

U.S. DOE Zero Energy Ready Home
 Single Family Homes California Program Requirements – Version 2
 Summary of Major Changes from California Version 1, Revision 8

Program Component	Version 1, Rev8 (California)	Version 2 (California)	Rationale
Built-In Best Practices (Mandatory Requirements)			
ENERGY STAR Baseline Prerequisite	Requires certification under ENERGY STAR Single-Family New Homes California Program Requirements Version 3.3, for single family homes	Requires certification under ENERGY STAR Single-Family New Homes California Program Requirements Version 3.4 .	Updates the ENERGY STAR prerequisite requirement to align with the most current program version for single family homes in California
Window U/SHGC Values	Based on ENERGY STAR V5.0 and V6.0 specs.	Based on 2022 California Building Energy Efficiency Standards (2022 BEES) Prescriptive values for U and SHGC.	Updated requirements are more efficient and also improve alignment between code compliance and ZERH certification.
Duct System and Air Handler Location	Requires ducts to be located in conditioned space or another optimized location. Allows for the High Performance Attic approach in 2016 BEES.	Requires ducts and the system air handler to be located in conditioned space or another optimized location. Allows for the High Performance Attic approach in 2022 BEES (i.e., locating ducts and/or the air handler in a vented attic if the roof, ceiling, and duct insulation levels from Table 150.1-A Option B are met).	Updated requirements assure that heating and cooling air distribution system components are located to optimize minimize losses. Also improves alignment between code compliance and ZERH certification.
Water Efficiency	Hot water distribution achieves ≤ 0.5 gallon stored volume, or it achieves ≤ 1.2 gallons of stored volume plus a high efficiency water heater plus WaterSense fixtures for showerheads and bathroom sink faucets.	Hot water distribution qualifies as a HERS-Verified Compact Hot Water Distribution System (HWDS) under 2022 BEES, or the distribution system achieves ≤ 1.8 gallons of stored volume plus a high efficiency water heater plus WaterSense fixtures for all showerheads and bathroom sink faucets, or the home is certified under WaterSense 2.0.	Updated requirements harmonize with California’s 2022 BEES, assure both water heating energy and water savings, and also recognize WaterSense certification as a compliance option.
High Efficiency Lighting	90% requirement	100% requirement, with an exception for up to 5% for task or decorative lighting.	Recognizes the cost-effectiveness of LEDs and increases ZERH efficiency, while offering minor flexibility.
Energy Efficient Appliances	All builder-installed refrigerators, dishwashers, and clothes washers are ENERGY STAR qualified	All builder-supplied and installed refrigerators, dishwashers, clothes washers, and clothes <u>dryers</u> are ENERGY STAR certified	Recognizes ENERGY STAR labeling of clothes dryers and increases ZERH efficiency.
Indoor Air Quality	Certify under Indoor airPLUS (IAP) V1	Certify under IAP V1 for homes permitted up to 12/31/2024. Advises that DOE may consider	Maintains requirement to certify under the IAP Version 1 program through at least 2024.

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		requiring updated IAP provisions after they are released. H/ERVs in Very Cold Climates (IECC Climate Zones 6-8)	Adds energy efficient whole-house ventilation in very cold climates.
Photovoltaic (PV) Ready	Implement the ZERH PV-Ready Checklist	Requires completion of the ZERH PV-Ready Checklist Version 2, which eliminates the Version 1 exception for sites with lower annual solar resources.	Most homes built to meet 2022 BEES will integrate rooftop PV. Any homes that do not include PV may need to add PV Ready features based on their characteristics such as available roof area, shading, etc.
Electric Vehicle Ready	No requirement	One parking space per dwelling unit includes an electric vehicle charging receptacle.	Lays the groundwork for the transition to electric vehicles in the near future. Many partners already incorporate this feature.
Heat Pump Water Heater Ready	No requirement	Homes using gas or propane water heating systems must meet the 2022 BEES requirements for Heat Pump Water Heater readiness (Section 150.0(n)1)	Lays the groundwork for the future installation of a HPWH and reduces retrofit cost and complexity.
Heat Pump Space Heater Ready	No requirement	Homes using gas or propane furnaces must meet the 2022 BEES requirements for Heat Pump Space Heating readiness (Section 150.0(t))	Lays the groundwork for the future installation of a heat pump for space heating and reduces retrofit cost and complexity.
Efficiency Threshold			
Minimum Required Energy Efficiency Threshold	Achieve a Compliance Total with $\geq 15\%$ savings above the Compliance Total of the Standard Design of the California 2016 BEES, or Delta Energy Design Rating (Delta EDR) of ≥ 4 points	Achieve a Compliance Total (EDR2) with $\geq 15\%$ savings above the Compliance Total of the Standard Design of the 2022 BEES, or a Delta Energy Efficiency Design Rating (EDR2 Efficiency) that is ≥ 7 points better than that of the Standard Design corresponding to the home	Updated performance targets go beyond the state's current energy code as well as the most recent version of ENERGY STAR Single Family New Homes for California
Program Compliance & Administration			
Building Eligibility	Single-family homes, duplexes, townhomes, and multifamily buildings no taller than 5 stories above grade	Detached dwellings (e.g., single-family homes, duplexes) and Townhomes.	Multifamily buildings may participate under the DOE ZERH program using the ZERH Multifamily California Program Requirements, Version 2.
Certification Oversight	EPA-recognized Home Certification Organizations (HCOs) required to provide oversight.	DOE-recognized HCOs for ZERH required to provide oversight and quality assurance for raters and ZERH certifications.	DOE-recognized HCOs for ZERH assure minimum oversight and quality assurance provisions for ZERH certifications. More

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			information on DOE-recognized HCOs for ZERH is found here .