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This document is the product of a collaborative effort, incorporating input and feedback from several entities and experts based on their collective experiences.

Please contact the Codes and Standards Reach Codes Team at [info@LocalEnergyCodes.com](mailto:info@LocalEnergyCodes.com) for additional information.

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Model Ordinance Language for Air Conditioning Alterations, Replacements and Installations in Existing Single-Family Buildings

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# Changes from Prior Versions

This is the original version of the model language.

# Scope

* Existing single-family buildings in which an existing air conditioning system is altered or replaced or where an air conditioning system is added, must either install a heat pump as the primary heating source or make other energy conservation improvements.

# Introduction

This model ordinance language supports a reach code requiring that a project in a single-family home involving replacement or alteration of an existing air conditioning system or installation of a new air conditioning system in an existing home must either include a heat pump space heater as the primary heating system or install other energy conservation measures. The ordinance is based on the 2025 California Green Building Standards Code (CALGreen) Section A4.204 and includes references to the 2025 California Energy Code and appendices.

Amendments to the State Code appear in strikeouts (deletions) and underlines (additions). Such amendments require that the governing body of the local jurisdiction make express findings, including a CEQA determination, and cite the authorities used to adopt the ordinance. Refer to the [Guide for Local Amendments to Building Standards](https://www.dgs.ca.gov/-/media/Divisions/BSC/05-Resources/Guidebooks/Guide-Local-Amend-of-Bldg-Stnds-Rev-July-2024.pdf) for more information. In addition to the requirements specified in the Guide, the California Energy Commission requires that the findings include a statement to the effect that the local governmental agency’s governing body has, at a public meeting, adopted its determination that the standards are cost-effective.

This initial version of the model reach code amends the California Green Building Standards Code (Title 24, Part 11) and, by reference, the California Energy Code (Title 24, Part 6). However, jurisdictions should consider amending the Energy Code directly to better align the requirements with the CALGreen scope as revised. Contact the Local Energy Codes program for assistance with drafting the requirements in the Energy Code. Amendments to the Energy Code must be approved by the [California Energy Commission](https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/2019-building-energy-efficiency-3) (CEC). All amendments to the Building Code must be filed with the [California Building Standards Commission](https://www.dgs.ca.gov/BSC/Codes/Local-Amendments-to-Building-Standards---Ordinances).

Jurisdictions may wish to modify elements of the ordinance, such as those marked with the text “[Optional]”. When modifying the language, ensure all references are maintained and that the ordinance still meets the State requirements.

The headings, footnotes and instructions (in blue) are for staff reference and should be removed from the final ordinance.

The draft ordinance text is provided as an example only. Jurisdictions should be aware that there have been legal challenges to policies that prohibit the installation of gas appliances, and while this policy is quite different, there is a risk that it could also be challenged; consultation with the city/county attorney is recommended. Ensure all ordinance materials are reviewed and verified by relevant jurisdiction staff and the city/county attorney.

# Additional Resources

* [Local Ordinance Basics](https://localenergycodes.com/download/1895/file_path/fieldList/Reach%20Codes%20Primer.pdf)
* [Local Energy Codes Options and Opportunities](https://localenergycodes.com/download/1573/file_path/fieldList/LocalEnergyCodes%20-%20Options-Opportunities.pdf)
* [Single Family Residential Retrofit Cost Effectiveness Report](https://localenergycodes.com/download/1222/file_path/fieldList/Single%20Family%20Retrofits%20CostEff%20Report.pdf)
* Single Family AC to Heat Pump Cost Effectiveness Report (forthcoming)
* State Submittal Guidance (update forthcoming)
* Application Checklist (forthcoming)

# Model Ordinance

ORDINANCE AMENDING THE [CITY/COUNTY OF JURISDICTION] BUILDING CODE TO REQUIRE ENERGY CONSERVATION MEASURES FOR AIR CONDITIONER ALTERATIONS, REPLACEMENTS AND INSTALLATIONS IN EXISTING SINGLE-FAMILY BUILDINGS

DELETE ALL BLUE TEXT

## Findings

Amendments to the State Building Code require jurisdictions to make certain express findings; additional findings are required to support amendments to the State Energy Code. Refer to [Guide for Local Amendments of Building Standards 2022](https://www.dgs.ca.gov/-/media/Divisions/BSC/05-Resources/Guidebooks/Guide-Local-Amend-of-Bldg-Stnds-02-03-23-Final-rev-10-23.pdf?la=en&hash=8546192D2BDA94AF258B867FC731C45B139891DB) for more information. Required findings include:

* A declaration of the authorities granted by the State to the jurisdiction to amend the code, which include:
  + Health and Safety Code sections 17958.7 and 18941.5
  + Public Resources Code Section 25402.1(h)(2)
  + Section 10-106 of the Building Energy Efficiency Standards
* A determination that the amendments are reasonably necessary to address local climatic, geological, or topographical conditions
* A determination that the proposed standards are cost-effective and a reference to the supporting analysis
* A declaration that the jurisdiction has at a public meeting, adopted its determination that the standards are cost-effective
* A determination that the proposed standards are more stringent than the State Energy Code and that they will require buildings to be designed to consume less energy than permitted by the State Energy Code
* Any findings, determinations, declarations, or reports, including any negative declaration or environmental impact report, required pursuant to the California Environmental Quality Act

## Sample Amendments

Chapter *[cite local code section]* of the *[local jurisdiction municipal/county code]*, adoption of the 2025 California Green Building Standards Code, Title 24, Part 11, is hereby amended to add the following section as mandatory.

**A4.204.1 Energy Efficiency.** Alterations to existing residential buildings shall comply with Section~~s~~ A4.204.1.1 ~~and A4.204.1.2~~.

**A4.204.1.1 Altered Space-Conditioning System Serving Existing Single-Family Dwelling Units – Mechanical Cooling.** When a space-conditioning system serving an existing single-family dwelling unit is altered in climate zones 1 through 14 and 16 by installation or replacement of an air conditioner, the altered system shall comply with either a or b below in addition to the requirements for installation specified by Title 24, Part 6, Sections 150.2(b)1E and 150.2(b)1F:

a. A heat pump shall be the primary heating source and sized according to the system selection requirements specified by Title 24, Part 6 of Section 150.0(h)5. Supplemental heating may be provided by a~~n existing~~ gas furnace or ~~existing~~ electric resistance heating as specified in Title 24, Part 6, Sections 150.0(h)7 and 150.0(i); or

b. An air conditioner shall meet ~~the following~~ all the requirements in either subsection I or II below:

I. Systems with Existing Duct Distribution Systems:

~~I. R-8 duct insulation for ducts located in unconditioned space; and~~

1. ~~II.~~ The duct system measured air leakage shall be equal to or less than ~~5~~10 percent of the system air handler airflow as confirmed through field verification and diagnostic testing, per the requirements in Title 24, Part 6, Reference Residential Appendix Section RA3.1.4.3.1; and

**Exception 1 to A4.204.1.1bIA.** If it is not possible to meet the duct sealing requirements, all accessible leaks shall be sealed and verified through a visual inspection and a smoke test by a certified ECC-Rater utilizing the methods specified in Reference Residential Appendix Section RA3.1.4.3.5.

**Exception 2 to A4.204.1.1bIA:** Existing duct systems, constructed, insulated or sealed with asbestos.

1. ~~III.~~ Demonstrate, in every control mode, airflow greater than or equal to ~~400~~ 300 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy less than or equal to 0.45 W/CFM. The airflow rate and fan efficacy requirements in this section shall be confirmed through field verification and diagnostic testing, following the procedures outlined in Title 24, Part 6, Reference Residential Appendix RA3.3; and

**Exception 1 to A4.204.1.1bIB:** Systems unable to comply with the minimum airflow rate and system efficacy requirements shall demonstrate compliance by satisfying all of the following:

* 1. Following the procedures in Section RA3.3.3.1.5;
  2. Installing a system thermostat that conforms to the specifications in Section 110.12;
  3. For standard ducted systems (without zoning dampers), meet the applicable minimum total return filter grille nominal area requirements in Table 150.0-B or 150.0-C as confirmed by field verification and diagnostic testing in accordance with the procedures in Reference Residential Appendix Sections RA3.1.4.4 and RA3.1.4.5. The design clean-filter pressure drop requirements specified by Section 150.0(m)12D for the system air filter(s) shall conform to the requirements given in Tables 150.0-B and 150.0-C.

**Exception 2 to Section A4.204.1.1bIB:** Multispeed compressor systems or variable speed compressor systems shall verify air flow (cfm/ton) and fan efficacy (Watt/cfm) for system operation at the maximum compressor speed and the maximum air handler fan speed.

**Exception 3 to Section A4.204.1.1bIB:** Gas furnace air-handling units manufactured prior to July 3, 2019 shall comply with a fan efficacy value less than or equal to 0.58 W/cfm as confirmed by field verification and diagnostic testing in accordance with the procedures given in Reference Residential Appendix RA3.3.

1. ~~IV.~~ In all climate zones, refrigerant charge verification requirements shall meet the requirements in Title 24, Part 6 Section 150.2(b)1Fiib, including the minimum airflow rate specified in Section 150.2(b)1Fiia; and
2. ~~V.~~ Vented attics shall have insulation installed to achieve a U-factor of 0.020 or insulation installed at the ceiling level shall result in an insulated thermal resistance of R-49 or greater for the insulation alone; luminaires not rated for insulation contact must be replaced or retrofitted with a fireproof cover that allows for insulation to be installed directly over the cover; and

**Exception 1 to Section A4.204.1.1(b)ID:** Dwelling units with at least R-38 existing insulation installed at the ceiling level.

**Exception 2 to Section A4.204.1.1(b)ID:** Dwelling units where the alteration would directly cause the disturbance of asbestos unless the alteration is made in conjunction with asbestos abatement.

**Exception 3 to Section A4.204.1.1(b)ID:** Dwelling units with knob and tube wiring located in the vented attic.

**Exception 4 to Section A4.204.1.1(b)ID:** Where the accessible space in the attic is not large enough to accommodate the required R-value, the entire accessible space shall be filled with insulation provided such installation does not violate Section 806.3 of Title 24, Part 2.5.

1. ~~VI.~~ Air seal all accessible areas of the ceiling plane between the attic and the conditioned space including all joints, penetrations and other openings that are potential sources of air leakage by caulking, gasketing, weather-stripping or otherwise sealing to limit infiltration and exfiltration.

**Exception 1 to Section A4.204.1.1bIE:** Dwelling units with at least R-38 existing insulation installed at the ceiling level.

**Exception 2 to Section A4.204.1.1 bIE:** Dwelling units where the alteration would directly cause the disturbance of asbestos unless the alteration is made in conjunction with asbestos abatement.

**Exception 3 to Section A4.204.1.1bIE:** Dwelling units with atmospherically vented space heating or water heating combustion appliances located inside the pressure boundary of the dwelling unit.

II. Entirely New or Complete Replacement Duct Systems:

1. ~~I.~~ R-8 duct insulation shall be installed for all new ducts located in unconditioned space; and
2. ~~II.~~ The total duct system measured air leakage shall be equal to or less than 5 percent of the system air handler airflow as confirmed through field verification and diagnostic testing, per the requirements in Title 24, Part 6, Reference Residential Appendix Section RA3.1.4.3.1; and
3. ~~III.~~ Demonstrate, in every control mode, airflow greater than or equal to ~~400~~350 CFM per ton of nominal cooling capacity through the return grilles, and an air-handling unit fan efficacy less than or equal to 0.35 W/CFM. The airflow rate and fan efficacy requirements in this section shall be confirmed through field verification and diagnostic testing, following the procedures outlined in Title 24, Part 6, Reference Residential Appendix RA3.3; and
4. ~~IV.~~ In all climate zones, refrigerant charge verification requirements shall meet the requirements in Title 24, Part 6 Section 150.2(b)1Fiib; and
5. ~~V.~~ In Climate Zones 1-4, 6, and 8-16 if the air handler and ducts are located within a vented attic, v~~V~~ented attics shall have insulation installed to achieve a U-factor of 0.020 or insulation installed at the ceiling level shall result in an insulated thermal resistance of R-49 or greater for the insulation alone; luminaires not rated for insulation contact must be replaced or retrofitted with a fireproof cover that allows for insulation to be installed directly over the cover; and

**Exception 1 to Section A4.204.1.1bIIE:** In Climate Zones 1, 3, and 6, dwelling units with at least R-19 existing insulation installed at the ceiling level.

**Exception 2 to Section A4.204.1.1bIIE:** Dwelling units where the alteration would directly cause the disturbance of asbestos unless the alteration is made in conjunction with asbestos abatement.

**Exception 3 to Section A4.204.1.1bIIE:** Dwelling units with knob and tube wiring located in the vented attic.

**Exception 4 to Section A4.204.1.1bIIE:** Where the accessible space in the attic is not large enough to accommodate the required R-value, the entire accessible space shall be filled with insulation provided such installation does not violate Section 806.3 of Title 24, Part 2.5.

1. ~~VI.~~ In Climate Zones 2, 4, and 8-16, a~~A~~ir seal all accessible areas of the ceiling plane between the attic and the conditioned space including all joints, penetrations and other openings that are potential sources of air leakage by caulking, gasketing, weather-stripping or otherwise sealing to limit infiltration and exfiltration.

**Exception 1 to Section A4.204.1.1bIIF:** Dwelling units with at least R-19 existing

insulation installed at the ceiling level.

**Exception 2 to Section A4.204.1.1bIIF:** Dwelling units where the alteration would directly cause the disturbance of asbestos unless the alteration is made in conjunction with asbestos abatement.

**Exception 3 to Section A4.204.1.1bIIF:** Dwelling units with atmospherically vented space heating or water heating combustion appliances located inside the pressure boundary of the dwelling unit.

**Exception 1 to Section A4.204.1.1:** Where the capacity of the existing main electrical service panel is insufficient to supply the electrical capacity of a heat pump and where the existing main electrical service panel is sufficient to supply a new or replacement air conditioner, as calculated according to the requirements of California Electrical Code Article 220.83 or Article 220.87. Documentation of electrical load calculations in accordance with Article 220 must be submitted to the enforcement agency prior to permitting for both the heat pump and proposed air conditioner.

**Exception 2 to Section A4.204.1.1:** Where the required capacity of a heat pump to meet the system selection requirements of Section 150.0(h)5 is greater than or equal to 12,000 Btu/h more than the greater of the required capacity of an air conditioner to meet the design cooling load OR the capacity of the existing air conditioner. Documentation of heating and cooling load calculations in accordance with 150.0(h) must be submitted to the enforcement agency prior to permitting for both the heat pump and proposed air conditioner.

## Other Sample Ordinance Sections

Section 2: CEQA

This ordinance is exempt from CEQA under 15061(b)(3) on the grounds that these standards are more stringent than the State energy standards, there are no reasonably foreseeable adverse impacts and there is no possibility that the activity in question may have a significant effect on the environment.

Section 3: Severability

If any word, phrase, sentence part, section, subsection or other portion of this amendment or any application thereof to any person or circumstance is declared void, unconstitutional, or invalid for any reason, then such word, phrase, sentence, part, section, subsection, or other portion, or the prescribed application thereof, shall be severable, and the remaining provisions of this amendment, and all applications thereof, not having been declared void, unconstitutional or invalid, shall remain in full force and effect.  The [name of governing body] hereby declares that it would have passed this amendment and each section, subsection sentence, clause and phrase of this amendment, irrespective of the fact that any one or more sections, subsection, sentences, clauses or phrases is declared invalid or unconstitutional.

Section 4: Violations

Violation of the requirements of this Chapter shall be considered an infraction of the [jurisdiction Municipal/County Code], punishable by all the sanctions prescribed in [cite local reference to infractions].

Section 5: Effective Date

This ordinance shall become effective as of ***[DATE]***, upon approval of the California Energy Commission or upon the date the California Building Standards Commission (CBSC) accepts the ordinance for filing, whichever is later.