



# U.S. DOE Zero Energy Ready Home Multifamily PV-Ready Checklist Version 2 (Rev. 1)

The Photovoltaic Ready provisions of the DOE Zero Energy Ready Home program shall be met by any building eligible for certification under the Multifamily National Program Requirements Version 2 or the Multifamily California Program Requirements Version 2, unless one or more of the exceptions (noted below) applies. Checklist requirements may be verified using final construction documents or direct field observation unless an item is marked as “Field Verify,” in which case it must be verified in the field.

If one or more exceptions apply, a project may be certified under the DOE Zero Energy Ready Home program if all other applicable program requirements are met.

The exceptions are:

- a. The building already includes an on-site PV system with a capacity of at least 1 Watt per square foot of roof area. Documentation of the system must be retained by the rater.
- b. The building receives renewable energy from a community solar system, and there is a legally binding agreement in place for the provision of this energy to the building with a duration  $\geq$  15 years and written to survive a full or partial transfer of ownership of the property. Documentation of this agreement must be retained by the rater.
- c. A building with a solar-ready zone that is shaded for more than 70 percent of daylight hours annually. Documentation of the analysis concluding that the 70 percent threshold is not met must be retained by the rater.
- d. Buildings where 75% or more of the roof (by surface area) has a slope of 4:12 or greater and no portion of the 4:12 or greater roof section is oriented in between 110 degrees to 270 degrees of true north. Documentation must be retained by the rater.
- e. A building where the licensed professional certifies that the solar zone area required by this checklist cannot be met because of extensive rooftop equipment, skylights, vegetated roof areas, or other obstructions. Rater must retain this documentation.

*These requirements are based, in part, on the provisions of the 2021 Commercial IECC, Appendix CB.*

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Item	Requirement	Rater Verified <sup>1</sup>
	One or more of the exceptions listed above applies and required documentation is retained by the rater. If this box is checked, the remaining items on this list are not required and the rater may mark the PV-Ready checklist as complete on the Rater Checklist.	<input type="checkbox"/>
1	A solar-ready zone (a section or sections of the roof or building overhang designated and reserved for the future installation of a solar PV system) is located on the roof and/or other viable building surfaces (which may include awnings and the roofs of ancillary buildings including carports). For buildings where solar-ready zone(s) are located on roof slopes of 4:12 or greater, solar-ready zone is located in between 110 degrees to 270 degrees of true north.	<input type="checkbox"/>
2	The total solar-ready zone area is not less than 40 percent of the roof area calculated as the horizontally projected gross roof area less the area covered by skylights, occupied roof decks, vegetated roof areas and mandatory access or set back areas required by the International Fire Code (IFC). For buildings with roof slopes of 4:12 or greater, the solar-ready zone is not less than 40 percent of the horizontally projected gross roof area with an orientation between 110 degrees to 270 degrees of true north (less the area covered by skylights, occupied roof decks, vegetated roof areas and mandatory access or set back areas required by the IFC).	<input type="checkbox"/>



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3	The solar-ready zone is either a single area or several smaller, separated sub-zone areas not less than 5 feet (1524 mm) in width in the narrowest dimension.	<input type="checkbox"/>
4	The solar-ready zone is free from obstructions, including pipes, vents, ducts, HVAC equipment, skylights, and roof-mounted equipment.	<input type="checkbox"/>
5	A collateral dead load <sup>2</sup> of not less than 5 pounds per square foot (PSF) shall be included in the gravity and lateral design calculations for the solar-ready zone. The structural design loads for roof dead load and roof live load are indicated on construction documents.	<input type="checkbox"/>
6	Construction documents indicate pathways for routing of conduit or piping from the solar-ready zone(s) to the main electrical service panel. <sup>3</sup>	<input type="checkbox"/>
7	The main electrical service panel <sup>3</sup> has a reserved space to allow installation of a dual-pole circuit breaker for future solar electric system. This space is labeled "For Future Solar Electric." The reserved space is positioned at the end of the panel that is opposite from the panel supply conductor connection. <b>Field Verify.</b>	<input type="checkbox"/>
8	A permanent certificate indicating the solar-ready zone and all other requirements of this checklist is posted near the electrical distribution panel or other conspicuous location by the builder or registered design professional. <b>Field Verify.</b>	<input type="checkbox"/>

Verification Signoffs		
Rater Name: _____	Rater Inspection Date(s): _____	Rater Initials: _____
Rater Company Name: _____		

## Endnotes:

<sup>1</sup> The Rater is defined as the person(s) completing the third-party verification required for certification. Raters must comply with the following:

- Raters are required to complete all ZERH training modules applicable to the ZERH MF V2 program specifications (according to the timeline posted on the [ZERH website](#)) prior to completing a ZERH project's first inspection. Please note that required training modules are subject to change and Raters will have an allocated time period to complete additional or updated training modules as they become available. If a Rater does not successfully complete these modules before the end of the allocated time period, they may not certify ZERH projects until the modules are complete.
- Raters must be (a) a Certified Rater, Approved Inspector, as defined by ANSI / RESNET / IECC 301, or (b) credentialed by a Home Certification Organization for the Zero Energy Ready Home program (HCO for ZERH), or (c) meet the credential requirements of a Multifamily Review Organization for the Zero Energy Ready Home program (MRO for ZERH). Learn more and find a current list of HCOs and MROs for ZERH [here](#).

<sup>2</sup> Collateral dead load is a subset of dead load that includes the weight of any materials (current or future) other than permanent construction.



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<sup>3</sup> If the building does not have a main electrical service panel serving the entire building, then an electrical service panel serving common space may be used to satisfy this provision. If the building also does not have an electrical service panel serving common space, this requirement shall be applied to the electrical service panels within individual dwelling units. If this approach is used, at least 50% of the dwelling units in the building must meet the stated requirements.

Projects may also choose to use this individual dwelling unit approach even if a main electrical service panel or an electrical service panel serving common spaces exists. When designing the electrical service panels in dwelling units to be PV Ready, builders are permitted to include disclosures to residents in buildings where the resident may need permission to install a rooftop PV system in the future.