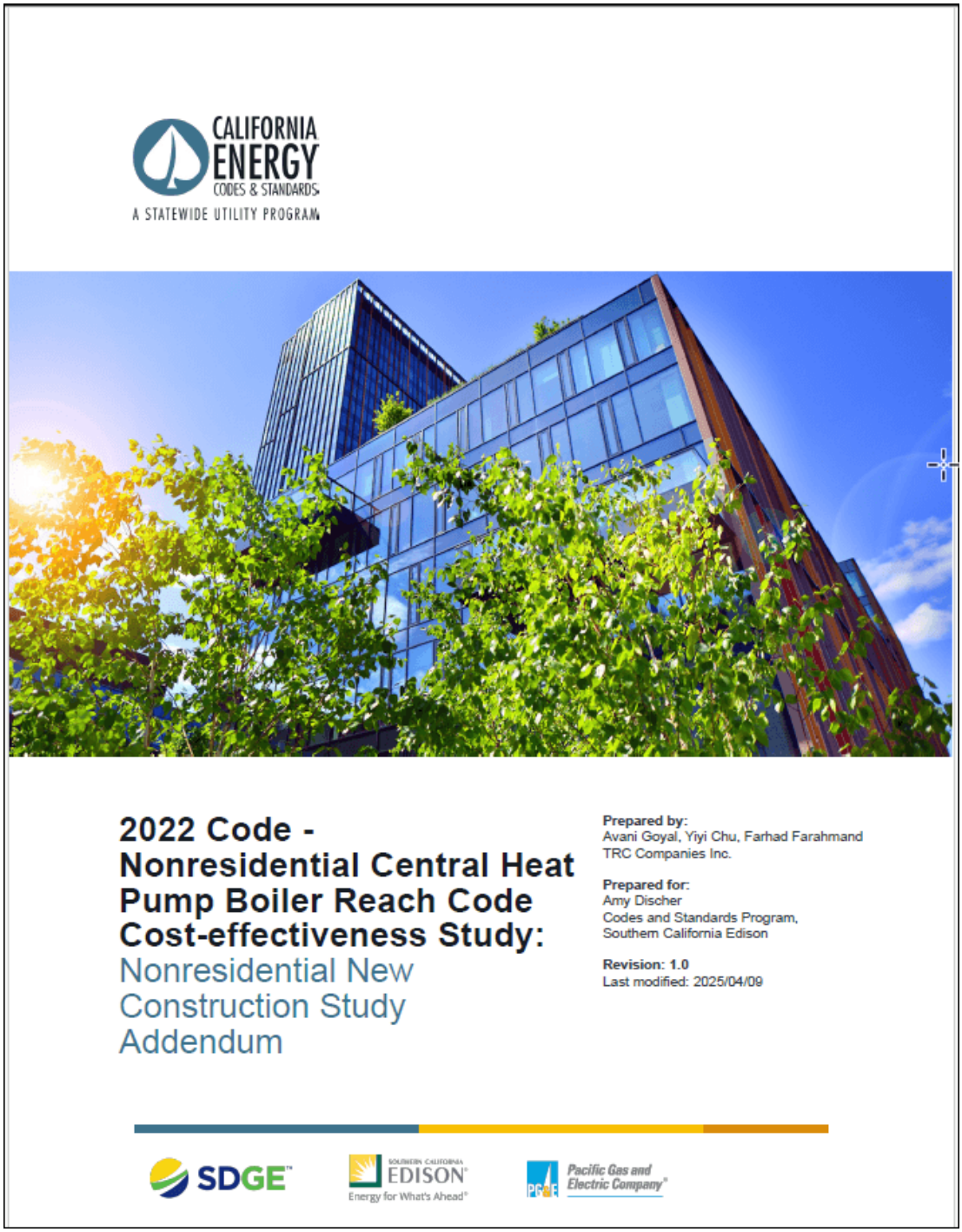
REACH CODE NEWS BRIEF: APRIL 2025

NEW NONRESIDENTIAL CENTRAL HEAT PUMP BOILER REACH CODE COST-EFFECTIVENESS STUDY NOW AVAILABLE!



The Statewide Reach Codes team has published an Addendum study to the original 2022 new construction study, which documents a variety of above-code electrification, energy efficiency, load flexibility, and solar photovoltaic (PV) packages applied to two nonresidential building prototypes: Medium Office and Small Hotel (nonresidential areas). This study primarily evaluates Central Heat Pump Boiler systems (air-to-water heat pump central plant) as an all-electric alternative to gas boilers.

Results for each prototype reveal:

Medium Office

All-electric packages with a central heat pump boiler instead of a gas boiler achieve code compliance across all three metrics, with the Efficiency TDV margin being the most challenging. However, the all-electric packages are not cost-effective under the evaluated methodology even with energy efficiency and load flexibility measures in any climate zone due to high incremental cost. Including efficiency measure packages that go beyond the mixed fuel baseline are cost-effective and compliant across all climate zones.

Small Hotel

All-electric packages are code compliant in all climate zones but cost-effective in only a few climate zones, which is primarily due to the incremental cost savings from single zone packaged heat pumps in guest rooms offsetting the high incremental cost of heat pump boiler.

The full report and accompanying Workbook is available at no cost.

MODEL LANGUAGE RESOURCES FOR SINGLE FAMILY AIR CONDITIONING REPLACEMENT MEASURES

To support local jurisdiction efforts encouraging electrification of space heating in existing single family homes, the Statewide Reach Codes team has been spearheading a working group to refine the model language in the 2025 CALGreen voluntary provision Section A4.204. While this provision encourages the installation of a heat pump when replacing an air conditioner in existing single family homes, several stakeholders had identified potential implementation challenges based on the language as written.



The model code language would require that when a homeowner replaces an existing air conditioner or installs a new air conditioning system in an existing home, it must either be a heat pump or, alternatively, if electing to install a standard air conditioner, must also install other energy conservation measures.

The proposed modifications are designed to balance several objectives:

- Requiring meaningful improvements and reducing energy use and GHG emissions
- Complying with State and Federal regulations
- Offering feasible and practical compliance pathways to applicants
- Offering practical implementation pathways for permitting and inspection staff

The compliance pathways would include installation of a heat pump space conditioning system with an alternative pathway for installation of a standard air conditioner plus energy conservation measures including duct sealing, airflow and fan efficacy performance, attic insulation and air sealing.

The modified model code language is now available

UPCOMING EVENTS

May 1: 3C-REN webinar: Practical Ways to Address Embodied Carbon

May 7: BayREN C&S Training: Heat Pump Water Heaters for Building Departments

May 8: California Energy Commission: Business Meeting

May 14: New Buildings Institute webinar: Building for the Future: Integrating Fire Resilience with Energy Efficiency in High-Performance Design

May 15: Sustain SoCal: Agriculture, Food Systems & Waste Stream Innovations. UC-Irvine Beall Applied Innovation

May 19: USGBC: 2025 USGBC Local Government Leadership Summits. Santa Monica.

May 20: Building Decarbonization Coalition: California Policy Call

May 22: USGBC-CA: California Green Building Conference. San Francisco

May 28: I-REN C&S Forum: The State of Compliance Ahead of 2025 Energy Code Updates



NEW THIS MONTH!



CITY OF BERKELEY ADOPTS MANDATORY TIME-OF-SALE UPGRADES ORDINANCE

The reach codes program is updating the residential fact sheet with a comprehensive overview of the new 2022 CALGreen requirements for EV charging for all new construction.

The City of Berkeley recently updated its innovative time-of-sale ordinance requiring building emissions and resilience upgrades, leveraging decades of experience with its Residential Energy Conservation Ordinance (RECO) and prior Building Emissions Saving Ordinance (BESO).

Originally adopted in 2015, the Building Emissions Saving Ordinance (BESO) requires building owners and homeowners to complete and publicly report comprehensive energy assessments to uncover energy and greenhouse gas emissions saving opportunities. Registered energy assessors conduct the assessments, and provide tailored recommendations on how to save energy and eliminate fossil fuels. They also link building owners to incentive programs for energy efficiency and electrification upgrades. Under the original BESO, these energy efficiency improvements and electrification recommendations were encouraged but not required.

The most recent ordinance, adopted April 15, 2025, creates mandatory yet flexible compliance pathways for single-family homes, duplexes and three- and four-unit structures.

Under the new ordinance, the seller of a property must conduct the BESO assessment (the Home Energy Score (HES) program) at the time of listing. A deposit of $5000, split between the seller and the buyer, is placed in an escrow with the City. The buyer then has up to three years to complete upgrades based on the recommendations outlined in the HES (additional extensions may be granted). Once the property is deemed compliant, the escrow deposit is refunded to the buyer. In the event an escrow deposit is forfeited, the funds are used for low-income electrification programs.

The City provides a wide range of upgrade options, each with a corresponding credit value, to achieve compliance. The property owner has the flexibility to pursue the specific options most relevant to them in order to achieve the minimum number of credits. These include heat pump water heaters or HVAC; EV charging equipment; energy efficiency and envelope improvements and more. In order to incentivize early compliance, the policy provides an exemption for buildings that have significantly decreased emissions by installing at least one heat pump system for water heating or space heating.

“The City spent more than two years developing this framework,” notes Ammon Reagan, BESO Program Coordinator in Berkeley’s Office of Energy and Sustainable Development. “We really analyzed the lessons learned from prior programs and collaborated intensively with technical experts and stakeholders to craft a pragmatic and flexible approach.”

The City included a phased implementation timeline, with Phase I focusing on compliance for single-family homes and duplexes beginning in 2026, and Phase II focusing on compliance for 3- and 4-unit properties beginning in 2028.

For more information, visit the City of Berkeley’s BESO webpage. For specific questions, email Ammon Reagan.

Image courtesy of City of Berkeley

This program is funded by California utility customers and administered by Pacific Gas and Electric Company, San Diego Gas & Electric Company (SDG&E®) and Southern California Edison Company under the auspices of the California Public Utilities Commission and in support of the California Energy Commission.

© 2025 Pacific Gas and Electric Company, San Diego Gas and Electric Company and Southern California Edison.

All rights reserved, except that this document may be used, copied, and distributed without modification.

OTHER REACH CODE NEWS BRIEFS

October 2026 September 2026 August 2026
Archives