

BLUEPRINT

CALIFORNIA ENERGY COMMISSION
EFFICIENCY DIVISION

IN THIS ISSUE

- 2019 Energy Code: New Climate Zone Search Tool
- 2019 Energy Code: Whole House Fan Compliance for Low-Rise Residential
- 2019 Energy Code: Master Plan Permit Applications
- 2019 Energy Code: Low-rise Residential Early Adopters
- Q&A
 - PV Calculations for Multifamily
 - Integrated PV Roof Replacements
 - Lighting on Private Streets
 - Radiant Barriers
 - Modeling ADU plus Addition

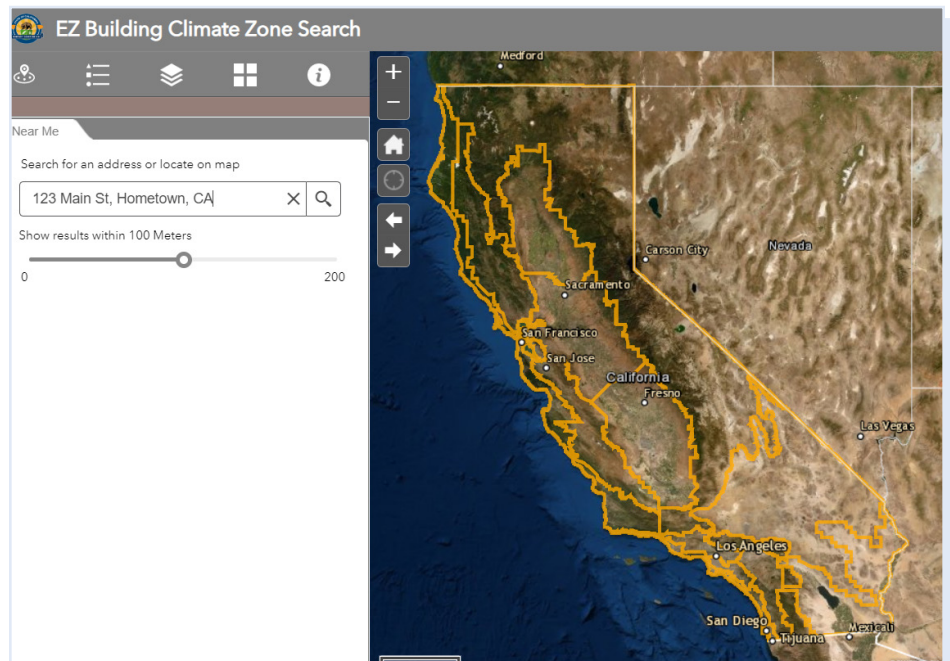
2019 ENERGY CODE: NEW CLIMATE ZONE SEARCH TOOL

The California Energy Commission (CEC) has developed the EZ Building Climate Zone Search tool to quickly and accurately show addresses and locations in relation to the geographic meets and bounds that determine California's climate regions.

In addition to showing climate zone boundaries, the search tool is a multi-layer interactive map which allows users to add zip code and county boundaries.

A building project's climate zone is based on its physical location as it relates to the survey definitions of the 16 climate regions found in the CEC publication **California Climate Zone Descriptions**.

The search tool can be used as an alternative to the climate zones by zip code listing. The CEC invites builders and building officials to use the search tool to determine the climate zones applicable to building projects in their area. The search tool and instructions can be found on the **2019 Building Energy Efficiency Standards** webpage under the compliance form section.



2019 EZ Building Climate Zone Search Tool

2019 ENERGY CODE: WHOLE HOUSE FAN COMPLIANCE FOR LOW-RISE RESIDENTIAL

For the 2019 Building Energy Efficiency Standards (Energy Code), the prescriptive requirement in **Section 150.1(c)12** for whole house fan (WHF) airflow is 1.5 cubic feet per minute (CFM) of airflow for each square foot of conditioned floor area. The 2019 performance approach standard design WHF fan efficacy changed from 0.10 to 0.14 watts per CFM. Installing a more efficient whole house fan will reduce building energy use and may improve compliance credit when using the performance approach. To determine compliance, the modeling software compares the proposed WHF energy use to the standard design which is based on the prescriptive standards as described in the 2019 Residential Alternative Calculation Method (ACM) Reference Manual.

When utilizing performance approach, WHFs must meet the prescriptive requirements for attic ventilation of at least one square foot of attic vent free area for each 750 CFM of rated WHF airflow (or greater vent area if specified by manufacturer) and provide homeowners with a one page “How to Operate Your Whole House Fan” informational sheet. The 2019 CBECC-Res software has a new option to specify WHFs exhausted directly outdoors rather than into the attic, such as installed in a cathedral ceiling or ducted directly to the outdoors; these WHFs are exempt from the attic vent free area requirements.

Additionally, WHFs must be listed in the Modernized Appliance Efficiency Database System (MAEDbS) with values that meet or exceed the prescriptive requirements. The performance approach has the same requirements for default WHFs. For a specified WHF using the

performance approach, the airflow and efficacy values modeled by the software and listed on the certificate of compliance do not need to match the MAEDbS values; however these WHFs must be Home Energy Rating System (HERS) verified to receive compliance credit. The 2019 Energy Code requires HERS verification for all WHFs other than a default WHF. HERS verification is optional for default WHFs and when selected CBECC-Res simulates additional WHF airflow which may increase compliance credit.

For more information, see the **Residential ACM Reference Manual**. For more information on whole house fan compliance for the 2016 Energy Code, see **Blueprint Issue 125**.

2019 ENERGY CODE: MASTER PLAN PERMIT APPLICATIONS

When builders submit permit applications to an enforcement agency for new residential subdivisions, often there are multiple model homes or master plan designs to which all homes in the project will be built. CF1Rs are submitted with the permit application to demonstrate compliance with the Energy Code.

When registered CF1Rs for new residential subdivisions are submitted to and approved by the enforcement agency, builders can continue to pull permits for all houses in the subdivision under the approved master plan design using the approved CF1Rs, provided the approved master plan designs have not been changed.

If one or more of the master plan designs have changed, the affected homes will require new CF1Rs with the new permit application. CF1Rs must be generated using a version of the computer compliance software approved for the new permit application date. New CF1Rs are only required for plans that are changed.

2019 ENERGY CODE: LOW-RISE RESIDENTIAL EARLY ADOPTERS

Builders who would like to demonstrate compliance for low-rise residential buildings according to the 2019 Energy Code before the January 1, 2020, effective date may do so at the enforcement agency’s discretion. Enforcement agencies allowing early adoption should:

- Accept, review, and approve plans and unregistered CF1Rs until a HERS Provider is approved for the 2019 Energy Code by the CEC.
- Ensure that the residential computer compliance software used is approved by the CEC for demonstrating compliance with the 2019 Energy Code.
- Confirm that CF1Rs are registered before a permit is finalized or a Certificate of Occupancy is issued.

NOTE: All compliance documents for a project must be registered, as required, once a HERS provider data registry is approved for the 2019 Energy Code.

Q&A

PV Calculations for Multifamily

When calculating the required photovoltaic (PV) size for multifamily in the 2019 Energy Code using Equation 150.1-C, is the building's common area included in the conditioned floor area?

No. The conditioned floor area should only include the square footage of the dwelling units and should not include the common areas.

Integrated PV Roof Replacements

When doing a full roof replacement on a steep slope roof in climate zone 12 with new integrated photovoltaic roofing product, does the roofing product need to comply with the Energy Code requirements in Section 150.2(b)1?

Yes. The roofing product must comply with the Energy Code and be rated by the Cool Roof Rating Council. Only the active photovoltaic area of the roof is exempt from these requirements.

Lighting on Private Streets

Does street lighting inside a gated community have to meet any lighting requirements?

Yes. Lighting of private streets must meet the nonresidential outdoor lighting requirements.

Are there any exceptions to the lighting requirements in Section 140.7(a) for private streets?

No. There are no exceptions to Section 140.7(a) for private streets. The lights must meet all applicable sections of the nonresidential lighting requirements (the third exception is specific to public streets).

Radiant Barriers

In an attic where a radiant barrier is being installed to meet Energy Code requirements, does the wall that separates the attic over the garage from the attic over the conditioned area need to have a radiant barrier?

No. Only vertical surfaces that are exterior walls need to have a radiant barrier.

Modeling ADU plus Addition

When modeling a conversion of an existing garage to an accessory dwelling unit (ADU), and also making an addition to the existing house, can this be modeled together using the existing plus addition plus alteration approach?

Yes. In this scenario, the existing home, addition, and ADU must be modeled as separate zones. Also, if the existing home has natural gas connected to it, the project must be modeled with natural gas being available.

FOR MORE INFORMATION

Online Resource Center (ORC):

<https://www.energy.ca.gov/programs-and-topics/programs/building-energy-efficiency-standards/online-resource-center>

Home Energy Rating System (HERS):

<https://www.energy.ca.gov/programs-and-topics/programs/home-energy-rating-system-hers-program>

Acceptance Test Technician Certification Provider Program (ATTCP):

<https://www.energy.ca.gov/programs-and-topics/programs/acceptance-test-technician-certification-provider-program>

2016 Approved Compliance Software:

https://www.energy.ca.gov/title24/2016standards/2016_computer_prog_list.html

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CEC-400-2019-011

