



DRAFT Caribbean Program Requirements ENERGY STAR Certified Homes, Version 3 (Rev. 10)

These Program Requirements shall only be used in Puerto Rico & the U.S Virgin Islands

Eligibility Requirements

The following site-built or modular ¹ homes are eligible to earn the ENERGY STAR through this program:

- Detached dwelling units ² (e.g. single family homes); OR
- Dwelling units ² in any multifamily building with 4 units or fewer; OR
- Dwelling units ² in multifamily buildings with 3 stories or fewer above-grade ^{3,4}; OR
- Dwelling units ² in multifamily buildings with 4 or 5 stories above-grade ^{3,4} where dwelling units occupy 80% or more of the occupiable ⁴ square footage of the building ⁵. When evaluating mixed-use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met.

For information about other ENERGY STAR residential new construction programs, visit www.energystar.gov/newhomesrequirements.

Note that compliance with these requirements is not intended to imply compliance with all local code requirements that may be applicable to the home to be built. ⁶

Partnership and Training Requirements

Builders and Raters must meet the following requirements prior to certifying homes:

- Builders are required to sign an ENERGY STAR Partnership Agreement and complete the online Version 3 Builder Orientation, which can be found at www.energystar.gov/homesPA.
- Raters and Field Inspectors are required to complete training which can be found at www.energystar.gov/newhomestraining.

ENERGY STAR Certification Process for the Caribbean

1. The certification process provides a single set of measures that must be used to construct an ENERGY STAR Certified Home in the Caribbean, coupled with an ERI rating for quality assurance purposes. Use an EPA-Recognized Verification Oversight Organization (VOO)'s Approved Software Rating Tool to configure efficiency measures that are equal to or better than the prescriptive measures listed in Exhibit 1, ENERGY STAR Reference Design, for the home to be certified. The ERI value shall be calculated using ANSI / RESNET / ICC Standard 301 including all Addenda and Normative Appendices, with new versions and Addenda implemented according to the Effective Date and Transition Period End Date defined by RESNET. RESNET interpretations of Standard 301 shall also be followed. Any exceptions shall be approved by EPA and reported at www.energystar.gov/ERIExceptions. By configuring efficiency measures that are equal to or better than Exhibit 1, the resulting ERI is not required to meet a specific target value for the home to be certified.
2. Construct the home using the measures selected in Step 1 and the Mandatory Requirements for All Certified Homes, Exhibit 2.
3. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with the on-site inspection procedures for minimum rated features of an EPA-Approved VOO. ⁷ For modular homes, a Rater must verify any requirement in the plant not able to be verified on-site because a feature will be concealed prior to shipment. Finally, register the rated home with the same EPA-Approved VOO. The Rater is required to keep electronic or hard copies of the completed and signed Caribbean and Pacific Rater checklists and the National HVAC Design Report.

The Rater must review all items on the Caribbean and Pacific 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 home cannot earn the ENERGY STAR until the item is corrected. If correction of the item is not possible, the home cannot earn the ENERGY STAR. In the event that an item on a Caribbean and Pacific Rater checklist cannot be inspected by the Rater, the home also cannot earn the ENERGY STAR.

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. If the Provider also cannot make this determination, then the Rater or Provider shall report the issue to EPA prior to project completion at: energystarhomes@energystar.gov and will typically 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 house 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 homes permitted after a specified transition period after the release of the revised program requirements, typically 60 days in length.

This process will allow EPA to make formal policy decisions as partner questions arise and to disseminate these policy decisions through the periodic release of revised program documents to ensure consistent application of the program requirements.



DRAFT Caribbean Program Requirements ENERGY STAR Certified Homes, Version 3 (Rev. 10)

These Program Requirements shall only be used in Puerto Rico & the U.S Virgin Islands

Exhibit 1: ENERGY STAR Reference Design⁸

The ENERGY STAR Reference Design Home is the set of efficiency features required to be used to construct an ENERGY STAR Certified Home in the Caribbean. Note that either Measure A: Solar Water Heater or Measure B: Bedroom Mini-Split HVAC must be selected and used in combination with all measures in the Envelope, Windows, & Doors section and Lighting & Appliance section. No tradeoffs are allowed. In addition, note that the Mandatory Requirements for All Certified Homes, Exhibit 2, contain additional requirements such as prescriptive air sealing requirements and mini-split wiring requirements.

| | | | | |
|---|-----------------|------------|--------------|-------------|
| <p>Cooling Equipment & Water Heating Equipment</p> <ul style="list-style-type: none"> At least one of the following two measures shall be selected and met: <ul style="list-style-type: none"> Measure A: Solar Water Heater - DHW equipment shall include a solar water heater system with a Solar Fraction $\geq 87\%$.⁹ No space cooling is required if Measure A is selected, but if any space cooling is provided, it must be provided using mini-split AC's or HP's ≥ 15 SEER, each with ≤ 10 ft. of ductwork. Measure B: Bedroom Mini-Split HVAC - Mini-split AC's or HP's ≥ 15 SEER, each with ≤ 10 ft. of ductwork, shall serve all bedrooms. No space cooling is required outside of bedrooms, but if any space cooling is provided outside bedrooms, it must be provided using mini-split AC's or HP's ≥ 15 SEER, each with ≤ 10 ft. of ductwork. | | | | |
| <p>Envelope, Windows, & Doors</p> <ul style="list-style-type: none"> Wall insulation level shall be $\geq R-5$. Windows in all bedrooms shall meet the levels illustrated below: <table border="1" data-bbox="565 814 1058 890"> <tr> <td>Window U-Value:</td> <td>≤ 1.2</td> </tr> <tr> <td>Window SHGC:</td> <td>≤ 0.35</td> </tr> </table> | Window U-Value: | ≤ 1.2 | Window SHGC: | ≤ 0.35 |
| Window U-Value: | ≤ 1.2 | | | |
| Window SHGC: | ≤ 0.35 | | | |
| <p>Lighting & Appliances</p> <ul style="list-style-type: none"> Ceiling fans shall be installed in all primary living areas greater than 75 ft² and be ENERGY STAR certified¹⁰. ENERGY STAR LED light bulbs shall be installed in 100% of ANSI / RESNET / ICC Standard 301-defined Qualifying Light Fixture Locations. | | | | |



DRAFT Caribbean Program Requirements ENERGY STAR Certified Homes, Version 3 (Rev. 10)

These Program Requirements shall only be used in Puerto Rico & the U.S Virgin Islands

Exhibit 2: Mandatory Requirements for All Certified Homes

| Party Responsible | Mandatory Requirements |
|-----------------------------|---|
| Rater | <ul style="list-style-type: none"> Completion of Caribbean and Pacific Rater Design Review Checklist with the following exemptions: Item 1.2 and 2.2 Completion of Caribbean and Pacific Rater Field Checklist with the following exemptions: Section 1; Items 2.2, 2.4, and 2.5; and Section 5 |
| HVAC System Designer | <ul style="list-style-type: none"> Completion of National HVAC Design Report with the following exemptions: Section 3, Section 4, and Section 5 |
| Builder | <ul style="list-style-type: none"> Completed National Water Management System Builder Requirements |

Effective Date

To determine the program Version and Revision that a home is required to be certified under, look up the location and permit date of the home in Exhibit 3. Program requirements for other locations can be found at www.energystar.gov/newhomesrequirements.

This Exhibit contains all implementation timelines applicable on or after September 1, 2016. Implementation timelines applicable prior to this date can be obtained by contacting energystarhomes@energystar.gov.

Exhibit 3: ENERGY STAR Certified Homes Implementation Timeline for the Caribbean

| State / Territory | Homes Permitted ¹¹ On or After This Date Must Meet the Adjacent Version & Revision | Version | Revision ¹² |
|-------------------|---|--------------|------------------------|
| PR | 07-01-2016 | Tropics v3 | Rev. 08 |
| | 01-01-2019 | Tropics v3 | Rev. 09 |
| | 01-01-2020 | Caribbean v3 | Rev. 10 |
| USVI | 07-01-2016 | Tropics v3 | Rev. 08 |
| | 01-01-2019 | Tropics v3 | Rev. 09 |
| | 01-01-2020 | Caribbean v3 | Rev. 10 |



DRAFT Caribbean Program Requirements ENERGY STAR Certified Homes, Version 3 (Rev. 10)

These Program Requirements shall only be used in Puerto Rico & the U.S Virgin Islands

Footnotes:

1. A modular home is a prefabricated home that is made of multiple modules or sections that are manufactured and substantially assembled in a manufacturing plant. These pre-built sections are transported to the building site and constructed by a builder to meet all applicable building codes for site-built homes.
2. A dwelling unit, as defined by the 2009 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.
3. Any above-grade story with 20% or more occupiable space, including commercial space, shall be counted towards the total number of stories for the purpose of determining eligibility to participate in the program. The definition of an 'above-grade story' is one for which more than half of the gross surface area of the exterior walls is above-grade. All below-grade stories, regardless of type, shall not be included when evaluating eligibility.
4. Per ASHRAE 62.2-2010, occupiable space is any enclosed space inside the pressure boundary and intended for human activities or continual human occupancy, including, but not limited to, areas used for living, sleeping, dining, and cooking, toilets, closets, halls, storage and utility areas, and laundry areas.
5. These units may earn the ENERGY STAR through either the Certified Homes Program or the Multifamily High Rise (MFHR) Program. If participating in the Certified homes Program and the dwelling unit is served by a central heating, cooling, or hot water system, use of the RESNET Guidelines for Multifamily Ratings for modeling the specified central system(s) is recommended.
6. Where requirements of the local codes, manufacturers' installation instructions, engineering documents, or regional ENERGY STAR programs overlap with these requirements, EPA offers the following guidance:
 - a. Where the overlapping requirements exceed the ENERGY STAR requirements, these overlapping requirements shall be met;
 - b. Where overlapping requirements conflict 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).
7. The term "Rater" refers to the person completing the third-party inspections required for certification. This person shall: a) be a Certified Rater, Approved Inspector, or an equivalent designation as determined by a VOO such as RESNET; and, b) have attended and successfully completed an EPA-recognized training class. See www.energystar.gov/newhomestraining.
Raters who operate under a Sampling Provider are permitted to verify the Minimum Rated Features of the home and to verify any Checklist Item designated "Rater Verified" using a VOO-approved sampling protocol. No parties other than Raters are permitted to use sampling. All other items shall be verified for each certified home. For example, no items on the National HVAC Design Report are permitted to be verified using a sampling protocol.
8. Note that the efficiency levels of ENERGY STAR certified products aligned with these product specifications when this Version was first released. EPA recommends, but does not require, that current ENERGY STAR products be included in ENERGY STAR homes. For current ENERGY STAR products, visit www.energystar.gov/products.
9. Solar fraction is defined by the ICC-SRCC OG-300 Solar Water Heating System Certification Program's solar fraction rating, using the Puerto Rico or U.S. Virgin Islands location. For the OG-300 directory, visit www.solar-rating.org/programs/og-300-program/.
10. Primary living areas include dining rooms, living rooms, family rooms, dens, bedrooms and home offices. Primary living areas do not include other spaces, such as kitchens, bathrooms, hallways, stairways, entrances, garages, and utility rooms.
11. The Rater may define the 'permit date' as either the date that the permit was issued or the date of the contract on the home. In cases where permit or contract dates are not available, Providers have discretion to estimate permit dates based on other construction schedule factors. These assumptions should be both defensible and documented.
12. Homes certified under Rev. 10 of the program requirements are permitted to use either Rev. 08, 09, or 10 of the National HVAC Design Report.