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Attorneys for Intermountain Gas Company

BEFORE THE IDAHO PUBLIC UTILITIES COMMISSION

**IN THE MATTER OF
INTERMOUNTAIN GAS
COMPANY'S 2023 INTEGRATED
RESOURCE PLAN**

CASE NO. INT-G-23-07

**INTERMOUNTAIN GAS COMPANY'S
REPLY COMMENTS**

Intermountain Gas Company (“Intermountain” or “Company”) respectfully submits the following Reply Comments in response to Comments filed by the Idaho Public Utilities Commission Staff (“Staff”).

Intermountain thanks Staff and Stakeholders for their participation and feedback throughout the IRP process. Intermountain agrees with Staff’s recommendations and looks forward to working with Staff to implement them.

Intermountain would like to address two issues related to Staff Comments in the DSM Opportunities section. These and related issues are addressed in Case No. INT-G-23-06. That said, Intermountain would like to address the issue here in the hope that it can illustrate some sources of confusion surrounding this issue.

Intermountain does not request that the Commission deviate from Staff’s recommendations; this comment is intended merely to illustrate one component of an ongoing issue. Intermountain does request that the Commission order the Company and Staff to meet

with the CPA consultant to discuss calibration of the CPA models, in an attempt to avoid future confusion or misunderstanding on this topic.

Staff believes the Company overstated the savings potential of the Furnace and Whole Home Tier I and Tier II measures because the results of the Company's 2020 EM&V were used to calibrate the CPA models.¹ As the Company pointed out in response to Production Request No. 33, "the calibration² described is to determine the achievable potential, or realistic savings, from the potential that is economic." That is, the adoption rates of the measures rather than the therm savings of the measures. Because the questions raised in Production Request No. 33 made it sound like there was a misunderstanding of this calibration process, the Company also noted the following in CONFIDENTIAL PR Response No. 33:

"The way the models were calibrated to inform the calculation of achievable potential is a complex topic. If there are further questions related to this information, the Company is willing to set up a meeting with the consultant that completed the study to discuss in greater detail."

Staff did not request a meeting with the Company and its consultant, but instead reiterated its concerns, which the Company previously addressed in Case No. INT-G-23-06, and noted "that its observations may mean that portions of the CPA are not used or useful because of the overstated input data" and threatens that "Staff will review the CPA expense in the next DSM prudence filing". The Company believes it would be appropriate for the Commission to Order Staff and the Company meet with the Company's CPA consultant within six months of a Commission order to discuss and resolve this calibration issue. Far better to discuss these issues up-front than after-the-fact through prudency review.

Staff also takes issue with the Company's contention that it retired the previous Whole Home rebate and instituted completely redesigned Whole Home Tier I and Tier II rebates that

¹ Staff Comments page 11

² 2023 Conservation Potential Assessment Final Report, p 17.

are in effect today. Staff argues that the current Whole Home offering is a continuation of the original program. To support this claim, Staff includes *Table No. 1: Comparison of the Savings Mechanisms of the ENERGY STAR Certified New Construction and Company’s Post-EM&V Whole Home Offering*³.

Unfortunately, the ENERGY STAR certified new construction (v 3.1) referenced by Staff did not go into effect in Idaho until January 1, 2023.⁴ Table 1 below, taken from the ENERGY STAR Residential New Construction Program Historical Document repository shows the effective date of version 3.1 that was referenced by Staff.

*Table 1: ENERGY STAR Residential New Construction v3.1*⁵

Exhibit 4: ENERGY STAR Single-Family New Homes Implementation Timeline

State / Territory	Homes Permitted ¹⁵ On or After This Date Must Meet the Adjacent Version & Revision	Version	Revision ¹⁶
AL, AK, AZ, AR, CO, IN, ID, KS, KY, LA, MS, MO, NH, NC, ND, OH, OK, SC, SD, TN, VA, WV, WI, WY	10-01-2020	National v3	Rev. 10
	01-01-2022	National v3	Rev. 11
	01-01-2023	National v3.1	Rev. 11
	01-01-2024	National v3.1	Rev. 12

Instead, the ENERGY STAR Residential New Construction Program (ENERGY STAR Program) in effect through 2021, when the original Whole Home program was retired, was version 3.0.⁶ The ENERGY STAR Program offered a flexible pathway that allowed homes to qualify for ENERGY STAR certification by selecting “a custom combination of measures for each home that is equivalent in performance to the minimum requirements of the ENERGY STAR Reference Design Home”,⁷ in combination with meeting a list of specific requirements.

³ Staff Comments page 13.

⁴ Historical ENERGY STAR National Program Requirements Version 3.1 (Rev. 11), attached as Exhibit 1

⁵ Historical ENERGY STAR National Program Requirements Version 3.1 (Rev. 12), attached as Exhibit 2

⁶ Historical ENERGY STAR National Program Requirements, Version 3 (Rev 10), attached as Exhibit 3

⁷ *Id.*

The ENERGY STAR rating included items such as cooling equipment, lighting, and appliances that do not impact therm savings in addition to items that are important therm savings drivers. It was because of the lack of focus on solely therm savings drivers that the 2020 EM&V recommended the ENERGY STAR certification requirement be retired. In Table 2 below, the Company has inserted a column in Staff's Table 1 that shows the requirements that were in place for the ENERGY STAR Program until the Company's original Whole Home rebate was retired. As the corrected column illustrates, the ENERGY STAR Program requirements that were in effect for the retired Whole Home rebate are significantly different from the current Whole Home Tier I and Tier II rebates. In addition, the current Whole Home rebates were designed to target requirements that would directly impact therm savings. It is clear from the grey rows in Staff's table that the ENERGY STAR Program upon which the retired Whole Home rebate was based included many items that had no impact on therm savings.

Table 2: Company Corrections to Staff Table 1

Company Corrected Pre-EM&V	Staff Original Pre-EM&V	Post EM&V	
ENERGY STAR certified new construction (v 3.0)	ENERGY STAR certified new construction (v 3.1)	Tier 1	Tier 2
Cooling Equipment	Cooling Equipment	N/A	N/A
Heating Equipment: 90 AFUE ENERGY STAR gas furnace	Heating Equipment: 95 AFUE ENERGY STAR gas furnace	Furnace efficiency \geq 97% AFUE	Furnace efficiency \geq 95% AFUE
Envelope, Windows & Doors: 4 ACH50	Envelope, Windows & Doors: 3 ACH50	Air sealing \leq 3ACH50 Ceiling insulation \geq R-49	Air sealing \leq 4ACH50
Water Heater	Water Heater	N/A	N/A
Thermostat & Ductwork: Supply ducts in unconditioned attics modeled with R-8 insulation; all other ducts in unconditioned space modeled with R-6 insulation. Duct leakage to outdoors modeled at the greater of 4 CFM25 per 100 sq ft of conditioned floor area or greater than 40 CFM25.	Thermostat & Ductwork: All ducts and air handlers modeled within conditioned space	Ducts and air handler located inside conditioned space or duct leakage to outside of less than 4 CFM25/100ft ² CFA.	Ducts and air handler located inside conditioned space or duct leakage to outside of less than 4 CFM25/100ft ² CFA.
Lighting & Appliances (refrigerators dishwasher and ceiling fans)	Lighting & Appliances (refrigerators dishwasher and ceiling fans)	N/A	N/A
HERS rated at < 75 *	HERS rated at < 75	HERS rated	HERS rated

**HERS rating of less than 75 was not an ENERGY STAR requirement, but was a requirement of the retired Whole Home rebate.*

While this distinction of a retired Whole Home program vs incremental adjustments to a continuing program is not material in the IRP discussion, it is important in building a shared understanding upon which to make decisions about the Company’s Energy Efficiency program going forward. The Company is merely pointing out this correction to avoid confusion in future

proceedings and does not request any action from the Commission in this IRP proceeding, other than to order Staff to meet with the Company and its CPA consultant to discuss the issues related to the current CPA.

Dated: May 23, 2024.

GIVENS PURSLEY LLP



Preston N. Carter
Givens Pursley LLP
Attorneys for Intermountain Gas Company

CERTIFICATE OF SERVICE

I HEREBY CERTIFY that on May 23, 2024, a true and correct copy of the foregoing was served upon all parties of record in this proceeding via electronic mail as indicated below:

Monica Barrios-Sanchez
Commission Secretary
Idaho Public Utilities Commission
P.O. Box 83720
Boise, Idaho 83720-0074
monica.barriossanchez@puc.idaho.gov

- Email
- U.S. Mail
- Fax
- Hand Delivery



Preston N. Carter

INTERMOUNTAIN GAS COMPANY

CASE No. INT-G-23-07

Exhibit 1 to Company Reply Comments



ENERGY STAR Single-Family New Homes National Program Requirements, Version 3.1 (Rev. 11)

Eligibility Requirements

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

- Dwellings ² (e.g., single-family homes, duplexes)
- Townhouses ³

Dwelling Units in certain low-rise multifamily buildings are also eligible to earn the ENERGY STAR through this program if permitted prior to July 1, 2021. See Footnote 4 for details. ⁴

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. ⁵

Partnership, Training, and Credentialing Requirements

The following requirements must be met 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.
- HVAC installing contractors are required to be credentialed by an EPA-recognized HVAC Quality Installation Training and Oversight Organization (H-QUITO) for homes certified using Track B in Exhibit 2. An explanation of this process can be found at www.energystar.gov/newhomesHVAC.
- 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/newhomestraining.

ENERGY STAR Certification Process

1. The certification process provides flexibility to select a custom combination of measures for each home that is equivalent in performance to the minimum requirements of the ENERGY STAR Reference Design Home, Exhibit 1, as assessed through energy modeling. An EPA-recognized Home Certification Organization (HCO)'s Approved Software Rating Tool shall automatically determine the ENERGY STAR ERI Target, which is the highest ERI value that each rated home may achieve to earn the ENERGY STAR. ^{8, 9}

2. Using the same software program, configure the preferred set of efficiency measures for the home to be certified and verify that the resulting ERI meets or exceeds the ENERGY STAR ERI Target, as determined in Step 1.

Note that, regardless of the measures selected, the Mandatory Requirements for All Certified Homes 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). Furthermore, on-site power generation may not be used to meet the ENERGY STAR ERI Target.

3. Construct the home using the measures selected in Step 2 and the Mandatory Requirements for All Certified Homes, Exhibit 2.
4. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with the inspection procedures for minimum rated features in ANSI / RESNET / ICC Standard 301, Appendix B.^{7,10} 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, submit the home to the HCO for final certification and follow the HCO's certification and oversight procedures (e.g., quality assurance, recordkeeping, and reporting). The Rater is required to keep electronic or hard copies of the completed and signed National Rater checklists and the National HVAC Design Report.

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 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 National Rater checklist cannot be inspected by the Rater, the home 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. This option shall only be used at the discretion of the Rater. When exercised, the builder's responsibility will be formally acknowledged by the builder 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. 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 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 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.



ENERGY STAR Single-Family New Homes National Program Requirements, Version 3.1 (Rev. 11)

Exhibit 1: ENERGY STAR Reference Design Home ¹¹

The ENERGY STAR Reference Design Home is the set of efficiency features modeled to determine the ENERGY STAR ERI Target for each home pursuing certification. Therefore, while the features below are not mandatory, if they are not used then other measures will be needed to achieve the ENERGY STAR ERI Target. In addition, note that the Mandatory Requirements for All Certified Homes, Exhibit 2, contain additional requirements such as total duct leakage limits, minimum allowed insulation levels, and minimum allowed fenestration performance. Therefore, EPA recommends that partners review the documents in Exhibit 2 prior to selecting measures.

Hot Climates (2009 IECC Zones 1,2,3) ¹²	Mixed and Cold Climates (2009 IECC Zones 4,5,6,7,8) ¹²																							
Cooling Equipment (Where Provided)																								
<ul style="list-style-type: none"> Cooling equipment modeled at 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"> 13 SEER AC, Heat pump (See Heating Equipment) 																							
Heating Equipment																								
<ul style="list-style-type: none"> Heating equipment modeled at the applicable efficiency levels below, dependent on fuel and system type: 																								
<ul style="list-style-type: none"> 80 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"> 95 AFUE ENERGY STAR gas furnace, 85 AFUE ENERGY STAR oil furnace, 90 AFUE ENERGY STAR gas boiler, 86 AFUE ENERGY STAR 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, & Doors																								
<ul style="list-style-type: none"> Insulation levels modeled to 2012 IECC levels and Grade I installation per ANSI / RESNET / ICC Standard 301. Infiltration rates modeled as follows: <table border="1" style="margin-left: 40px; margin-right: 40px;"> <tr> <td style="text-align: center;">4 ACH50 in CZs 1,2</td> <td style="text-align: center;">3 ACH50 in CZs 3,4,5,6,7,8</td> </tr> </table> ENERGY STAR windows and doors modeled, as illustrated below: <table border="1" style="margin-left: 40px; margin-right: 40px;"> <tr> <td style="padding: 2px;">Window U-Value:</td> <td style="padding: 2px;">0.40 in CZs 1,2</td> <td style="padding: 2px;">0.30 in CZ 3</td> <td style="padding: 2px;">0.30 in CZ 4</td> <td style="padding: 2px;">0.27 in CZs 5,6,7,8</td> </tr> <tr> <td style="padding: 2px;">Window SHGC:</td> <td style="padding: 2px;">0.25 in CZs 1,2</td> <td style="padding: 2px;">0.25 in CZ 3</td> <td style="padding: 2px;">0.40 in CZ 4</td> <td style="padding: 2px;">Any in CZs 5,6,7,8</td> </tr> </table> <table border="1" style="margin-left: 40px; margin-right: 40px;"> <tr> <td style="padding: 2px;">Door U-Value:</td> <td style="padding: 2px;">Opaque: 0.17</td> <td style="padding: 2px;">≤½ lite: 0.25</td> <td style="padding: 2px;">>½ lite: 0.30</td> </tr> <tr> <td style="padding: 2px;">Door SHGC:</td> <td style="padding: 2px;">Opaque: Any</td> <td style="padding: 2px;">≤½ lite: 0.25</td> <td style="padding: 2px;">>½ lite: 0.25 in CZs 1,2,3; 0.40 in CZs 4,5,6,7,8</td> </tr> </table> 				4 ACH50 in CZs 1,2	3 ACH50 in CZs 3,4,5,6,7,8	Window U-Value:	0.40 in CZs 1,2	0.30 in CZ 3	0.30 in CZ 4	0.27 in CZs 5,6,7,8	Window SHGC:	0.25 in CZs 1,2	0.25 in CZ 3	0.40 in CZ 4	Any in CZs 5,6,7,8	Door U-Value:	Opaque: 0.17	≤½ lite: 0.25	>½ lite: 0.30	Door SHGC:	Opaque: Any	≤½ lite: 0.25	>½ lite: 0.25 in CZs 1,2,3; 0.40 in CZs 4,5,6,7,8	
4 ACH50 in CZs 1,2	3 ACH50 in CZs 3,4,5,6,7,8																							
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Door SHGC:	Opaque: Any	≤½ lite: 0.25	>½ lite: 0.25 in CZs 1,2,3; 0.40 in CZs 4,5,6,7,8																					
Water Heater																								
<ul style="list-style-type: none"> DHW equipment modeled with the following efficiency levels as applicable: <table border="1" style="margin-left: 40px; margin-right: 40px;"> <tr> <td style="padding: 2px;">Gas:</td> <td style="padding: 2px;">30 Gal = 0.63 EF</td> <td style="padding: 2px;">40 Gal = 0.61 EF</td> <td style="padding: 2px;">50 Gal = 0.59 EF</td> <td style="padding: 2px;">60 Gal = 0.57 EF</td> <td style="padding: 2px;">70 Gal = 0.55 EF</td> <td style="padding: 2px;">80 Gal = 0.53 EF</td> </tr> <tr> <td style="padding: 2px;">Electric:</td> <td style="padding: 2px;">30 Gal = 0.94 EF</td> <td style="padding: 2px;">40 Gal = 0.93 EF</td> <td style="padding: 2px;">50 Gal = 0.92 EF</td> <td style="padding: 2px;">60 Gal = 0.91 EF</td> <td style="padding: 2px;">70 Gal = 0.90 EF</td> <td style="padding: 2px;">80 Gal = 0.89 EF</td> </tr> <tr> <td style="padding: 2px;">Oil:</td> <td style="padding: 2px;">30 Gal = 0.55 EF</td> <td style="padding: 2px;">40 Gal = 0.53 EF</td> <td style="padding: 2px;">50 Gal = 0.51 EF</td> <td style="padding: 2px;">60 Gal = 0.49 EF</td> <td style="padding: 2px;">70 Gal = 0.47 EF</td> <td style="padding: 2px;">80 Gal = 0.45 EF</td> </tr> </table>				Gas:	30 Gal = 0.63 EF	40 Gal = 0.61 EF	50 Gal = 0.59 EF	60 Gal = 0.57 EF	70 Gal = 0.55 EF	80 Gal = 0.53 EF	Electric:	30 Gal = 0.94 EF	40 Gal = 0.93 EF	50 Gal = 0.92 EF	60 Gal = 0.91 EF	70 Gal = 0.90 EF	80 Gal = 0.89 EF	Oil:	30 Gal = 0.55 EF	40 Gal = 0.53 EF	50 Gal = 0.51 EF	60 Gal = 0.49 EF	70 Gal = 0.47 EF	80 Gal = 0.45 EF
Gas:	30 Gal = 0.63 EF	40 Gal = 0.61 EF	50 Gal = 0.59 EF	60 Gal = 0.57 EF	70 Gal = 0.55 EF	80 Gal = 0.53 EF																		
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Thermostat & Ductwork																								
<ul style="list-style-type: none"> Programmable thermostat modeled. All ducts and air handlers modeled within conditioned space. 																								
Lighting & Appliances																								
<ul style="list-style-type: none"> ENERGY STAR refrigerators, dishwashers, and ceiling fans modeled. ENERGY STAR light bulbs modeled in 90% of ANSI / RESNET / ICC Standard 301-defined Qualifying Light Fixture Locations. 																								



ENERGY STAR Single-Family New Homes National Program Requirements, Version 3.1 (Rev. 11)

Two tracks are provided for satisfying the mandatory requirements for all certified homes, Exhibit 2. Track A - HVAC Grading utilizes ANSI / RESNET / ACCA Std. 310¹³, a standard for grading the installation of HVAC systems. Track B - HVAC Credential utilizes an HVAC contractor credentialed by an EPA-recognized H-QUITO. Either track may be selected, but all requirements within that track must be satisfied for the home to be certified.

Exhibit 2: Mandatory Requirements for All Certified Homes

Party Responsible	Mandatory Requirements
Requirements Applicable to Track A & B	
Rater	<ul style="list-style-type: none"> Completion of National Rater Design Review Checklist, Version 3 / 3.1 Completion of National Rater Field Checklist, Version 3 / 3.1
Builder	<ul style="list-style-type: none"> Completion of National Water Management System Builder Requirements, Version 3 / 3.1
Requirements Only Applicable to Track A - HVAC Grading¹³	
HVAC System Designer	<ul style="list-style-type: none"> Completion of an HVAC design report compliant with ANSI / RESNET / ACCA Std. 310, plus the ENERGY STAR Supplement.
HVAC Installing Contractor	<ul style="list-style-type: none"> None. While the HVAC contractor plays a critical role in properly installing and commissioning a system, the Rater is the party responsible for assessing its installation quality in accordance with ANSI / RESNET / ACCA Std. 310.
Requirements Only Applicable to Track B - HVAC Credential	
HVAC System Designer	<ul style="list-style-type: none"> Completion of National HVAC Design Report, Version 3 / 3.1
HVAC Installing Contractor	<ul style="list-style-type: none"> Completion of National HVAC Commissioning Checklist, Version 3 / 3.1

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. Note that the National Version 3 program requirements are being implemented in states that have not adopted the 2012, 2015, or 2018 IECC, or an equivalent code. Note, as well, that regional program requirements, and associated implementation timelines, have been developed for homes in CA, FL, GU, HI, the Northern Mariana Islands, OR, PR, and WA. The National Version 3 and regional program requirements can be found at www.energystar.gov/newhomesrequirements.

This Exhibit contains all implementation timelines applicable on or after January 1, 2019. Implementation timelines applicable prior to this date can be obtained by contacting energystarhomes@energystar.gov.

Exhibit 3: ENERGY STAR Single-Family New Homes Implementation Timeline

State / Territory	Homes Permitted ¹⁴ On or After This Date Must Meet the Adjacent Version & Revision	Version	Revision ¹⁵
CT, DC, DE, IA, IL, MA, MD, MI, MN, MT, NJ, NV, NY, RI, TX, VT	01-01-2019	National v3.1	Rev. 09
	10-01-2020	National v3.1	Rev. 10
	01-01-2022	National v3.1	Rev. 11
OR	01-01-2019	National v3.1	Rev. 09
	04-01-2019	Oregon and Washington v3.2	Rev. 09
	10-01-2020	Oregon and Washington v3.2	Rev. 10
PA	01-01-2019	National v3	Rev. 09
	10-01-2020	National v3	Rev. 10
	04-01-2021	National v3.1	Rev. 10
	01-01-2022	National v3.1	Rev. 11
NE	01-01-2019	National v3	Rev. 09
	10-01-2020	National v3	Rev. 10
	07-01-2021	National v3.1	Rev. 10
	01-01-2022	National v3.1	Rev. 11



ENERGY STAR Single-Family New Homes National Program Requirements, Version 3.1 (Rev. 11)

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, as defined by ANSI / RESNET / ICC 301, is any building that contains one or two Dwelling Units used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that are occupied for living purposes. ANSI / RESNET / ICC 301 defines a Dwelling Unit as a single unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation.
3. A Townhouse, as defined by ANSI / RESNET / ICC 301, is 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. Townhouses are also eligible to earn the ENERGY STAR through the ENERGY STAR Multifamily New Construction Program.
4. If permitted prior to July 1, 2021, the following are also eligible to earn the ENERGY STAR through the ENERGY STAR Single-Family New Homes program:
 - Dwelling units ² in any multifamily building with 4 units or fewer; OR
 - Dwelling units in multifamily buildings with 3 stories or fewer above-grade; OR
 - Dwelling units in multifamily buildings with 4 or 5 stories above-grade where dwelling units occupy 80% or more of the occupiable square footage of the building. When evaluating mixed-use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met.

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.

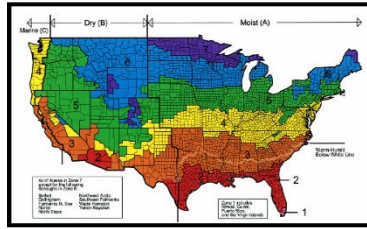
Per ASHRAE 62.2-2010, occupiable space is any enclosed space inside the pressure boundary and intended for human activities or continual human occupancy, including, but not limited to, areas used for living, sleeping, dining, and cooking, toilets, closets, halls, storage and utility areas, and laundry areas.

5. 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 / ICC Standard 301, that is approved by 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 or Approved Inspector, as defined by ANSI / RESNET / ICC Standard 301, or an equivalent designation as determined by an HCO; and, b) have attended and successfully completed an EPA-recognized training class. See www.energystar.gov/newhomestraining.
8. The software program shall automatically determine (i.e., without relying on a user-configured ENERGY STAR Reference Design) this target for each rated home by following the National ERI Target Procedure, Version 3.1 (Rev. 11), available at www.energystar.gov/newhomesrequirements.
9. 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.
10. Raters who operate under an HCO with a Sampling Protocol are permitted to verify the Minimum Rated Features of the home and to verify any Checklist Item designated "Rater Verified" using the HCO-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 Commissioning Checklist are permitted to be verified using a Sampling Protocol.
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 ERI target, 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 homes. For current ENERGY STAR products, visit www.energystar.gov/products.



ENERGY STAR Single-Family New Homes National Program Requirements, Version 3.1 (Rev. 11)

12. The following map illustrates the Climate Zone boundaries as defined by the 2012 IECC Figure R301.1.



13. Track A – HVAC Grading shall not be used until an implementation schedule has been defined for ANSI / RESNET / ACCA Std. 310 by the HCO that the home is being certified under. Track A – HVAC Grading shall then use ANSI / RESNET / ACCA Std. 310 including all Addenda and Normative Appendices, with new versions and Addenda implemented according to the schedule defined by the HCO that the home is being certified under.
14. 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.
15. Homes certified under Rev. 11 of the program requirements are permitted to use either Rev. 08, 09, 10, or 11 of the National HVAC Design Report.

INTERMOUNTAIN GAS COMPANY

CASE No. INT-G-23-07

Exhibit 2 to Company Reply Comments

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.



ENERGY STAR Single-Family New Homes National Program Requirements, Version 3 (Rev. 12)

Eligibility Requirements

Site-built or modular ¹ Dwellings ² (e.g., single-family homes and duplexes) and Townhouses ³ are eligible to participate in the ENERGY STAR Single-Family New Homes (SFNH) program.

Dwelling Units in certain low-rise multifamily buildings are also eligible to participate in the ENERGY STAR SFNH program if permitted prior to July 1, 2021. See Footnote 4 for details. ⁴

While primarily intended for new construction, existing homes (e.g., undergoing a gut rehabilitation) are also eligible to participate in the ENERGY STAR SFNH program, with guidance available at: www.energystar.gov/GutRehabGuidance.

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. ⁵

Partnership, Training, and Credentialing Requirements

The following requirements must be met 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.
- HVAC installing contractors are required to be credentialed by an EPA-recognized HVAC Quality Installation Training and Oversight Organization (H-QUITO) for homes certified using Track B in Exhibit 2. An explanation of this process can be found at www.energystar.gov/newhomesHVAC.
- 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 operate under a Home Certification Organization (HCO). ⁷ Learn more and find a current list of HCOs at www.energystar.gov/hco.
- Raters ⁸ are required to complete EPA-recognized training, which can be found at www.energystar.gov/newhomestraining.

ENERGY STAR Certification Process

1. The certification process provides flexibility to select a custom combination of measures for each home that is equivalent in performance to the minimum requirements of the ENERGY STAR Reference Design Home, Exhibit 1, as assessed through energy modeling. An EPA-recognized HCO's Approved Software Rating Tool shall automatically determine the ENERGY STAR ERI Target, which is the highest ERI value that each rated home may achieve to earn the ENERGY STAR. ⁹
2. Using the same software program, configure the preferred set of efficiency measures for the home to be certified and verify that the resulting ERI meets or exceeds the ENERGY STAR ERI Target, as determined in Step 1.

Note that, regardless of the measures selected, the Mandatory Requirements for All Certified Homes 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). Furthermore, on-site power generation may only be used to meet the ENERGY STAR ERI Target for homes that are larger than the Benchmark Home and only for the incremental change in the ENERGY STAR ERI Target caused by the Size Adjustment Factor. ¹⁰

3. Construct the home using the measures selected in Step 2 and the Mandatory Requirements for All Certified Homes, Exhibit 2.
4. Using a Rater, verify that all requirements have been met in accordance with the Mandatory Requirements for All Certified Homes and with the inspection procedures for minimum rated features in ANSI / RESNET / ICC 301, Appendix B. ^{8, 11} 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, submit the home to the HCO for final certification and follow the HCO's certification and oversight procedures (e.g., quality assurance, recordkeeping, and reporting). The Rater is required to keep electronic or hard copies of the completed and signed National Rater checklists and either an HVAC design report compliant with ANSI / RESNET / ACCA / ICC 310, and the National HVAC Design Supplement to Std. 310 for Dwellings & Units, for homes using Track A, or the National HVAC Design Report for homes using Track B.

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 home cannot earn the ENERGY STAR until the item is corrected. If correction is not possible, the home cannot earn the ENERGY STAR. In the event that an item on a National Rater checklist cannot be inspected by the Rater, the home also cannot earn the ENERGY STAR. The only exceptions 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. This option shall only be used at the discretion of the Rater. When exercised, the builder's responsibility will be formally acknowledged by the builder 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. 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 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 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.



ENERGY STAR Single-Family New Homes National Program Requirements, Version 3 (Rev. 12)

Exhibit 1: ENERGY STAR Reference Design Home ¹²

The ENERGY STAR Reference Design Home is the set of efficiency features modeled to determine the ENERGY STAR ERI Target for each home pursuing certification. Therefore, while the features below are not mandatory, if they are not used then other measures will be needed to achieve the ENERGY STAR ERI Target. In addition, note that the Mandatory Requirements for All Certified Homes, Exhibit 2, contain additional requirements such as total duct leakage limits, minimum allowed insulation levels, and minimum allowed fenestration performance. Therefore, EPA recommends that partners review the documents in Exhibit 2 prior to selecting measures.

Hot Climates (2009 IECC Zones 1,2,3) ¹³	Mixed and Cold Climates (2009 IECC Zones 4,5,6,7,8) ¹³																							
Cooling Equipment (Where Provided)																								
<ul style="list-style-type: none"> Cooling equipment modeled at the applicable efficiency levels below: 																								
<ul style="list-style-type: none"> 14.5 SEER / 12 EER AC, Heat pump (See Heating Equipment) 	<ul style="list-style-type: none"> 13 SEER AC, Heat pump (See Heating Equipment) 																							
Heating Equipment																								
<ul style="list-style-type: none"> Heating equipment modeled at the applicable efficiency levels below, dependent on fuel and system type: 																								
<ul style="list-style-type: none"> 80 AFUE gas furnace, 80 AFUE oil furnace, 80 AFUE boiler, 8.2 HSPF / 14.5 SEER / 12 EER air-source heat pump with electric or dual-fuel backup 	<ul style="list-style-type: none"> 90 AFUE gas furnace, 85 AFUE ENERGY STAR oil furnace, 85 AFUE ENERGY STAR boiler, Heat pump, with efficiency as follows: <ul style="list-style-type: none"> CZ 4: 8.5 HSPF / 14.5 SEER / 12 EER air-source w/ electric or dual-fuel backup, CZ 5: 9.25 HSPF / 14.5 SEER / 12 EER air-source w/ electric or dual-fuel backup, CZ 6: 9.5 HSPF / 14.5 SEER / 12 EER air-source w/ electric or dual-fuel backup, CZ 7-8: 3.5 COP / 16.1 EER ground-source w/ electric or dual-fuel backup 																							
Envelope, Windows, & Doors																								
<ul style="list-style-type: none"> A radiant barrier modeled if more than 10 linear feet of ductwork are located in an unconditioned attic. 	<ul style="list-style-type: none"> No radiant barrier modeled. 																							
<ul style="list-style-type: none"> Insulation levels modeled to 2009 IECC levels and Grade I installation per ANSI / RESNET / ICC 301. Infiltration rates modeled as follows: 																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">6 ACH50 in CZs 1,2</td> <td style="padding: 5px;">5 ACH50 in CZs 3,4</td> <td style="padding: 5px;">4 ACH50 in CZs 5,6,7</td> <td style="padding: 5px;">3 ACH50 in CZ 8</td> </tr> </table>				6 ACH50 in CZs 1,2	5 ACH50 in CZs 3,4	4 ACH50 in CZs 5,6,7	3 ACH50 in CZ 8																	
6 ACH50 in CZs 1,2	5 ACH50 in CZs 3,4	4 ACH50 in CZs 5,6,7	3 ACH50 in CZ 8																					
<ul style="list-style-type: none"> Windows and doors modeled, as illustrated below: 																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Window U-Value:</td> <td style="padding: 5px;">0.60 in CZs 1,2</td> <td style="padding: 5px;">0.35 in CZ 3</td> <td style="padding: 5px;">0.32 in CZ 4</td> <td style="padding: 5px;">0.30 in CZs 4 C,5,6,7,8</td> </tr> <tr> <td style="padding: 5px;">Window SHGC:</td> <td style="padding: 5px;">0.27 in CZs 1,2</td> <td style="padding: 5px;">0.30 in CZ 3</td> <td style="padding: 5px;">0.40 in CZ 4</td> <td style="padding: 5px;">Any in CZs 4 C,5,6,7,8</td> </tr> </table>				Window U-Value:	0.60 in CZs 1,2	0.35 in CZ 3	0.32 in CZ 4	0.30 in CZs 4 C,5,6,7,8	Window SHGC:	0.27 in CZs 1,2	0.30 in CZ 3	0.40 in CZ 4	Any in CZs 4 C,5,6,7,8											
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Window SHGC:	0.27 in CZs 1,2	0.30 in CZ 3	0.40 in CZ 4	Any in CZs 4 C,5,6,7,8																				
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Door U-value:</td> <td style="padding: 5px;">Opaque: 0.21</td> <td style="padding: 5px;">≤½ lite: 0.27</td> <td style="padding: 5px;">>½ lite: 0.32</td> </tr> <tr> <td style="padding: 5px;">Door SHGC:</td> <td style="padding: 5px;">Opaque: Any</td> <td style="padding: 5px;">≤½ lite: 0.30</td> <td style="padding: 5px;">>½ lite: 0.30</td> </tr> </table>				Door U-value:	Opaque: 0.21	≤½ lite: 0.27	>½ lite: 0.32	Door SHGC:	Opaque: Any	≤½ lite: 0.30	>½ lite: 0.30													
Door U-value:	Opaque: 0.21	≤½ lite: 0.27	>½ lite: 0.32																					
Door SHGC:	Opaque: Any	≤½ lite: 0.30	>½ lite: 0.30																					
Water Heater																								
<ul style="list-style-type: none"> DHW equipment modeled with the following efficiency levels as applicable: 																								
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Gas:</td> <td style="padding: 5px;">30 Gal = 0.63 EF</td> <td style="padding: 5px;">40 Gal = 0.61 EF</td> <td style="padding: 5px;">50 Gal = 0.59 EF</td> <td style="padding: 5px;">60 Gal = 0.57 EF</td> <td style="padding: 5px;">70 Gal = 0.55 EF</td> <td style="padding: 5px;">80 Gal = 0.53 EF</td> </tr> <tr> <td style="padding: 5px;">Electric:</td> <td style="padding: 5px;">30 Gal = 0.94 EF</td> <td style="padding: 5px;">40 Gal = 0.93 EF</td> <td style="padding: 5px;">50 Gal = 0.92 EF</td> <td style="padding: 5px;">60 Gal = 0.91 EF</td> <td style="padding: 5px;">70 Gal = 0.90 EF</td> <td style="padding: 5px;">80 Gal = 0.89 EF</td> </tr> <tr> <td style="padding: 5px;">Oil:</td> <td style="padding: 5px;">30 Gal = 0.55 EF</td> <td style="padding: 5px;">40 Gal = 0.53 EF</td> <td style="padding: 5px;">50 Gal = 0.51 EF</td> <td style="padding: 5px;">60 Gal = 0.49 EF</td> <td style="padding: 5px;">70 Gal = 0.47 EF</td> <td style="padding: 5px;">80 Gal = 0.45 EF</td> </tr> </table>				Gas:	30 Gal = 0.63 EF	40 Gal = 0.61 EF	50 Gal = 0.59 EF	60 Gal = 0.57 EF	70 Gal = 0.55 EF	80 Gal = 0.53 EF	Electric:	30 Gal = 0.94 EF	40 Gal = 0.93 EF	50 Gal = 0.92 EF	60 Gal = 0.91 EF	70 Gal = 0.90 EF	80 Gal = 0.89 EF	Oil:	30 Gal = 0.55 EF	40 Gal = 0.53 EF	50 Gal = 0.51 EF	60 Gal = 0.49 EF	70 Gal = 0.47 EF	80 Gal = 0.45 EF
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Oil:	30 Gal = 0.55 EF	40 Gal = 0.53 EF	50 Gal = 0.51 EF	60 Gal = 0.49 EF	70 Gal = 0.47 EF	80 Gal = 0.45 EF																		
Thermostat & Ductwork																								
<ul style="list-style-type: none"> Programmable thermostat modeled. Supply ducts in unconditioned attics modeled with R-8 insulation; all other ducts in unconditioned space modeled with R-6 insulation. Duct leakage to outdoors modeled at the greater of ≤ 4 CFM25 per 100 sq. ft. of conditioned floor area or ≤ 40 CFM25. 																								
Lighting & Appliances																								
<ul style="list-style-type: none"> ENERGY STAR refrigerators, dishwashers, and ceiling fans modeled. ENERGY STAR light bulbs modeled in 80% of ANSI / RESNET / ICC 301-defined Qualifying Light Fixture Locations. 																								



ENERGY STAR Single-Family New Homes National Program Requirements, Version 3 (Rev. 12)

Two tracks are provided for satisfying the mandatory requirements for all certified homes, Exhibit 2. Track A - HVAC Grading utilizes ANSI / RESNET / ACCA / ICC 310 ¹⁴, a standard for grading the installation of HVAC systems. Track B - HVAC Credential utilizes an HVAC contractor credentialed by an EPA-recognized H-QUITO. Either track may be selected, but all requirements within that track must be satisfied for the home to be certified.

Exhibit 2: Mandatory Requirements for All Certified Homes

Party Responsible	Mandatory Requirements
Requirements Applicable to Track A & B	
Rater	<ul style="list-style-type: none"> • Completion of SFNH National Rater Design Review Checklist, Version 3 / 3.1 / 3.2 • Completion of SFNH National Rater Field Checklist, Version 3 / 3.1 / 3.2
Builder	<ul style="list-style-type: none"> • Completion of SFNH National Water Mgmt. System Builder Reqs., Version 3 / 3.1 / 3.2
Requirements Only Applicable to Track A - HVAC Grading ¹⁴	
HVAC System Designer	<ul style="list-style-type: none"> • Completion of an HVAC design report compliant with ANSI / RESNET / ACCA / ICC 310, plus the SFNH / MFNC National HVAC Design Supplement to Std. 310 for Dwellings & Units, All Versions.
HVAC Installing Contractor	<ul style="list-style-type: none"> • None. While the HVAC contractor plays a critical role in properly installing and commissioning a system, the Rater is the party responsible for assessing its installation quality in accordance with ANSI / RESNET / ACCA / ICC 310.
Requirements Only Applicable to Track B HVAC Credential	
HVAC System Designer	<ul style="list-style-type: none"> • Completion of SFNH National HVAC Design Report, Version 3 / 3.1 / 3.2
HVAC Installing Contractor	<ul style="list-style-type: none"> • Completion of SFNH National HVAC Commissioning Checklist, Version 3 / 3.1 / 3.2

Exhibit 3: Benchmark Home ¹⁰

Bedrooms in Home to be Built	0	1	2	3	4	5	6	7	8
Conditioned Floor Area Benchmark Home	1,000	1,000	1,600	2,200	2,800	3,400	4,000	4,600	5,200



ENERGY STAR Single-Family New Homes National Program Requirements, Version 3 (Rev. 12)

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 4. Program requirements for other locations can be found at www.energystar.gov/newhomesrequirements.

This Exhibit contains all implementation timelines applicable on or after October 1, 2020. Implementation timelines applicable prior to this date can be obtained by contacting energystarhomes@energystar.gov.

Exhibit 4: ENERGY STAR Single-Family New Homes Implementation Timeline

State / Territory	Homes Permitted ¹⁵ On or After This Date Must Meet the Adjacent Version & Revision	Version	Revision ¹⁶
AL, AK, AZ, AR, CO, IN, ID, KS, KY, LA, MS, MO, NH, NC, ND, OH, OK, SC, SD, TN, VA, WV, WI, WY	10-01-2020	National v3	Rev. 10
	01-01-2022	National v3	Rev. 11
	01-01-2023	National v3.1	Rev. 11
	01-01-2024	National v3.1	Rev. 12
PA	10-01-2020	National v3	Rev. 10
	04-01-2021	National v3.1	Rev. 10
	01-01-2022	National v3.1	Rev. 11
	01-01-2024	National v3.1	Rev. 12
NE	10-01-2020	National v3	Rev. 10
	07-01-2021	National v3.1	Rev. 10
	01-01-2022	National v3.1	Rev. 11
	01-01-2024	National v3.1	Rev. 12
GA, NM, UT	10-01-2020	National v3	Rev. 10
	01-01-2022	National v3	Rev. 11
	07-01-2022	National v3.1	Rev. 11
	01-01-2024	National v3.1	Rev. 12
ME	10-01-2020	National v3	Rev. 10
	01-01-2022	National v3	Rev. 11
	10-01-2022	National v3.1	Rev. 11
	01-01-2024	National v3.1	Rev. 12

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, as defined by ANSI / RESNET / ICC 301, is any building that contains one or two Dwelling Units used, intended, or designed to be built, used, rented, leased, let or hired out to be occupied, or that are occupied for living purposes. ANSI / RESNET / ICC 301 defines a Dwelling Unit as a single unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation.
3. A Townhouse, as defined by ANSI / RESNET / ICC 301, is 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. Townhouses are also eligible to participate in the ENERGY STAR Multifamily New Construction Program.
4. If permitted prior to July 1, 2021, the following are also eligible to participate in the ENERGY STAR SFNH program:
 - Dwelling units ² in any multifamily building with 4 units or fewer; OR
 - Dwelling units in multifamily buildings with 3 stories or fewer above-grade; OR
 - Dwelling units in multifamily buildings with 4 or 5 stories above-grade where dwelling units occupy 80% or more of the occupiable square footage of the building. When evaluating mixed-use buildings for eligibility, exclude commercial / retail space when assessing whether the 80% threshold has been met.

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



ENERGY STAR Single-Family New Homes National Program Requirements, Version 3 (Rev. 12)

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.

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. 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 / ICC 301, that is approved by an HCO.
7. 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.
8. 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 or Approved Inspector, as defined by ANSI / RESNET / ICC 301, or an equivalent designation as determined by an HCO; and, b) have attended and successfully completed an EPA-recognized training class. See www.energystar.gov/newhomestraining.
9. The software program shall automatically determine (i.e., without relying on a user-configured ENERGY STAR Reference Design) this target for each rated home by following the National ERI Target Procedure, Version 3 (Rev. 12), available at www.energystar.gov/newhomesrequirements.
10. The average-size home with a specific number of bedrooms is termed the "Benchmark Home". The conditioned floor area of a Benchmark Home (CFA_{Benchmark Home}) is determined by selecting the appropriate value from Exhibit 3. For homes with more than 8 bedrooms, the CFA_{Benchmark Home} shall be determined by multiplying 600 sq. ft. by the total number of bedrooms & adding 400 sq. ft.
A bedroom is defined by ANSI / RESNET / ICC 301-2014 as a room or space 70 sq. ft. or greater size, with egress window and closet, used or intended to be used for sleeping. A "den", "library", or "home office" with a closet, egress window, and 70 sq. ft. or greater size or other similar rooms shall count as a bedroom, but living rooms and foyers shall not.
An egress window, as defined in 2009 IRC section R310, shall refer to any operable window that provides for a means of escape and access for rescue in the event of an emergency. The egress window definition has been summarized for convenience. The egress window shall:
 - have a sill height of not more than 44 in. above the floor; AND
 - have a minimum net clear opening of 5.7 sq. ft.; AND
 - have a minimum net clear opening height of 24 in.; AND
 - have a minimum net clear opening width of 20 in.; AND
 - be operational from the inside of the room without the use of keys, tools or special knowledge.
11. Raters who operate under an HCO with a Sampling Protocol are permitted to verify the Minimum Rated Features of the home and to verify any Checklist Item designated "Rater Verified" using an HCO-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 HVAC Commissioning Checklist are permitted to be verified using a Sampling Protocol.
12. 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 ERI target, 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 homes. For current ENERGY STAR products, visit www.energystar.gov/products.
13. 2009 IECC Climate Zone designations, as defined and illustrated in [Section 301](#) of the code, are used to configure the ENERGY STAR Reference Design Home.
14. Track A – HVAC Grading shall use ANSI / RESNET / ACCA / ICC 310 including all Addenda and Normative Appendices, with new versions and Addenda implemented according to the schedule defined by the HCO that the home is being certified under.
15. 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.
16. Homes certified under Rev. 12 of the program requirements are permitted to use either Rev. 08, 09, 10, 11, or 12 of the National HVAC Design Report.

INTERMOUNTAIN GAS COMPANY

CASE No. INT-G-23-07

Exhibit 3 to Company Reply Comments

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.



National Program Requirements

ENERGY STAR Certified Homes, Version 3 (Rev. 10)

Eligibility Requirements

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

- 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, Training, and Credentialing Requirements

The following requirements must be met 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.
- HVAC installing contractors are required to be credentialed by an EPA-recognized HVAC Quality Installation Training and Oversight Organization (H-QUITO) for homes certified using Path B in Exhibit 2. An explanation of this process can be found at www.energystar.gov/newhomesHVAC.
- Energy Rating Companies (e.g., rater companies and Providers ⁷) are required to sign an ENERGY STAR Partnership Agreement, which can be found at www.energystar.gov/homesPA, and Raters ⁸ are required to complete EPA-recognized training, which can be found at www.energystar.gov/newhomestraining.

ENERGY STAR Certification Process

1. The certification process provides flexibility to select a custom combination of measures for each home that is equivalent in performance to the minimum requirements of the ENERGY STAR Reference Design Home, Exhibit 1, as assessed through energy modeling. An EPA-recognized Verification Oversight Organization (VOO)'s Approved Software Rating Tool shall automatically determine the ENERGY STAR ERI Target, which is the highest ERI value that each rated home may achieve to earn the ENERGY STAR. ⁹

2. Using the same software program, configure the preferred set of efficiency measures for the home to be certified and verify that the resulting ERI meets or exceeds the ENERGY STAR ERI Target, as determined in Step 1.

Note that, regardless of the measures selected, the Mandatory Requirements for All Certified Homes 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). Furthermore, on-site power generation may only be used to meet the ENERGY STAR ERI Target for homes that are larger than the Benchmark Home and only for the incremental change in the ENERGY STAR ERI Target caused by the Size Adjustment Factor. ¹⁰

3. Construct the home using the measures selected in Step 2 and the Mandatory Requirements for All Certified Homes, Exhibit 2.

4. 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-recognized VOO. ^{8, 11} 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-recognized VOO. The Rater is required to keep electronic or hard copies of the completed and signed National Rater checklists and the National HVAC Design Report.

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 home cannot earn the ENERGY STAR until the item is corrected. If correction is not possible, the home cannot earn the ENERGY STAR. In the event that an item on a National Rater checklist cannot be inspected by the Rater, the home also cannot earn the ENERGY STAR. The only exceptions 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. This option shall only be used at the discretion of the Rater. When exercised, the builder's responsibility will be formally acknowledged by the builder 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. 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 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 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.



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

Exhibit 1: ENERGY STAR Reference Design Home ¹²

The ENERGY STAR Reference Design Home is the set of efficiency features modeled to determine the ENERGY STAR ERI Target for each home pursuing certification. Therefore, while the features below are not mandatory, if they are not used then other measures will be needed to achieve the ENERGY STAR ERI Target. In addition, note that the Mandatory Requirements for All Certified Homes, Exhibit 2, contain additional requirements such as total duct leakage limits, minimum allowed insulation levels, and minimum allowed fenestration performance. Therefore, EPA recommends that partners review the documents in Exhibit 2 prior to selecting measures.

Hot Climates (2009 IECC Zones 1,2,3) ¹³	Mixed and Cold Climates (2009 IECC Zones 4,5,6,7,8) ¹³																								
Cooling Equipment (Where Provided)																									
<ul style="list-style-type: none"> Cooling equipment modeled at the applicable efficiency levels below: 																									
<ul style="list-style-type: none"> 14.5 SEER / 12 EER AC, Heat pump (See Heating Equipment) 	<ul style="list-style-type: none"> 13 SEER AC, Heat pump (See Heating Equipment) 																								
Heating Equipment																									
<ul style="list-style-type: none"> Heating equipment modeled at the applicable efficiency levels below, dependent on fuel and system type: 																									
<ul style="list-style-type: none"> 80 AFUE gas furnace, 80 AFUE oil furnace, 80 AFUE boiler, 8.2 HSPF / 14.5 SEER / 12 EER air-source heat pump with electric or dual-fuel backup 	<ul style="list-style-type: none"> 90 AFUE gas furnace, 85 AFUE ENERGY STAR oil furnace, 85 AFUE ENERGY STAR boiler, Heat pump, with efficiency as follows: <ul style="list-style-type: none"> CZ 4: 8.5 HSPF / 14.5 SEER / 12 EER air-source w/ electric or dual-fuel backup, CZ 5: 9.25 HSPF / 14.5 SEER / 12 EER air-source w/ electric or dual-fuel backup, CZ 6: 9.5 HSPF / 14.5 SEER / 12 EER air-source w/ electric or dual-fuel backup, CZ 7-8: 3.5 COP / 16.1 EER ground-source w/ electric or dual-fuel backup 																								
Envelope, Windows, & Doors																									
<ul style="list-style-type: none"> A radiant barrier modeled if more than 10 linear feet of ductwork are located in an unconditioned attic. 	<ul style="list-style-type: none"> No radiant barrier modeled. 																								
<ul style="list-style-type: none"> Insulation levels modeled to 2009 IECC levels and Grade I installation per ANSI / RESNET / ICC Standard 301. Infiltration rates modeled as follows: 																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">6 ACH50 in CZs 1,2</td> <td style="padding: 5px;">5 ACH50 in CZs 3,4</td> <td style="padding: 5px;">4 ACH50 in CZs 5,6,7</td> <td colspan="2" style="padding: 5px;">3 ACH50 in CZ 8</td> </tr> </table>					6 ACH50 in CZs 1,2	5 ACH50 in CZs 3,4	4 ACH50 in CZs 5,6,7	3 ACH50 in CZ 8																	
6 ACH50 in CZs 1,2	5 ACH50 in CZs 3,4	4 ACH50 in CZs 5,6,7	3 ACH50 in CZ 8																						
<ul style="list-style-type: none"> Windows and doors modeled, as illustrated below: 																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Window U-Value:</td> <td style="padding: 5px;">0.60 in CZs 1,2</td> <td style="padding: 5px;">0.35 in CZ 3</td> <td style="padding: 5px;">0.32 in CZ 4</td> <td style="padding: 5px;">0.30 in CZs 4 C,5,6,7,8</td> </tr> <tr> <td style="padding: 5px;">Window SHGC:</td> <td style="padding: 5px;">0.27 in CZs 1,2</td> <td style="padding: 5px;">0.30 in CZ 3</td> <td style="padding: 5px;">0.40 in CZ 4</td> <td style="padding: 5px;">Any in CZs 4 C,5,6,7,8</td> </tr> </table>					Window U-Value:	0.60 in CZs 1,2	0.35 in CZ 3	0.32 in CZ 4	0.30 in CZs 4 C,5,6,7,8	Window SHGC:	0.27 in CZs 1,2	0.30 in CZ 3	0.40 in CZ 4	Any in CZs 4 C,5,6,7,8											
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Window SHGC:	0.27 in CZs 1,2	0.30 in CZ 3	0.40 in CZ 4	Any in CZs 4 C,5,6,7,8																					
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Door U-value:</td> <td style="padding: 5px;">Opaque: 0.21</td> <td style="padding: 5px;">≤½ lite: 0.27</td> <td colspan="2" style="padding: 5px;">>½ lite: 0.32</td> </tr> <tr> <td style="padding: 5px;">Door SHGC:</td> <td style="padding: 5px;">Opaque: Any</td> <td style="padding: 5px;">≤½ lite: 0.30</td> <td colspan="2" style="padding: 5px;">>½ lite: 0.30</td> </tr> </table>					Door U-value:	Opaque: 0.21	≤½ lite: 0.27	>½ lite: 0.32		Door SHGC:	Opaque: Any	≤½ lite: 0.30	>½ lite: 0.30												
Door U-value:	Opaque: 0.21	≤½ lite: 0.27	>½ lite: 0.32																						
Door SHGC:	Opaque: Any	≤½ lite: 0.30	>½ lite: 0.30																						
Water Heater																									
<ul style="list-style-type: none"> DHW equipment modeled with the following efficiency levels as applicable: 																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="padding: 5px;">Gas:</td> <td style="padding: 5px;">30 Gal = 0.63 EF</td> <td style="padding: 5px;">40 Gal = 0.61 EF</td> <td style="padding: 5px;">50 Gal = 0.59 EF</td> <td style="padding: 5px;">60 Gal = 0.57 EF</td> <td style="padding: 5px;">70 Gal = 0.55 EF</td> <td style="padding: 5px;">80 Gal = 0.53 EF</td> </tr> <tr> <td style="padding: 5px;">Electric:</td> <td style="padding: 5px;">30 Gal = 0.94 EF</td> <td style="padding: 5px;">40 Gal = 0.93 EF</td> <td style="padding: 5px;">50 Gal = 0.92 EF</td> <td style="padding: 5px;">60 Gal = 0.91 EF</td> <td style="padding: 5px;">70 Gal = 0.90 EF</td> <td style="padding: 5px;">80 Gal = 0.89 EF</td> </tr> <tr> <td style="padding: 5px;">Oil:</td> <td style="padding: 5px;">30 Gal = 0.55 EF</td> <td style="padding: 5px;">40 Gal = 0.53 EF</td> <td style="padding: 5px;">50 Gal = 0.51 EF</td> <td style="padding: 5px;">60 Gal = 0.49 EF</td> <td style="padding: 5px;">70 Gal = 0.47 EF</td> <td style="padding: 5px;">80 Gal = 0.45 EF</td> </tr> </table>					Gas:	30 Gal = 0.63 EF	40 Gal = 0.61 EF	50 Gal = 0.59 EF	60 Gal = 0.57 EF	70 Gal = 0.55 EF	80 Gal = 0.53 EF	Electric:	30 Gal = 0.94 EF	40 Gal = 0.93 EF	50 Gal = 0.92 EF	60 Gal = 0.91 EF	70 Gal = 0.90 EF	80 Gal = 0.89 EF	Oil:	30 Gal = 0.55 EF	40 Gal = 0.53 EF	50 Gal = 0.51 EF	60 Gal = 0.49 EF	70 Gal = 0.47 EF	80 Gal = 0.45 EF
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Oil:	30 Gal = 0.55 EF	40 Gal = 0.53 EF	50 Gal = 0.51 EF	60 Gal = 0.49 EF	70 Gal = 0.47 EF	80 Gal = 0.45 EF																			
Thermostat & Ductwork																									
<ul style="list-style-type: none"> Programmable thermostat modeled. Supply ducts in unconditioned attics modeled with R-8 insulation; all other ducts in unconditioned space modeled with R-6 insulation. Duct leakage to outdoors modeled at the greater of ≤ 4 CFM25 per 100 sq. ft. of conditioned floor area or ≤ 40 CFM25. 																									
Lighting & Appliances																									
<ul style="list-style-type: none"> ENERGY STAR refrigerators, dishwashers, and ceiling fans modeled. ENERGY STAR light bulbs modeled in 80% of ANSI / RESNET / ICC Standard 301-defined Qualifying Light Fixture Locations. 																									



National Program Requirements

ENERGY STAR Certified Homes, Version 3 (Rev. 10)

Two paths are provided for satisfying the mandatory requirements for all certified homes, Exhibit 2. Path A - HVAC Grading utilizes ANSI / RESNET / ACCA Std. 310¹⁴, a standard for grading the installation of HVAC systems. Path B - HVAC Credential utilizes an HVAC contractor credentialed by an EPA-recognized H-QUITO. Either path may be selected, but all requirements within that path must be satisfied for the home to be certified.

Exhibit 2: Mandatory Requirements for All Certified Homes

Party Responsible	Mandatory Requirements
Requirements Applicable to Path A & B	
Rater	<ul style="list-style-type: none"> • Completion of National Rater Design Review Checklist, Version 3 / 3.1 • Completion of National Rater Field Checklist, Version 3 / 3.1
Builder	<ul style="list-style-type: none"> • Completion of National Water Management System Builder Requirements, Version 3 / 3.1
Requirements Only Applicable to Path A - HVAC Grading¹⁴	
HVAC System Designer	<ul style="list-style-type: none"> • Completion of an HVAC design report compliant with ANSI / RESNET / ACCA Std. 310, plus the ENERGY STAR Supplement.
HVAC Installing Contractor	<ul style="list-style-type: none"> • None. While the HVAC contractor plays a critical role in properly installing and commissioning a system, the Rater is the party responsible for assessing its installation quality in accordance with ANSI / RESNET / ACCA Std. 310.
Requirements Only Applicable to Path B - HVAC Credential	
HVAC System Designer	<ul style="list-style-type: none"> • Completion of National HVAC Design Report, Version 3 / 3.1
HVAC Installing Contractor	<ul style="list-style-type: none"> • Completion of National HVAC Commissioning Checklist, Version 3 / 3.1

Exhibit 3: Benchmark Home¹⁰

Bedrooms in Home to be Built	0	1	2	3	4	5	6	7	8
Conditioned Floor Area Benchmark Home	1,000	1,000	1,600	2,200	2,800	3,400	4,000	4,600	5,200



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

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 4. Note that the National Version 3.1 program requirements are being implemented in states that have adopted the 2012, 2015, or 2018 IECC, or an equivalent code. Note, as well, that regional program requirements, and associated implementation timelines, have been developed for homes in CA, FL, GU, HI, the Northern Mariana Islands, OR, PR, and WA. The National Version 3.1 and regional program requirements 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 4: ENERGY STAR Certified Homes Implementation Timeline

State / Territory	Homes Permitted ¹⁵ On or After This Date Must Meet the Adjacent Version & Revision	Version	Revision ¹⁶
AL, AK, AZ, AR, CO, GA, IN, ID, KS, KY, LA, ME, MS, MO, NE, NH, NM, NC, ND, OH, OK, PA, SC, SD, TN, UT, VA, WV, WI, WY	07-01-2016	National v3	Rev. 08
	01-01-2019	National v3	Rev. 09
	10-01-2020	National v3	Rev. 10
DC, DE, IA, IL, MA, MD, MN, MT, RI, VT	07-01-2016	National v3.1	Rev. 08
	01-01-2019	National v3.1	Rev. 09
	10-01-2020	National v3.1	Rev. 10
NV	07-01-2016	National v3	Rev. 08
	10-01-2016	National v3.1	Rev. 08
	01-01-2019	National v3.1	Rev. 09
	10-01-2020	National v3.1	Rev. 10
MI, NJ	07-01-2016	National v3	Rev. 08
	04-01-2017	National v3.1	Rev. 08
	01-01-2019	National v3.1	Rev. 09
	10-01-2020	National v3.1	Rev. 10
CT, NY	07-01-2016	National v3	Rev. 08
	10-01-2017	National v3.1	Rev. 08
	01-01-2019	National v3.1	Rev. 09
	10-01-2020	National v3.1	Rev. 10
TX	07-01-2016	National v3	Rev. 08
	07-01-2018	National v3.1	Rev. 08
	01-01-2019	National v3.1	Rev. 09
	10-01-2020	National v3.1	Rev. 10



National Program Requirements

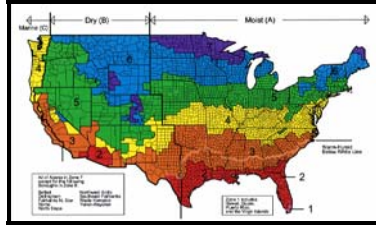
ENERGY STAR Certified Homes, Version 3 (Rev. 10)

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) or Multifamily New Construction (MFNC) Programs.
6. 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.
7. The term 'Provider' refers to an Approved Rating Provider that is a designee of a VOO such as RESNET.
8. 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, 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.
9. The software program shall automatically determine (i.e., without relying on a user-configured ENERGY STAR Reference Design) this target for each rated home by following the National ERI Target Procedure, Version 3 (Rev. 10), available at www.energystar.gov/newhomesrequirements.
10. The average-size home with a specific number of bedrooms is termed the "Benchmark Home". The conditioned floor area of a Benchmark Home (CFA_{Benchmark Home}) is determined by selecting the appropriate value from Exhibit 3. For homes with more than 8 bedrooms, the CFA_{Benchmark Home} shall be determined by multiplying 600 sq. ft. by the total number of bedrooms & adding 400 sq. ft.
A bedroom is defined by ANSI / RESNET / ICC Standard 301-2014 as a room or space 70 sq. ft. or greater size, with egress window and closet, used or intended to be used for sleeping. A "den", "library", or "home office" with a closet, egress window, and 70 sq. ft. or greater size or other similar rooms shall count as a bedroom, but living rooms and foyers shall not.
An egress window, as defined in 2009 IRC section R310, shall refer to any operable window that provides for a means of escape and access for rescue in the event of an emergency. The egress window definition has been summarized for convenience. The egress window shall:
 - have a sill height of not more than 44 in. above the floor; AND
 - have a minimum net clear opening of 5.7 sq. ft.; AND
 - have a minimum net clear opening height of 24 in.; AND
 - have a minimum net clear opening width of 20 in.; AND
 - be operational from the inside of the room without the use of keys, tools or special knowledge.
11. 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 for homes outside California, and the CEC-approved sampling protocol for homes in CA. 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 HVAC Commissioning Checklist are permitted to be verified using a sampling protocol.
12. 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 ERI target, 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 homes. For current ENERGY STAR products, visit www.energystar.gov/products.
13. The following map illustrates the Climate Zone boundaries as defined by the 2009 IECC Figure 301.1.



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



14. Path A – HVAC Grading shall not be used until an Effective Date has been defined by RESNET for ANSI / RESNET / ACCA Std. 310. Path A – HVAC Grading shall then use ANSI / RESNET / ACCA Std. 310 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 310 shall also be followed.
15. 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.
16. 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.