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# Overview: Combustion Appliance Safety Testing Requirements



*GoGreen Home Energy  
Financing Program*

Administered by the State of California

Supported by California's Investor-Owned Utilities (IOUs)

# Combustion Appliance Safety Testing

Depending on several conditions, combustion appliance safety tests may be required for your project.

**Combustion safety tests verify that atmospherically vented combustible appliances are working properly and not venting dangerous gases, such as carbon monoxide, in the living space.**

There are two common standard combustion appliance safety tests:

- Combustion Appliance Zone (CAZ)/Combustion Appliance Safety (CAS) Tests
- Natural Gas Appliance Test (NGAT)

**Note: Home Energy Rating System (HERS) testing does NOT count as a safety test!**



# Safety Testing Triggers and Tester Requirements

The following two project conditions trigger combustion safety tests:

- The project includes whole building air sealing, duct sealing, AND/OR duct sizing/optimization EEMs  
AND
- An atmospherically-vented combustion appliance is present within the sealed building envelope

A safety test must be performed by someone who meets one of the following qualifications:

1. Approved to participate in an IOU, REN, or CCA whole house retrofit program
2. Certified by the Building Performance Institute (BPI)
  - Find a [list of BPI certified contractors in your area](#) or [become BPI certified yourself](#).
3. Certified and proficient in accepted standards for combustion safety and ventilation testing, such as Natural Gas Appliance Testing (NGAT)

Test results are required as a part of project Quality Assurance reviews.

You may use your own form or GoGreen Home's [Combustion Appliance Safety Test Form](#).

GOGREEN HOME ENERGY FINANCING PROGRAM California Alternative Energy and Advanced Transportation Financing Authority 915 Capitol Mall Sacramento, CA 95814 (916) 651-8157 <a href="http://www.GoGreenFinancing.com">www.GoGreenFinancing.com</a> <a href="mailto:chcf@treasurer.ca.gov">chcf@treasurer.ca.gov</a> COMBUSTION APPLIANCE SAFETY TEST FORM										
Section 1: Project Information										
(a) Customer Name:	(b) Customer Address:	(c) City:	(d) Zip:	(e) GoGreen Home Contractor Name:	(f) Contractor Phone:					
Section 2: Combustion Appliance Safety Test Results										
1. Are there any <u>vented</u> combustion heating appliances? <input type="checkbox"/> Yes <input type="checkbox"/> No					4. Are appliance flames: <input type="checkbox"/> Good (blue and defined) or <input type="checkbox"/> Bad (yellow and "lazy")?					
2. Are carbon monoxide alarms installed in the home? <input type="checkbox"/> Yes <input type="checkbox"/> No					4. If Bad, identify the appliance:					
3. Does all combustion appliance venting conform with code? <input type="checkbox"/> Yes <input type="checkbox"/> No					5. Outdoor Temperature: _____ °F					
3a. If no, describe: _____					6. Outdoor Ambient CO Reading: _____					
Appliance	Zone	AMBIENT READING IN PPM ON EACH FLOOR OF HOME			GAS CHECK		CAZ TEST		SPILLAGE	FLUE GAS CO
		PERSONAL CO MONITOR READING	CO MEASURED IN CAZ	LOWER EXPLOSIVE LIMIT	(P/F/NA)	BASELINE (Pascals)	WCD (Pascals)	P/F/NA		
Water Heater										
Furnace/Boiler										
Range/Oven										
Other 1:										
Other 2:										

P = Pass | F = Fail | NA = Not Applicable | CAZ = Combustion Appliance Zone | WCD = Worst Case Depressurization | NAT = Natural | PPM = Parts Per Million

State of California Combustion Appliance Safety Test Form CAEATFA-CHEEF-1220-R2 Rev. 2022.11.16

# Atmospherically-Vented Combustion Appliances

An atmospherically-vented, or natural draft, combustion appliance draws air for combustion from the inside of the home and relies upon the draft of warm air rising up a flue to carry dangerous combustion gases out of the home.\*

- Commonly labelled as Category I on the manufacturer's nameplate.
- Can have a draft hood, draft diverter, or a fan-assisted combustion system, but their presence within the sealed building envelope will still trigger safety testing.

**Note: a gas range is not generally considered an atmospherically-vented combustion appliance. However, CAEATFA recommends that contractors test gas ranges for excess carbon monoxide if a project includes either air sealing and/or duct sealing EEMs.**

