, technician certification, and employer certification requirements.

https://www.energy.ca.gov/programs-and-topics/programs/acceptance-test-technician-certification-provider-program/acceptance-0

[6] California Energy Commission. 2025 Inspector Field Sheet — ATTCP. TN 268060, Docket 13-ATTCP-01. Identification of required tests and valid certificates of acceptance.

https://efiling.energy.ca.gov/GetDocument.aspx?DocumentContentId=105069&tn=268060

[7] California Energy Commission. Letter from Commissioner J. Andrew McAllister to the U.S. Department of Energy. August 3, 2026. Docket EERE-2026-BT-BC-0034. See Figure 1 and responses Q01 and Q07–Q09 for annual energy bill comparisons, the 30-year evaluation period, and long-term affordability.