

ET Summit 2022

Presented by



California Energy Commission

2022 Title 24 Part 6 – Water Heating



Bach Tsan
Senior Mechanical Engineer
California Energy Commission



General Overview

Energy Commission Goals

- Increase building energy efficiency cost-effectively
- Contribute to California's greenhouse gas (GHG) reduction goals
- Enable pathways for all-electric buildings
- Reduce residential building impacts on the electricity grid
- Promote demand flexibility and self-utilization of photovoltaic (PV)
- Provide tools for local government reach codes

2022 Energy Code

Effective January 1, 2023

- Applies to building permit applications submitted on or after effective date
- Must use 2022 software and forms



2022 Significant Changes – Water Heating

2022 Update :

- Encouraging electric heat pump technology and use
- Establishing electric-ready requirements when natural gas is installed

Overview Topics

- **Nonresidential Updates**
- **Multi Family**
- **Single Family**
- **CEC Programs**

2022 Nonresidential Prescriptive Requirements

Building(s)	Requirements
School buildings < 25k ft ² , < 4 stories, CZs 2-15	<ul style="list-style-type: none">• <u>Heat pump water heater (HPWH)</u> meeting §§ 110.1, 110.3 and 120.3• Individual bathroom spaces may use electric tankless
Nonresidential	Water heater meeting §§ 110.1, 110.3, 120.3, <u>and 140.5(c)</u>
Hotel/Motel	Water heater meeting §170.2
High-Rise Residential	Moved to §170.2 (multifamily prescriptive requirements)

2022 Multifamily Requirements

2019 Section	2022 Section	Notes
§150.0(j)1	n/a	Eliminated
§150.0(j)2&3	§160.4(f)	New unique Table 160.4-A; defers to Table 120.3-A
§150.1(c)8	§170.2(d)	<ul style="list-style-type: none"> Removed gas storage prescriptive options & HPWH-related PV requirements Limits plumbing features requirements to CZs 1 & 16 Codifies CHPWH New requirements for hi-cap gas water heating systems in Climate Zones 1-9
§150.2(b)1H	§180.2(b)3	<ul style="list-style-type: none"> HPWH allowed in all water heater alterations (wasn't allowed in Climate Zone 16) Electric water heater allowed if replacing an electric resistance water heater (was by gas connection)
§140.1(a)-(c)	§170.1(a)-(c)	Source energy metric added

2022 Single Family Requirements

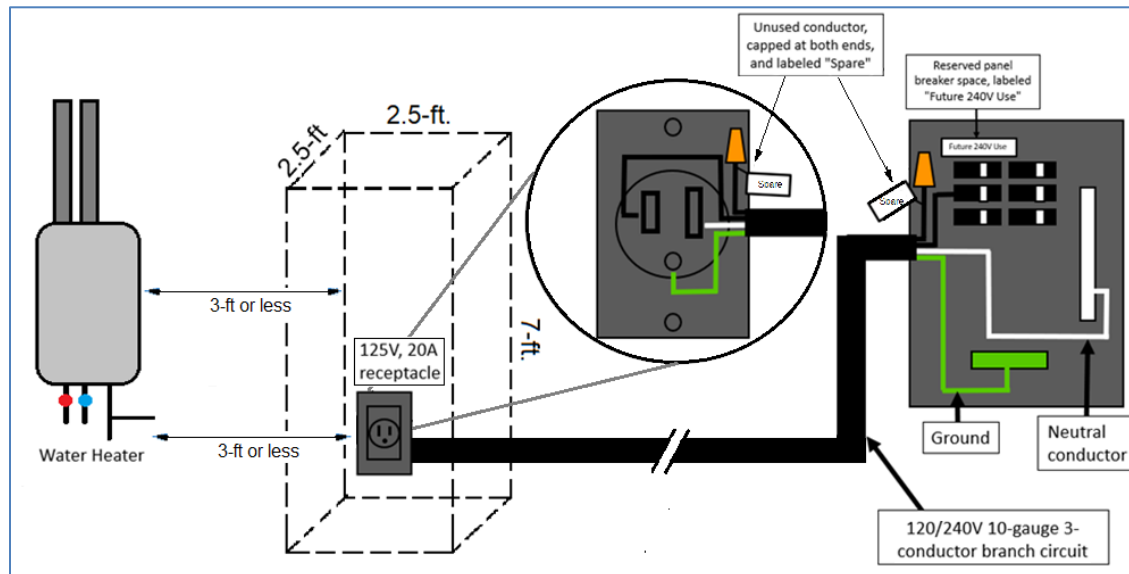
- 2019 had 5 options (3 were gas); 2022 has 3 (none are gas):

Option	Type	Compact Hot Water Distribution System (RA4.4.6) Required?	Drain Water Heat Recovery (RA3.6.9) Required?	Other Requirements
A	Heat pump water heater (HPWH), 240V	Climate Zones 1 & 16	Climate Zone 16	Tank in garage or conditioned space
B	HPWH, NEEA Tier 3 or higher, 240V	No	Climate Zone 16	Tank in garage or conditioned space
C	Solar water heater, SSF ≥ 0.7	No	No	Electric backup (RA4)

- HPWHs are now an option in all CZs
- Non-NEEA Tier 3 HPWHs must have comms interface
- Electric water heater OK, if replacing ERWH; nothing to do with gas connection at install location

2022 Single Family Mandatory Requirements

§150.0(n)1A Diagram



§150.0(n)1 – Gas/Propane Water Heaters

- **NEW!** Reserved space for future heat pump water heater (“HPWH space”)
- Removed vent type, gas supply line size requirements
- (n)1A: if HPWH space is **3-ft. or less** from gas water heater, it must include 125V, 20A receptacle

CEC Programs

- **CA Budget Surplus (Signed):**
 - \$140M CPUC TECH refresh
 - \$40M CARB refrigerants
 - \$622M CEC HP direct install for existing buildings, community engagement
 - \$300M CEC general building decarb incentives
 - \$1.1B Total
- **Federal Solicitations (CEC Pursuing)**
 - Infrastructure Investment & Jobs Act (IIJA) – \$225M through 2026 for efficiency & resiliency
 - Inflation Reduction Act (IRA) – \$1B through 2029 for energy codes
- **More about the IIJA and IRA funding in the coming months**

2022 Energy Code Links



- 2022 initiatives CASE reports: [California Energy Codes & Standards website](https://title24stakeholders.com/) at <https://title24stakeholders.com/>
- 2022 Energy Code updates: [CEC 2022 Energy Code webpage](https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency) at <https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2022-building-energy-efficiency>
- Make comments: [CEC docket 21-BSTD-04](https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=21-BSTD-04) at <https://efiling.energy.ca.gov/Ecomment/Ecomment.aspx?docketnumber=21-BSTD-04>

For more information, contact Bach.Tsan@energy.ca.gov.

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Bach Tsan

Senior Mechanical Engineer
California Energy Commission

Bach.Tsan@energy.ca.gov

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