

ENERGY STAR[®]

Residential New Construction Programs

Historical Document

This document is provided for reference because it has been superseded by a more recent Version or Revision. Please find current program documents on the [Program Requirements](#) webpage.

Use of older Versions and Revisions, such as this document, are typically limited to homes and buildings with a permit date (or, for manufactured homes, a production date) prior to a specified date. Consult the [Implementation Timeline](#) table to assess whether a home or apartment is still eligible to be certified using this document.

For questions or more information, contact us at energystarhome@energystar.gov.



California Program Requirements

ENERGY STAR Multifamily New Construction, Version 1.2 (Rev. 02)

Eligibility Requirements

The following multifamily building types are eligible to participate in the ENERGY STAR Multifamily New Construction program:

- Any multifamily building with dwelling or sleeping units that is NOT a two-family dwelling ¹; OR
- Mixed-use buildings, where dwelling units and common space exceed 50% of the building square footage. Parking garage square footage is excluded from this calculation ²; OR
- Townhouses. ³

Townhouses are also eligible to earn the ENERGY STAR through the ENERGY STAR Single-Family New Homes program, which is a certification program for single-family detached homes and two-family dwellings.¹ For more information, visit: www.energystar.gov/newhomesrequirements. In addition, multifamily buildings with permit dates prior to July 1, 2021, may be eligible to earn the ENERGY STAR through the Single-Family New Homes or Multifamily High Rise programs. ⁴ For more information, visit: www.energystar.gov/mfhr/eligibility.

Note that compliance with these requirements is not intended to imply compliance with all local code requirements that may be applicable to the building to be built. ⁵

Partnership, Training, and Credentialing Requirements

The following requirements must be met prior to certifying multifamily buildings:

- The Builder or Developer for the project is required to sign an ENERGY STAR Partnership Agreement and complete the online “Builder / Developer Orientation”, which can be found at www.energystar.gov/homesPA.
- FT Agents must meet one of the following:
 - The HVAC installing contractor AND credentialed by an EPA-recognized HVAC Quality Installation Training and Oversight Organization (H-QUITO). An explanation of this process can be found at www.energystar.gov/eshvac; OR
 - Not the HVAC installing contractor, AND
 - Signed up online in EPA’s online database as an FT Agent and watched the online FT Agent orientation, which can be found at www.energystar.gov/mftraining; AND
 - Holds one of the credentials listed online here: www.energystar.gov/ftas or is a representative of the Original Equipment Manufacturer (OEM).
- Energy Rating Companies (e.g., rater companies and Providers ⁶) are required to sign an ENERGY STAR Partnership Agreement, which can be found at www.energystar.gov/homesPA, and Raters ⁷ are required to complete EPA-recognized training, which can be found at www.energystar.gov/mftraining.

ENERGY STAR Certification Process ⁸

1. The certification process provides flexibility to select a custom combination of measures for each building that meets one of two performance targets, as assessed through energy modeling. Select one of the two following performance targets:
 - a. For multifamily buildings that are less than 4 stories, where dwelling units are individually modeled, the performance target for each unit is defined as either a Compliance Total with $\geq 10\%$ savings above the Compliance Total of the Standard Design corresponding to the unit or a Delta Energy Design Rating (Delta EDR) of ≥ 3 points, as determined by a CEC-approved software program, in accordance with 2016 Building Energy Efficiency Standards. ⁹ On-site power generation may not be used to meet either of these above-code performance targets and must be demonstrated using the EDR score or Compliance Total that excludes photovoltaics. For projects in California that are permitted under the 2013 Building Energy Efficiency Standards, the performance target is 15%.
 - b. For all other multifamily buildings, where the whole building is modeled, the performance target is defined as a Compliance Total with $\geq 10\%$ savings above the Compliance Total of the Standard Design corresponding to the building, as determined by a CEC-approved software program, in accordance with 2016 Building Energy Efficiency Standards. ⁹ On-site power generation may not be used to meet the above-code performance target, though it is permitted to be used to satisfy code. For projects in California that are permitted under the 2013 Building Energy Efficiency Standards, the performance target is 15%.

All ENERGY STAR certifications are subject to the oversight of a Multifamily Oversight Organization which include Home Certification Organizations ¹⁰ (HCOs) or Multifamily Review Organizations (MROs). Projects following 1a must be overseen by an HCO and projects following 1b must be overseen by an MRO. MRO information can be found at www.energystar.gov/mro.

2. Based on the path chosen, select the efficiency measures for the building:
 - a. Dwelling Unit modeling (Step 1a): Configure the preferred set of efficiency measures for the unit to be certified and verify that the resulting performance meets or exceeds the applicable performance target, as determined in Step 1a. For common spaces, meet the prescriptive requirements specified in the National Rater Design Review and Field Checklists, which align with the minimum requirements set in Exhibit 1. Where the Checklists list different common space requirements for “ERI”, “ASHRAE”, or “Prescriptive”, select the requirements associated with “ERI”. Alternatively, when the common spaces are modeled in addition to the dwelling units and meet the performance targets in Step 1, the building qualifies for Step 2b, and the common spaces can instead meet the prescriptive requirements specified in the National Rater Design Review and Field Checklists associated with “ASHRAE”.



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- b. Whole-building modeling (Step 1b): Configure the preferred set of efficiency measures for the building to be certified and verify that the resulting performance meets or exceeds the applicable performance target, as determined in Step 1b. For common spaces, meet the prescriptive requirements specified in the National Rater Design Review and Field Checklists for common spaces. Where the Checklists list different common space requirements for “ERI”, “ASHRAE”, or “Prescriptive”, select the requirements associated with “ASHRAE”. Whole-building modeling includes multifamily buildings that are less than 4 stories, when the common spaces are modeled in addition to the dwelling units and meet the performance targets in Step 1.

Note that, regardless of the path chosen or the measures selected, the Mandatory Requirements for All Certified Multifamily Projects in Exhibit 2 are also required and impose certain constraints on the efficiency measures selected (e.g., insulation levels, insulation installation quality, window performance, duct leakage).

3. Upon completion of design, for whole-building modeling projects, specific documentation is submitted to an MRO for their review and approval. These documents include the California Compliance Report; the Multifamily Workbook, with applicable portions completed; the Rater Design Review Checklist, unless included in the Multifamily Workbook; the HVAC Design Report; construction documents, and either the modeling file or input and output files. For multifamily projects with multiple buildings, each building must demonstrate compliance with the program requirements, but can be documented using one Multifamily Workbook and one HVAC Design Report per project. MROs may choose to implement alternative design review requirements. EPA strongly recommends submitting documentation before construction; however, project teams may choose to submit the design documentation with the As-Built Submittal. MRO information can be found at www.energystar.gov/mro. For the Excel-based Multifamily Workbook, while Partners are encouraged to always use the newest version available online, unless otherwise specified, file updates between Program revisions will not be required. After a Program revision, project teams will be required to use the updated Workbook based on the enforcement timeline set for the revision.
4. Upon completion of design, multifamily buildings may be eligible for the Designed to Earn the ENERGY STAR designation. To earn this optional additional designation, follow the guidance available at www.energystar.gov/mfdees.
5. Construct the building using the measures selected in Step 2 and the Mandatory Requirements for All Certified Multifamily Projects, Exhibit 2.
6. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Multifamily Projects and with Data Input requirements and with the inspection procedures for minimum rated features in ANSI / RESNET / ICC Standard 301, Appendix B. ⁷

The Rater must review all items on the National Rater checklists. Raters are expected to use their experience and discretion to verify that the overall intent of each inspection checklist item has been met (i.e., identifying major defects that undermine the intent of the checklist item versus identifying minor defects that the Rater may deem acceptable).

In the event that a Rater finds an item that is inconsistent with the intent of the checklists, the building cannot earn the ENERGY STAR until the item is corrected. If correction of the item is not possible, the building cannot earn the ENERGY STAR and individual units in the multifamily building also cannot be certified. In the event that an item on a National Rater checklist cannot be inspected by the Rater, the building also cannot earn the ENERGY STAR. The only exceptions to this rule are in the Thermal Enclosure System Section of the National Rater Field Checklist, where the builder may assume responsibility for verifying a maximum of eight items and the sections of the National Rater Field Checklist where a Licensed Professional may assume responsibility for verifying the specified items. A Licensed Professional must be a Professional Engineer or Registered Architect in good standing and possess a current license. This option shall only be used at the discretion of the Rater. When exercised, the builder's and/or Licensed Professionals' responsibility will be formally acknowledged by the builder and/or Licensed Professional signing the checklist for the item(s) that they verified.

In the event that a Rater is not able to determine whether an item is consistent with the intent (e.g., an alternative method of meeting a checklist requirement has been proposed), then the Rater shall consult their Provider or MRO. If the Provider or MRO also cannot make this determination, then the Rater, Provider, or MRO shall report the issue to EPA prior to project completion at: energystarhomes@energystar.gov and will receive an initial response within 5 business days. If EPA believes the current program requirements are sufficiently clear to determine whether the intent has been met, then this guidance will be provided to the partner and enforced beginning with the building in question. In contrast, if EPA believes the program requirements require revisions to make the intent clear, then this guidance will be provided to the partner but only enforced for buildings permitted after a specified transition period after the release of the revised program requirements, typically 60 days in length.

This will allow EPA to make formal policy decisions as partner questions arise and to disseminate these policy decisions through the [Policy Record](#) and the periodic release of revised program documents to ensure consistent application of the program requirements.

7. Upon completion of construction, the Rater is required to keep electronic or hard copies of the completed and signed National Rater checklists, the National HVAC Design Report and, when the FT Agent is not a HVAC Credentialed Contractor, the National HVAC Functional Testing Checklist. Additionally, the following steps are required:
 - a. Dwelling Unit modeling: submit the building / project to the HCO for final certification and follow the HCO's certification and oversight procedures (e.g. quality assurance, recordkeeping, and reporting)
 - b. Whole-building modeling: specific documentation must be submitted based on as-built conditions to an MRO for their review and approval. These documents include the California Compliance Report, the Multifamily Workbook, construction documents, photo documentation, and either the modeling file or input and output files. For multifamily projects with multiple buildings, each building must demonstrate compliance with the program requirements, but can be documented using one Multifamily Workbook per project.



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Exhibit 1: ENERGY STAR Multifamily Reference Design for Common Spaces ¹¹

When common spaces are not modeled, some of the following features may be required, as specified in the National Rater Design Review and Field Checklists.

ENERGY STAR Multifamily Reference Design for Common Spaces, California Version 1.2

Hot Climates (2009 IECC Zones 1,2,3) ¹²		Mixed and Cold Climates (2009 IECC Zones 4,5,6,7,8) ¹²																																														
Cooling Equipment: If not listed here, see Rater Field Checklist Exhibit X.																																																
<ul style="list-style-type: none"> Cooling equipment meets the applicable efficiency levels below: 																																																
<ul style="list-style-type: none"> 15 SEER / 12 EER AC, Heat pump (See Heating Equipment) 	<ul style="list-style-type: none"> CZ 4-8: 13 SEER AC, Heat pump (See Heating Equipment) 																																															
Heating Equipment: If not listed here, see Rater Field Checklist Exhibit X.																																																
<ul style="list-style-type: none"> Heating equipment meets the applicable efficiency levels below, dependent on fuel and system type: 																																																
<ul style="list-style-type: none"> 78 AFUE/80% E_t AFUE gas furnace, 80 AFUE oil furnace, 80 AFUE boiler, 8.2 HSPF / 15 SEER / 12 EER air-source heat pump with electric or dual-fuel backup. 	<ul style="list-style-type: none"> 78 AFUE/80% E_t ENERGY STAR gas furnace, 85 AFUE ENERGY STAR oil furnace, 90 AFUE ENERGY STAR gas boiler, 86 AFUE oil boiler, Heat pump, with efficiency as follows: <ul style="list-style-type: none"> CZ 4: 8.5 HSPF / 15 SEER / 12 EER air-source w/ electric or dual-fuel backup, CZ 5: 9.25 HSPF / 15 SEER / 12 EER air-source w/ electric or dual-fuel backup, CZ 6: 9.5 HSPF / 15 SEER / 12 EER air-source w/ electric or dual-fuel backup, CZ 7-8: 3.6 COP / 17.1 EER ground-source w/ electric or dual-fuel backup. 																																															
Envelope & Windows																																																
<ul style="list-style-type: none"> Insulation must meet Quality Insulation Installation (QII) per California's Building Energy Efficiency Standards levels and meet or exceed 2012 IECC commercial levels. The required values should come from the "All Other" column and the row that corresponds to the building assembly (e.g., a building with steel-frame walls would use the value in the 'Metal framed' row).¹ Fenestration must meet or exceed 2015 IgCC levels (Commercial fenestration U-Factor requirements). 																																																
		<table border="1"> <thead> <tr> <th>Climate Zone:</th> <th>CZ 1</th> <th>CZ 2</th> <th>CZ 3</th> <th>CZ 4</th> <th>CZ 4 C & 5</th> <th>CZ 6</th> <th>CZ 7</th> <th>CZ 8</th> </tr> </thead> <tbody> <tr> <td>Fixed Window U-Factor:</td> <td>0.48</td> <td>0.48</td> <td>0.44</td> <td>0.36</td> <td>0.36</td> <td>0.34</td> <td>0.28</td> <td>0.28</td> </tr> <tr> <td>Operable Window U-Factor:</td> <td>0.62</td> <td>0.62</td> <td>0.57</td> <td>0.43</td> <td>0.43</td> <td>0.41</td> <td>0.35</td> <td>0.35</td> </tr> <tr> <td>Glazed Entrance Door U-Factor:</td> <td>1.05</td> <td>0.79</td> <td>0.73</td> <td>0.73</td> <td>0.73</td> <td>0.73</td> <td>0.73</td> <td>0.73</td> </tr> <tr> <td>SHGC</td> <td>0.25</td> <td>0.25</td> <td>0.25</td> <td>0.40</td> <td>0.40</td> <td>0.40</td> <td>any</td> <td>any</td> </tr> </tbody> </table>		Climate Zone:	CZ 1	CZ 2	CZ 3	CZ 4	CZ 4 C & 5	CZ 6	CZ 7	CZ 8	Fixed Window U-Factor:	0.48	0.48	0.44	0.36	0.36	0.34	0.28	0.28	Operable Window U-Factor:	0.62	0.62	0.57	0.43	0.43	0.41	0.35	0.35	Glazed Entrance Door U-Factor:	1.05	0.79	0.73	0.73	0.73	0.73	0.73	0.73	SHGC	0.25	0.25	0.25	0.40	0.40	0.40	any	any
Climate Zone:	CZ 1	CZ 2	CZ 3	CZ 4	CZ 4 C & 5	CZ 6	CZ 7	CZ 8																																								
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SHGC	0.25	0.25	0.25	0.40	0.40	0.40	any	any																																								
Water Heater																																																
<ul style="list-style-type: none"> SHW equipment meets the following efficiency levels as applicable: 																																																
Gas:	≤55 Gal = 0.67 EF (0.64 UEF, medium; 0.68 UEF, high-draw)		>55 Gal = 0.77 EF (0.78 UEF, medium; 0.80 UEF, high-draw)																																													
Electric:	0.95 EF (0.93 UEF)																																															
Oil:	30 Gal = 0.64 EF	40 Gal = 0.62 EF	50 Gal = 0.60 EF																																													
Boiler:	60 Gal = 0.58 EF	70 Gal = 0.56 EF	80 Gal = 0.54 EF																																													
85% E _t																																																
Lighting, Appliances, & Fixtures																																																
<ul style="list-style-type: none"> ENERGY STAR refrigerators and dishwashers. 90% of all exterior and common space light fixtures must be ENERGY STAR certified or meet the alternatives defined in the National Rater Field Checklist. This requirement applies to exterior lighting fixtures that are attached to the building, but does not apply to landscape or parking lot lighting fixtures. WaterSense showerheads. 																																																



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Two paths are provided for satisfying the mandatory requirements for all certified projects, Exhibit 2. Track A – HVAC Grading by Rater allows a Rater to utilize ANSI / RESNET / ACCA Std. 310¹³, a standard for grading the installation of residential HVAC systems serving individual spaces and a Functional Testing Agent to verify commercial and central systems. Track B –HVAC Testing by FT Agent utilizes a Functional Testing Agent for all systems. Either path may be selected, but all requirements within that path must be satisfied for the building to be certified.

Exhibit 2: Mandatory Requirements for All Certified Multifamily Projects

Party Responsible	Mandatory Requirements
Requirements Applicable to Track A & B	
Rater	<ul style="list-style-type: none"> • Completion of National Rater Design Review Checklist • Completion of National Rater Field Checklist
Builder or Developer	<ul style="list-style-type: none"> • Completion of National Water Management System Requirements
Requirements Only Applicable to Track A - HVAC Grading by Rater¹³	
HVAC System Designer	<ul style="list-style-type: none"> • Completion of an HVAC design report compliant with ANSI / ACCA / RESNET Std. 310, plus the ENERGY STAR MFNC Supplement
Functional Testing Agent	<ul style="list-style-type: none"> • Completion of applicable sections of the National HVAC Functional Testing Checklist. Exempt from Sections 2 and 3 for Dwelling Unit HVAC as the Rater is the party responsible for assessing these systems installation quality in accordance with ANSI / RESNET / ACCA Std. 310
Requirements Only Applicable to Track B –HVAC Testing by FT Agent	
HVAC System Designer	<ul style="list-style-type: none"> • Completion of National HVAC Design Report
Functional Testing Agent	<ul style="list-style-type: none"> • Completion of National HVAC Functional Testing Checklist

Mandatory Compliance Date

To determine the program Version that a multifamily building is required to be certified under, look up the plan approval date and permit issue date of the building in Exhibit 3. Program requirements for other locations can be found at www.energystar.gov/mfncrequirements.

Multifamily buildings permitted prior to July 1, 2021 are permitted to participate in any of the following programs, as long as the project meets the Eligibility Requirements defined within that program: the ENERGY STAR Certified Homes program, the ENERGY STAR Multifamily High Rise program, or this ENERGY STAR Multifamily New Construction Program.

Exhibit 3: ENERGY STAR Multifamily New Construction Implementation Timeline for California

State / Territory	Buildings With Plan Approval date and Permit Issue Date ⁴ On or After This Date Must Meet the Adjacent Version (See Footnote 4 for Definition & Exception ⁴)	Multifamily New Construction Program Version	Revision ¹⁴
CA	07-01-2020	California Version 1.2	Rev. 01
	07-01-2020	California Version 1.2	Rev. 02



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Footnotes:

1. The term 'building' refers to a structure utilized or intended for supporting or sheltering any occupancy for a residential purpose; a structure with no dwelling or sleeping units connected to a structure with dwelling or sleeping units by less than 10% of its exterior wall area is not to be included in the 'building'. A dwelling unit, as defined by the 2012 IECC, is a single unit that provides complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation. The term 'sleeping unit' refers to a room or space in which people sleep, which can also include permanent provisions for living, eating, and either sanitation or kitchen facilities but not both. The term 'two-family' dwelling refers to a detached building with 2 dwelling units. For the purposes of eligibility, hotels, motels, and [senior care facilities](#) are not considered multifamily buildings. For more information visit: https://www.energystar.gov/partner_resources/residential_new/program_reqs/mfnc_building_eligibility.
2. The term 'common space' refers to any spaces in the building being certified that serve a function in support of the residential part of the building that is not part of a dwelling or sleeping unit. This includes spaces used by residents, such as corridors, stairs, lobbies, laundry rooms, exercise rooms, residential recreation rooms, and dining halls, as well as offices and other spaces used by building management, administration or maintenance in support of the residents.
3. The term 'townhouse' refers to a single-family dwelling unit constructed in a group of three or more attached units in which each unit extends from the foundation to roof and with open space on at least two sides.
4. The Rater may define the 'permit date' as either the date that the permit was issued or the application date of the permit. In cases where permit or application dates are not available, Providers or Multifamily Oversight Organizations have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented. The 'plan approval date' is the date that a jurisdiction approves a building plan and its efficiency features for use on a specific lot or tract. As an exception, if a new plan is added to a specific tract's existing plan set and the new plan is subject to the same version of the energy code as the existing plan set, then the 'plan approval date' is considered to be the existing plan set's original plan approval date.
5. While certification will result in compliance with many code requirements, a Rater is not responsible for ensuring that all code requirements have been met prior to certification. For more information about how these program requirements help satisfy code requirements, visit: www.energystar.gov/newhomesguidance. In the event that a code requirement, a manufacturer's installation instructions, or an engineering document conflicts with a requirement of the ENERGY STAR program (e.g., slab insulation is prohibited to allow visual access for termite inspections), then the conflicting requirement within these program requirements shall not be met. Certification shall only be allowed if the Rater has determined that no equivalent option is available that could meet the intent of the conflicting requirement (e.g., switching from exterior to interior slab edge insulation). Note that a home must still meet its ENERGY STAR ERI Target. Therefore, other efficiency measures may be needed to compensate for the omission of the conflicting requirement.
6. The term 'Provider' refers to an Approved Rating Provider as defined by ANSI / RESNET / IECC Standard 301 that is a designee of an HCO.
7. The term 'Rater' refers to the person(s) completing the third-party verification required for certification. The person(s) shall: a) be a Certified Rater, Approved Inspector, as defined by ANSI / RESNET / IECC Standard 301, or an equivalent designation as determined by an HCO or MRO; and, b) have attended and successfully completed an EPA-recognized training class. See www.energystar.gov/mftraining.
Raters who operate under an MRO or an HCO Sampling Protocol are permitted to verify the minimum rated features of the building and to verify any Checklist Item designated "Rater Verified" using the CEC-approved sampling protocol for projects in CA. Where a sampling protocol does not sufficiently describe methodology for multifamily projects, use the *RESNET Guidelines for Multifamily Energy Ratings*, available at www.resnet.us/blog/resnet-adopts-guidelines-for-multifamily-energy-ratings/. No parties other than Raters are permitted to use sampling, with the exception of the Functional Testing Checklist. Functional Testing Agents, except the installing contractor, may follow the sampling protocol described in the [MFNC Functional Testing Checklist Sampling Protocols](#). All other items shall be verified for each certified building. For example, no builder verified items are permitted to be verified using a sampling protocol.
8. These requirements apply to all dwelling units, sleeping units, common spaces ², and garages (open or enclosed) in the building being certified, and where specified, parking lots. These requirements do not apply to commercial or retail spaces. These requirements do not apply to common spaces that are located in buildings on the property without any dwelling or sleeping units. These requirements do not apply to parking garages or lots where the cost of the energy use of the parking garage or lot is not the responsibility of the Builder/Developer, Building Owner or Property Manager.
9. Information on the Delta EDR can be found at: www.cahp-pge.com/how-to-generate-your-delta-energy-design-rating/. CEC-approved computer programs can be found at: www.energy.ca.gov/title24/2016standards/2016_computer_prog_list.html.
10. Home Certification Organizations (HCOs) are independent organizations recognized by EPA to implement an ENERGY STAR certification program for single-family and multifamily homes and apartments using an Energy Rating Index (ERI) compliance path. Learn more and find a current list of HCOs at www.energystar.gov/partner_resources/residential_new/working/other_participants/hco.
11. Note that the efficiency levels of ENERGY STAR certified products aligned with these product specifications when this Version was first released. These efficiency features form the basis of the ENERGY STAR Multifamily Reference Design, regardless of any subsequent revisions to ENERGY STAR certified product specifications. EPA recommends, but does not require, that current ENERGY STAR products be included in ENERGY STAR buildings. For current ENERGY STAR products, visit www.energystar.gov/products.
12. The Climate Zone boundaries are illustrated by the 2009 IECC Figure R301.1.

