

# SoCalREN

DRAFT

**Energy Efficiency Business Plan**

Cross-Cutting Segment Chapter: Codes & Standards

**November 2016**

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# SoCalREN Cross-Cutting Segment Chapter: Codes & Standards

## A. SoCalREN Compliance Enhancement Vision

California's Energy Efficiency Strategic Plan includes goals to achieve Zero Net Energy (ZNE) in all new residential construction by 2020, all new commercial construction by 2030, and 50% of existing commercial buildings by 2030. SB 350 calls for a doubling of building energy efficiency by 2030. The codes and standards (C&S) landscape is rapidly evolving at the state and local levels in response to these and other initiatives. State and local standards are paving a clear path to achieving ZNE goals and greenhouse gas (GHG) reductions. The codes and standards community, namely planning and building department staff, developers and contractors, plays a pivotal role in ensuring compliance with standards so that our goals can be realized.

The codes and standards community needs help navigating the rapidly-advancing landscape of policies, programs and resources available to help them meet and exceed state mandates, and how to integrate resources and strategies to achieve cost-effective ZNE buildings and communities. The SoCalREN's vision of ZNE communities will rely heavily on advancement of codes and standards and an increased focus on using data to inform decisions.

*The SoCalREN's Codes and Standards program envisions a future in which the codes and standards community is equipped with a deep understanding of building energy codes and tools that enable them to implement the standards with ease, and is using building performance data to inform advanced policies that lead the state toward its ZNE goals.*

Given the long history of successful codes and standards-related efforts achieved by the Statewide IOUs C&S Program and, more recently, BayREN, the SoCalREN anticipates that the RENs and IOUs work collaboratively and pool resources so that all stakeholders receive targeted, substantive resources that harness their unique change-making potential.

### SoCalREN's Compliance Enhancement Goals:

Achieving the SoCalREN's vision for codes and standards will require a suite of concurrent activities that address the sector's wide breadth of stakeholders and a multi-technology focus that will move the region toward the ZNE future in an integrated way. Specific goals include:

- Codes and standards community members are provided with actionable resources that address their specific role in advancing the state's ZNE goals.
- Public agencies and external codes and standards stakeholders work together to adopt, implement and enforce advanced energy codes, standards and policies that pave the way for improved building performance and ZNE new construction.
- Public agencies are using data, collected through enforcement of advanced codes that informs energy master plans, regional energy plans, and roadmaps for addressing energy and GHG reduction targets and strategies.

## B.C&S Proposal Compared to Prior Program Cycles

Because this is the SoCalREN’s first foray into codes and standards activities, we are unable to make comparisons to prior program cycles.

## C.Sector Level Budget

The following budget is a summary of SoCalREN’s cross-cutting compliance enhancements budget. These values are based on estimates of the proposed strategies outlined in Section F below. As SoCalREN implements the strategies described in this business plan chapter, the budget will be reevaluated over time to respond to market changes, needs of the portfolio and regulatory directives. Further details on these changes will be reflected annually in SoCalREN’s September Compliance filing as dictated by the California Public Utilities Commission (CPUC) Decision (D.)15-10-028.<sup>1</sup>

**Table 1. Sector Level Annual Budget**

Year	Budget	% of Portfolio
2018		
2019		
2020		
2021		
2022		
2023		
2024		
2025		
2026		
2027		

## D.C&S Annual Net Savings from 2015 Potential Study

Navigant’s 2015 Potential & Goals Study references C&S activities as driving savings to IOUs. In the case of the SoCalREN, our activities will drive compliance, and therefore, savings, associated with Title 24, Part 6. Specifically, the SoCalREN Compliance Enhancement Program will likely improve compliance for codes and standards that are “on the books” and “expected” as described below.

- On the books – SoCalREN activities will increase compliance with codes that have been adopted by local jurisdictions but have less than perfect compliance rates.
- Expected – SoCalREN activities will help local agencies adopt and implement in advance codes that are in rulemaking phase (e.g. ZNE new residential construction).

<sup>1</sup> D.15-10-028, Ordering paragraph (Op.) 4.

Navigant's 2015 Potential & Goals Study identifies Net C&S savings, or those savings that can be attributed to the advocacy work of the IOU's C&S programs and account for normal market adoption of code-compliant equipment and utility attribution factors, as 522.4 GWh and 108.5 MW in 2017 alone in the Southern California Edison (SCE) territory. Similarly, the study identifies 12.2 MMTherms associated with Net C&S savings in 2017 in Southern California Gas Company (SoCalGas) territory.<sup>2</sup>

**Table 2. Sector Annual Net Savings**

Year	Annual Net Goals					
	GWh	% of Portfolio	MW	% of Portfolio	Million Therms	% of Portfolio
2018						
2019						
2020						
2021						
2022						
2023						
2024						
2025						
2026						
2027						

## E. C&S Landscape

The C&S landscape is broad, encompassing a large number of stakeholders. From architects and planners, to building department staff, to developers, contractors and building operators, nearly every market actor is affected by building energy codes and energy performance policies. Similarly, nearly every market actor stands to affect change within the C&S landscape and to be a champion for compliance and advanced energy solutions.

While the majority of the SoCalREN C&S activities will be targeted to local governments, SoCalREN will engage additional stakeholders in the compliance process in an attempt to gather and share best practices developed by partners across the state. This comprehensive approach will more effectively achieve regional code compliance and enforcement by increasing capacity for compliance on both sides of the permit desk. See Appendix C for a table describing the C&S community that will be targeted by the SoCalREN Compliance Enhancement Program.

## Trends

SoCalREN's C&S community is subject to several trends that will help inform C&S activities going forward, including:

<sup>2</sup> Navigant. Energy Efficiency Potential and Goals Study for 2015 and Beyond. September 25, 2015.

- Swift ramping up of efficiency standards. California's Energy Efficiency Building Standards are updated every three years. As we approach 2020 and 2030 and the associated ZNE goals for new construction, this trend signifies increasingly stringent, and likely more complicated, standards that all stakeholders must learn and implement.
- Increasing focus on data to comply with and inform adoption of standards. Data is the basis for a growing number of tools and initiatives to save energy in the building sector. While local government access to building level data has been limited, legislation like AB 802 is making data more and more critical to achieving compliance. Similarly, as energy data becomes more accessible thanks to mandatory reporting requirements, local governments will have a wealth of information that can help steer advanced energy codes and policy adoption.

## Gaps/Barriers

Local governments play a critical role in achieving the state's ZNE goals. Local development services staff (i.e. planning and building department staff) have the ability to directly inform and steer the energy performance of every development and redevelopment project that comes across their desks. Further, they have data from permitted projects that provide a wealth of information that can be harnessed to inform energy leadership efforts and progress toward climate goals. However, local governments are resource constrained, buried by complex and constantly changing codes, and largely unable to take advantage of their unique ability to steer their communities toward a ZNE future. Local government building departments constitute a hard-to-reach community given the inability, thus far, of PAs to successfully address their barriers and tap into their change-making potential.

Similarly, external codes and standards partners, including architects, planners, developers, consultants, and contractors, are driven by their bottom line and behave reactively, rather than proactively, with regard to codes and standards. These limitations deter this stakeholder group from pushing the boundaries that will help the state achieve its lofty energy efficiency and ZNE goals.

As an entity managed by the public sector for the public sector, SoCalREN is uniquely suited to overcome these barriers and unlock the potential for public agency energy leadership and collective action to save energy.

## F. Approach to Achieving Compliance Enhancement Goals

The SoCalREN will frame all C&S interventions within the ZNE Communities framework. The SoCalREN seeks to accelerate local government implementation of energy efficiency, zero net energy and greenhouse gas reduction goals and standards through the use of their regulatory authority. This would include developing, adopting and implementing model policies and programs focusing on improving the energy efficiency of existing buildings and on ZNE building energy policies and codes (on both a mandatory and voluntary basis) focused on new construction.

SoCalREN's model energy codes, standards and policy support includes promoting the adoption of codes that address:

- Better compliance with and enforcement of state and local energy code requirements
- Building benchmarking
- Retrofit upon sale requirements
- EV ready policies and standards
- ZNE new construction requirements
- ZNE policies, standards and incentives for existing buildings
- Policies that encourage and support actions to design and develop decentralized ZNE communities

The SoCalREN's Compliance Enhancement Program will supplement, not duplicate, the efforts of the statewide IOU C&S program. While the statewide IOU C&S program is providing tools and resources for a large number of stakeholders, the C&S landscape is sufficiently large to warrant supplemental activities. For example, statewide IOU C&S building department training courses cannot be attended by large numbers of building department staff simply due to staff's limited resources and ability to leave their day-to-day duties. Similarly, oftentimes only one staff member can attend these trainings and is expected to impart an entire day's knowledge to the rest of their department – a feat that is not typically feasible or widely practiced. Our Energy Code Coach proposal, outlined below, speaks directly to these gaps, and others, and seeks to address barriers that IOU programs have been unable to adequately address. Additionally, the SoCalREN approach is to develop a comprehensive Compliance Enhancement Program that addresses the entire spectrum of compliance, from building design to operation, and prepares the compliance community for the ZNE and EE mandates quickly approaching.

## **Intervention 1 – Provide Targeted Resources and Tools to C&S Stakeholders**

The SoCalREN will take a multi-pronged approach to designing and implementing compliance enhancement activities. Our approach involves first assessing specific gaps in code enforcement capacity among compliance stakeholders, then providing both regionally-based and targeted outreach, education and tools to address the gaps and barriers identified in the assessment. While the primary audience for this task is local government staff (i.e. staff in development services/building and planning departments), an assessment of the larger compliance stakeholder group (see Appendix C) will result in a comprehensive approach that more effectively achieves regional code compliance and enforcement by better equipping all stakeholders with compliance tools, creating a smoother compliance process from start to finish.

In addition, SoCalREN will organize local government peer-to-peer workshops and training (in-person and online) around energy codes, reach codes, benchmarking and disclosure, outcome-based codes, performance measurement and code compliance; share case studies, best practices and lessons learned related to code development, adoption and implementation from throughout the United States; and coordinate with relevant State and Federal initiatives and best practices that align with local compliance enhancement activities.

### **Table 3. Intervention 1 – Compliance Enhancement Activities**

Intervention Strategy	Barriers	Example Tactics	Existing, Modified, or New	Short, Mid, Long-term
<b>Provide Targeted Resources and Tools to C&amp;S Stakeholders</b>	<b>Complicated codes, burdensome compliance processes, competing priorities among C&amp;S stakeholders</b>	Needs assessment to identify C&S gaps and barriers	New	Short
		Targeted compliance enhancement activities	New	All
		Energy Code Coach for building dept staff	New	Short, Mid
		Peer-to-Peer Learning	New	All
<b>Partners:</b> Local government leadership and code enforcement; IOUs; CEC; local stakeholders who participate in compliance activities – See Appendix C.				

## Intervention 2 – Develop and Adopt Model Energy Codes, Standards and Policies

SoCalREN will provide the over 200 local governments within its territory with one-stop end-to-end support to design and adopt energy reach codes and ordinances. To improve building efficiency in existing and new buildings in their communities, local governments must play a greater leadership role through their regulatory authority, including adopting energy codes, standards and ordinances that support greater building energy efficiency.

Reach codes allow local governments to aggressively pursue local sustainable energy actions as well as the CPUC’s long term goal of achieving ZNE. The SoCalREN will provide the 200+ local governments within its territory with one stop end-to-end support to design and adopt energy reach codes. We will work with local governments in the region to assess community needs and assist in the development of relevant model reach codes, standards and policies. Additionally, we will provide code development services to assist with drafting, promulgation and adoption of model codes, including assistance with educating and engaging local elected officials and stakeholders, drafting of staff reports and advocacy information, making presentations to community groups, property owners, business groups, etc. and coordination with other local governments in the region.

The SoCalREN’s reach code strategy provides access to critically important technical assistance, customized and actionable energy and GHG emissions data and reporting for their jurisdictions, and expert advisory and training services that support enhanced code development and enforcement activities. This strategy will drive greater energy code compliance, enhanced code enforcement, and innovative regional approaches to successfully develop and adopt energy reach codes.



SoCalREN will support codes and standards enforcement and compliance through collaboration with the Solar Energy Action Committee (SEAC), led by the County of Los Angeles. The group is working with industry and local governments to design streamlined processes and manuals to achieve consistency and better code compliance. The program is also expanding to include other DER energy measures.

The SoCalREN will provide technical assistance to compile and analyze community energy data that serves to identify best model code approaches and substantiate the anticipated code impacts in affected jurisdiction; and assist local governments in the measurement, collection and tracking of data following adoption of model codes to ascertain and document actual impacts from code implementation.

Last, taking advantage of SoCalREN’s online infrastructure, we will provide access to the SoCalREN’s Online Resource Portal to provide relevant information, data resources and other materials to support model code evaluation, development and adoption, including compilation of the best examples of existing model codes on energy disclosure, benchmarking and other topics. Provide a one-stop source for the tools, templates, regional and local data sources, customizable collateral materials, and other information that can be used by local governments to reach out to building owners, community members and other stakeholders during the code development and adoption process.

SoCalREN will coordinate its activities with SCE’s related reach code program activities, including anticipated performance-based and prescriptive-based cost-effectiveness studies for all climate zones in California. SoCalREN will also work collaboratively with SCE to leverage voluntary measures incorporated in CalGreen Tiers as primary sources for prescriptive-based reach code ordinances to enhance regional consistency and implementation effectiveness will provide the over 200 local governments within its territory with one-stop end-to-end support to design and adopt energy reach codes and ordinances. To improve building efficiency in existing and new buildings in their communities, local governments must play a greater leadership role through their regulatory authority, including adopting energy codes, standards and ordinances that support greater building energy efficiency.

**Table 4. Intervention 2 – Develop/Adopt Model Energy Codes & Standards**

Intervention Strategy	Barriers	Example Tactics	Existing, Modified, or New	Short, Mid, Long-term
<b>Develop and Adopt Model Energy Codes, Standards and Policies</b>	<b>Local governments lack awareness of the opportunity to lead by example with model codes and ordinances, and lack resources to implement adopted standards</b>	Model Code Identification and Planning	New	All
		Reach Code Development Services	New	All
		Data driven technical assistance	New	All
		Online Tools, Templates and Resources	Modified	All

**Partners:** Local government leadership and code enforcement; IOUs; CEC; local stakeholders who will be impacted by advanced codes and policies – see Appendix C.

## G. Metrics and Evaluation, Measurement & Valuation

As a non-resource program that drives energy savings to SCE and SoCalGas, SoCalREN's C&S EM&V efforts will focus on qualitative metrics associated with our established goals. The specific goals of the SoCalREN Compliance Enhancement Program are to:

- Provide codes and standards community members with actionable resources that address their specific role in advancing the state's ZNE goals.
- Support public agencies and external codes and standards stakeholders to adopt, implement and enforce advanced energy codes, standards and policies that pave the way for improved building performance and ZNE new construction.
- Assist public agencies in collecting and using C&S related data to inform adoption and implementation of advanced energy codes and policies.

To first assess the needs of C&S community members, we will perform a needs assessment similar to BayREN's C&S program in 2013. Assessing specific gaps in code enforcement capacity among compliance stakeholders will allow us to establish a baseline on which EM&V will be based in subsequent years. As we begin to develop resources to address identified gaps, we will track the amount of outreach, education and tools (i.e. resources) provided to C&S stakeholders. We will track the percent of local governments in SoCalREN territory that consistently use the resources provided. Similarly, we will track the percent of local governments in SoCalREN territory that adopt and implement advanced codes and use energy and C&S –related data to inform adoption and implementation of such standards.

**Table 5. Sector Level Metrics**

SoCalREN's Goals	Intervention Strategies	Metric	Baseline(or Benchmark)	Metric Source	Short Term Target (1-3 years)	Mid Term Target (4-7 years)	Long Term Target (8-10+ years)
Codes and standards community members are provided with actionable resources that address their specific role in advancing the state's ZNE goals.	<b>Provide Targeted Resources and Tools to C&amp;S Stakeholders</b>	# of C&S resources provided  % of local govern	0  228 local governments in SoCalREN territory	SoCalREN reporting  Agency activities	TBD based on needs assessment  X%	TBD based on needs assessment  X%	TBD based on needs assessment  X%

		ments using C&S resources					
Public agencies and external codes and standards stakeholders work together to adopt, implement and enforce advanced energy codes, standards and policies that pave the way for improved building performance and ZNE new construction.	Develop and Adopt Model Energy Codes, Standards and Policies	% of local governments adopting advanced codes, standards and policies	228 local governments in SoCalREN territory	Agency activities	X%	XX%	XX%
Public agencies are using data, collected through enforcement of advanced energy codes and policies, that informs energy master plans, regional energy plans, and roadmaps for addressing energy and GHG reduction targets and strategies.	Develop and Adopt Model Energy Codes, Standards and Policies	% of local governments using energy data to inform C&S activities	220 local governments in SoCalREN territory	Agency activities	XX%	XX%	XX%

## H.EM&V Preparedness and Research Needs

[To be provided in the January filing]

### EM&V within C&S

[To be provided in the January filing]

## Appendix A: Stakeholder Feedback – Codes & Standards Sector

Issue #	Source	Topic	Issue	Reference Page #/Notes
1	Voluntary Draft Chapters	Codes & Standards	<p>For all IOU PAs C&amp;S chapters:</p> <p>Recommended Action</p> <ul style="list-style-type: none"> <li>In view of the observations and comment above we recommend the IOUs integrate product reach standards as a strategy into their Business Plans</li> <li>We specifically recommend consideration of dynamic reach standards to drive innovation on an ongoing basis</li> </ul>	Not applicable to SoCalREN.
2	Issue Tracker	Reach Codes	Suggestion made to consider process of rolling out new programs before setting corresponding reach codes. It may be easier to set codes after people have participated in programs and learned about benefits of new technology.	Not applicable to SoCalREN.
3	Issue Tracker	Strategies	C&S discussions have debated that code savings are being stranded because the code is not strict enough and they urge that code standards be pushed forward. At the same time, PAs in other CC subcommittee meetings and other venues argue that standards are not being implemented by customers because they are too expensive. If codes aren't being met, why are PAs then pushing for more strict codes?	Standards are being pushed forward to achieve the 2020 and 2030 goals, regardless of implementation or cost-effectiveness. C&S programs help stakeholders better implement codes and achieve savings, and also push for advanced adoption of codes to prepare stakeholders for future mandates and to establish LGs as leaders.
4	Voluntary Draft Chapters	C&S Compliance Metrics	Achieving full compliance with Title 24 continues to be a significant challenge for the California building industry. This challenge will only increase as the standards evolve to meet State ZNE targets. PA developed	To be Included in the January filing

Issue #	Source	Topic	Issue	Reference Page #/Notes
			<p>compliance assistance tools are marginally helpful, but more effective solutions are available through development channels not directly managed by the PAs. Performance metrics for compliance improvement should use A/B testing of building intervention practices such that 1) as-built outcomes can be compared and modeled, and 2) longer-term, metered energy use of the A/B groups can be compared. Due to the overall length of most design and construction timeframes, any RCT applied to compliance improvement should allow for multi-year implementation and analysis cycles.</p>	
5	Voluntary Draft Chapters	CEC Objectives	<p>The PA business plans should include the following objectives to support the CEC’s building and appliance standards: (1) Appliance standards advocacy to reduce plug load energy consumption in both residential and commercial buildings; (2) Building standards advocacy to meet the state goal of ZNE commercial buildings by 2030; (3) Building standards advocacy for existing building “reach codes” that can be published in the California Building Code, Part 11 and adopted by local jurisdictions.</p>	<p>Addressed in Section A and throughout the SoCalREN C&amp;S Chapter.</p>

## Appendix B: Compliance Checklist

Reference Section/Page # in SoCalREN BP	Business Plan Element	SoCalREN Notes
	<b>Sector Chapter: Cross Cutting - Codes &amp; Standards</b>	
	<b>Summary tables</b>	
Budget on page 4, section C	<i>Table with CE, TRC, PAC, emissions, savings, budget</i>	
P 9-11, Section G	<i>Metrics for sector</i>	
	<b>Market characterization (overview and market/gap and other analysis)</b>	
N/A to C&S	<i>Electricity/NG</i>	
P1, section A	<i>State goals include acknowledgement of goals set by Strategic Plan, SB 350, AB758, guidance as appropriate)</i>	
P 4, Section D	<i>EE potential and goals</i>	
P 5, Section E	<i>Customer landscape (e.g., segments/subsegments, major end uses, participation rates, etc.)</i>	
P 5, section E.1.	<i>Major future trends that are key for the PA and its customers</i>	
P 5, section E.2.	<i>Barriers to EE and other challenges to heightened EE (e.g., regulatory, market, data)</i>	
	<b>Description of overarching approach to the sector</b>	
Goals p 3, section1 Strategies/Approaches p 6, section F	<i>Goals/strategies/approaches</i>	
?	<i>How portfolio meets Commission guidance</i>	
P 7-9, section F	<i>Description of how this chapter addresses the performance challenges/barriers</i>	
	<b>Intervention strategies (detailed)</b>	
P 7-9, section F	<i>What specific strategies are being pursued (e.g., near, mid, long AND existing, modified, new)</i>	
P 7-9, section F	<i>Why specific strategies were chosen (e.g., ID current weaknesses, best practices, or other rationale to support choice)</i>	
P 7-9, section F	<i>How approaches advance goals discussed above</i>	
?	<i>How strategies use lessons learned from past cycles and EM&amp;V</i>	
	<i>How will interventions support/augment current approaches or solve challenges</i>	

Reference Section/Page # in SoCalIREN BP	Business Plan Element	SoCalIREN Notes
P 5, Section E P 7-9, section F	<i>Explanation for how these strategies address legislative mandates from AB 802, SB350, and AB 793, as well as other Commission directives for this sector, including strategic plan.</i>	
P 7-9, Section F	<i>Future expectations for intervention strategies</i>	
P 7-9, Section F	<i>Description of pilots</i>	
P 7-9, Section F	<i>Key Partners</i>	
	<b>Compare/contrast to past cycles</b>	
	<i>Budget changes as appropriate</i>	
	<i>Modification to sector strategies</i>	
	<b>Cross-cutting (sector chapters and ME&amp;O)</b>	
	<i>Program Administrator marketing and integration with SW MEO as applicable</i>	
	<i>Workforce, education, and training</i>	
	<i>Emerging Technologies</i>	
	<i>Codes &amp; Standards</i>	
	<b>Cross PA and Offering Coordination</b>	
	<i>How strategies are coordination among regional PAs</i>	
	<i>Proposal of statewide program administrator/approaches for this sector</i>	
P 6	<i>How the sector strategies are coordinated with statewide program activities</i>	
P 7-9, Section F	<i>How are strategies coordinated with other state agencies and initiatives (e.g., AB 758)</i>	
	<b>EM&amp;V Considerations (statement of needs)</b>	
P 9-11, section G	<i>Data collection needs</i>	
P 9-11, section G	<i>Anticipated study needs</i>	
	<b>Demand Response</b>	
	<i>How EE measures use up-to-date DR enabling technologies to be "DR ready"</i>	
	<i>How duplication of costs for ME&amp;O, site visits, etc. is avoided for dual-purpose technologies</i>	
	<i>How strategies facilitate customer understanding of peak load, cost, and opportunities to reduce</i>	
	<b>Residential Rate Reform</b>	
	<i>How BPs will help reduce load during TOU periods</i>	
	<i>How BP will diminish barriers to load reduction during TOU periods</i>	

Reference Section/Page # in SoCalREN BP	Business Plan Element	SoCalREN Notes
	<i>How strategies will provide info to customers and/or provide a tool to show how program may impact customer energy usage during different TOU periods</i>	
	<i>How strategies will analyze whether a customer may experience greater savings by switching to a different, opt-in TOU rate</i>	
	<i>ME&amp;O re: rate reform</i>	
	<b>Integrated Demand Side Resources</b>	
	<b>Zero-Emission Vehicles (EVs)</b>	
	<b>Energy Savings Assistance (Multi-family Focused)</b>	
	<b>Appendices</b>	
	<i>Additional Customer Data</i>	
	<i>Cited research</i>	
	<i>CAEECC stakeholder input resolution</i>	



## Appendix C: Codes & Standards Stakeholders

Stakeholder	Role	Compliance Responsibilities
CBOs (LG)	Oversee activities of building department staff, determine priorities, staffing and budget needs for department.	Guides counter techs, plans examiners and inspectors in setting priorities for project review, designating importance of Title 24, Part 6 and 11 among other codes and standards Sets priority for training among staff Informs decisions around infrastructure projects including online permitting platforms
Planners (LG)	Review projects for compliance with general plans and CEQA, issues entitlements.	Peripheral role in reviewing energy-related aspects of projects such as siting for renewables, grid impacts, transportation impacts, and CEQA compliance associated with energy efficiency (Appendix F)
Counter Techs (LG)	Review permit submittal package for appropriate forms and components.	Review permit submittal package for appropriate forms and components (all codes, not just energy efficiency)
Plans Examiners (LG)	Review complete permit submittal package for code compliance, health and safety, etc.	Reviews plans for all code compliance, not just energy efficiency Issues permit
Building Inspectors (LG)	Physically inspects installation of building features for code compliance, health and safety	Makes multiple site visits to verify code compliant and proper installation of features (all codes, not just energy efficiency) Closes permit Issues certificate of occupancy
Architects	Designs projects, manages design team including owner and design engineers.	Specifies products Develops system layouts and floorplans Draws project plan sections and details Completes compliance forms and uploads to HERS registries Compiles permit application submittal package Some construction-phase duties
Design Engineers	Electrical, mechanical and plumbing designers design project components to meet code compliance and owner desires.	Specifies products and performance requirements for applicable components Develops applicable system layouts Draws sections/details for applicable components Completes applicable compliance forms Completes permit application submittal package

Energy Consultants	Advises design team on energy code requirements, performs energy modeling and completes compliance documentation to meet code requirements.	Performs energy modeling and load calculations Advises design team on compliant project approach Complete forms and upload to HERS registry
Builders/ General Contractors	Coordinates construction and manages project schedule and budget to complete project to specified design.	Coordinates with design team and installers to install project features Determines which forms to post onsite for inspections Completes forms on HERS registry Coordinates inspections with HERS raters, ATTS, building inspector Provides owner with complete package of completed forms
HERS Raters	Performs field verification and diagnostic testing to confirm compliance with T24, Part 6, and that systems are installed and functioning properly.	Performs field verification and diagnostic testing to confirm compliance on projects that trigger HERS requirements. Signs and uploads compliance docs to HERS registry.
Acceptance Technicians	Performs field verification to certify lighting controls as properly installed and operational	Performs field verification to certify compliance on commercial lighting projects Completes and submits Acceptance Test forms
Cx Agents	Commission building systems prior to permit closure/certificate of occupancy issuance	Completes and submits commissioning report to owner for display at final inspection.
Residential, Commercial, Multi-Family Building Owners, Operators & Portfolio Managers	Hires design and construction team to build project. Helps define project scope, schedule and budget. Responsible for energy benchmarking and management.	Benchmarking operational performance Defines project design elements/approach Ultimately responsible for obtaining permits Owner's Project Requirements (OPR) Commissioning requirements Receives Certificate of Occupancy
Home Inspectors	Perform residential inspections at time of sale, provide inspection report to prospective home buyer to inform of code infractions, safety concerns and structural deficiencies.	Informs prospective buyers of code infractions (ex: non-permitted additions) at time of sale.