U.S. DEPARTMENT of ENERGY

DOE Efficient New Homes
Single Family National Program Requirements
Version 2 (Rev. 3)

Contents

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1. Building Eligibility Requirements

The following homes are eligible to participate in the DOE Efficient New Homes Single Family program: detached dwellings[1] (e.g., single-family homes, duplexes) and townhomes.[2] These homes may be site-built or modular construction.[3]

To earn certification under the DOE Efficient New Homes Single Family program, an eligible home shall meet the minimum requirements specified below, be verified and field-tested by an approved Rater[4], and meet all applicable codes.[5] Note that compliance with these guidelines does not imply compliance with all local code requirements that may be applicable to the home to be built. In cases where local codes overlap with and/or exceed the DOE Efficient New Homes program requirements, these local requirements shall be met. In any jurisdiction where 2021 (or 2024) IECC Appendix RC Zero (Net) Energy Residential Building Provisions have been adopted as a code requirement, homes must comply with both the Energy Rating Index (ERI) requirements of Appendix RC and meet the DOE Efficient New Homes Target Home ERI requirements described below to achieve DOE Efficient New Homes certification.

To determine the required version and revision of DOE Efficient New Homes program requirements to use based on a project's location, building type, and permit date[6], partners must reference the DOE Efficient New Homes implementation timeline information posted on the DOE Efficient New Homes program requirements website. Partners are advised to check the DOE Efficient New Homes website and IRS Guidance on the 45L tax credit for further information about tax credit eligibility.

2. Partnership, Training, and Credentialing Requirements

The following requirements must be met by program participants before a home can be certified:

- The builder must register as a DOE Efficient New Homes partner and sign the Builder Partner Agreement, available in Partner Central on the program website.
- Energy Rating Companies (e.g., rater companies and Providers[7]) are required to register as a DOE Efficient New Homes partner and sign a Partnership Agreement, available in Partner Central on the program website.
- Raters are required to complete all training modules applicable to the DOE Efficient New Homes Single Family Version 2 program specifications (according to the timeline posted on the program website) prior to completing a project's first inspection. Note that required training modules are subject to change and Raters will have an allocated transition period to complete additional or updated training modules as they become available. If a Rater does not successfully complete these modules before the end of the allocated transition period, they may not certify projects until the modules are complete.
- Raters must be credentialed by a Home Certification Organization for DOE Efficient New Homes (HCO for DOE).[8] Learn more and find a current list of HCOs for DOE here.

3. DOE Efficient New Homes Single Family Version 2 Certification Process

1. Projects conduct energy modeling using an approved software rating tool from a recognized HCO for DOE to establish the home's Energy Rating Index (ERI) score. The home's ERI must be equal to or lower than the ERI of the DOE Efficient New Homes Target Home as defined in Exhibit 2. On-site power generation may not be used to meet the Target ERI. The ERI for the Target Home shall be automatically generated by the approved software rating tool.[9]
2. Construct the home using the measures specified in the design that result in an ERI at or below the DOE Efficient New Homes ERI Target, calculated above, ***and*** incorporate the mandatory requirements listed in Exhibit 1.
3. Use a Rater operating under a recognized HCO for DOE to verify that all requirements have been met in accordance with the Mandatory Requirements and with the inspection procedures for minimum rated features in ANSI / RESNET / ICC Standard 301, Appendix B.[10, 11] This will require a minimum of two inspections: one at pre-drywall and the other at final. The Rater must review all items in the DOE Efficient New Homes Single Family Version 2 (Rev. 3) National Rater Checklist.[12] For modular homes, a Rater must verify in the plant any requirement that is not readily verifiable on-site.

4. Submit the home to the HCO for DOE for final certification and follow the HCO for DOE's certification and oversight procedures, including those for quality assurance, recordkeeping, and reporting. The Rater is required to keep electronic or hard copies of completed checklists required for the DOE Efficient New Homes certification, including those required for prerequisite certifications.

Exhibit 1: DOE Efficient New Homes Mandatory Requirements

Component	Mandatory Requirements
1. DOE Efficient New Homes National Rater Checklist	1.1 Rater completes the DOE Efficient New Homes Single Family Version 2 (Rev. 3) National Rater Checklist.
2. ENERGY STAR Baseline	2.1 The home is certified under ENERGY STAR Single Family New Homes National Version 3.2 or 3.3.[13]
3. Envelope	3.1 Total building thermal envelope achieves ≤ 100% of the total UA calculated using 2021 IECC Table 402.1.2 or ≤ 100% of the total TC calculated using 2024 IECC Table 402.1.2.[14, 15, 16] 3.2 Windows, skylights, and doors that are ≥ 50% glazed achieve an area-weighted average SHGC ≤ 0.23 (Climate Zone 1-2), ≤ 0.25 (Climate Zone 3), or ≤ 0.40 (Climate Zone 4A, 4B).[17, 18]
4. Duct System	4.1 All heating and cooling distribution ducts and heating and cooling air-handling equipment are located within the thermal and air barrier boundary.[19]
5. Water Heating Efficiency (comply with 5.1, 5.2, ***or*** 5.3)	5.1 Hot water delivery systems meet efficient design requirements.[20] 5.2 Water heater and fixtures meet efficiency criteria.[21, 22] 5.3 Home is certified under WaterSense Labeled Homes Version 2.0.
6. Lighting & Appliances [23]	6.1 All builder-supplied and -installed refrigerators, dishwashers, clothes washers, and clothes dryers are ENERGY STAR certified.[24, 25] 6.2 100% of builder-installed lighting fixtures and lamps (bulbs) provided are LEDs.[26, 27] 6.3 All installed bathroom ventilation fans are ENERGY STAR certified.[28]
7. Indoor Air Quality	7.1 The home is certified under EPA Indoor AirPlus.[29] 7.2 Energy efficient balanced ventilation (HRV or ERV) is provided in Climate Zones 6-8.[30, 31]
8. Renewable Ready	8.1 Provisions of the DOE Efficient New Homes Single Family Version 2 (Rev. 2) PV-Ready Checklist are completed.[32]
9. Electric Vehicle Ready	9.1 One parking space is provided per dwelling unit that includes a powered 208/240V, 30A receptacle installed in dwelling unit's garage or within 6 feet of the dwelling unit's private driveway. The electric service panel identifies the branch circuit as "Electric Vehicle Charging." [33] For other parking configurations, see endnote.[34]
10. Heat Pump Water Heater Ready	10.1 Individual branch circuit outlet is installed, energized, and terminates within 3 feet of each installed fossil fuel water heater.[35] 10.2 A space is located within the home or garage that is at least 3' x 3' wide and 7' high surrounding or within 3 feet of the installed fossil fuel water heater, to facilitate future heat pump water heater installation.[36]
11. Heat Pump Space Heating Ready	11.1 Individual branch circuit outlet or conduit is installed to facilitate future wiring for a heat pump installation and is labeled "For future heat pump." [37]

Exhibit 2: DOE Efficient New Homes Target Home [38]

HVAC Equipment [39, 40]			
2021 IECC Climate Zone	**Very Hot & Hot Climates** 1, 2	**Warm & Mixed Climates** 3, 4A, 4B	**Cold & Very Cold Climates** 4C, 5, 6, 7, 8
Furnace AFUE	80%	CZ3: 92%; CZ4: 95%	95%
Air Conditioner SEER2	17.1	15.2	13.3
Air Source Heat Pump SEER2	17.1	15.2	15.2
Air Source Heat Pump HSPF2	7.8	7.8	8.0
Boiler AFUE	80%	CZ3: 92%; CZ4: 95%	95%
Whole-House Mechanical Ventilation System Efficiency	2.9 cfm/W no heat exchange	2.9 cfm/W no heat exchange	1.2 cfm/W; balanced with heat exchange, 65% ASRE

HVAC Grading			
Total Duct Leakage	**Airflow Deviation**	**Watt Draw Efficiency**	**Refrigerant Grade** (as applicable)
Grade I [41]	Grade I, -7.5%	Grade I, 0.45 W/cfm	Grade III

Insulation and Infiltration					
Insulation Level	2021 IECC Prescriptive values				
Insulation Installation Grade	Grade 1, per ANSI / RESNET / ICC Standard 301				
2021 IECC Climate Zone		1, 2	3, 4A, 4B	4C, 5, 6, 7	8
Detached Dwelling Unit [42] Infiltration (ACH50)		2.75	2.25	2.0	1.5
Attached Dwelling Unit Infiltration (duplexes, townhomes) (ACH50)		3.0			

Windows					
2021 IECC Climate Zone	1, 2	3	4A, 4B	4C, 5	6, 7, 8
U-Value	0.40	0.30	0.30	0.27	0.25
SHGC	0.23	0.25	0.30	0.30	0.30

Doors				
Door Type [43]	Opaque	≤ ½-Lite	> ½-Lite	
Climate Zone	All	All	1 – 3	4 - 8
Door U-Value	0.17	0.25	0.30	0.30
Door SHGC	Any	0.25	0.25	0.40

Water Heater		
DHW equipment modeled at the applicable efficiency levels based on Uniform Energy Factor (UEF)	**Electric Systems**	**Gas / Propane Systems**
	2.57	0.95

Ducts and Thermostat [44]
• All ducts and air handlers modeled within conditioned space, uninsulated, with no leakage to the outside • Programmable thermostat

Lighting & Appliances	
ENERGY STAR Appliances	Dishwasher, Refrigerator, Ceiling Fans (if used)
ENERGY STAR Lighting	Lamps (bulbs) or fixtures in 100% of Qualifying Light Fixture Locations as defined by ANSI / RESNET / ICC Standard 301

Endnotes:

[1] A dwelling, as defined by ANSI / RESNET / ICC Standard 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. A dwelling unit, as defined by ANSI / RESNET / ICC Standard 301 is a single unit providing complete independent living facilities for one or more persons, including permanent provisions for living, sleeping, eating, cooking, and sanitation.

[2] A townhouse, as defined by ANSI / RESNET / ICC Standard 301, is defined as 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. Townhomes with permit dates on or before 12/31/2025 are also eligible to participate in the DOE Efficient New Homes Multifamily Version 2 program.

[3] A modular home is a prefabricated home that is made of 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.

[4] The Rater is defined as the person(s) completing the third-party verification required for certification. The person(s) shall be a Certified Rater or Approved Inspector, as defined by ANSI / RESNET / ICC Standard 301, or an equivalent designation as determined by a DOE-recognized Home Certification Organization for DOE Efficient New Homes (HCO for DOE).

[5] Where requirements of the local codes, covenants, manufacturers' installation instructions, or engineering documents overlap with the requirements of these guidelines, DOE offers the following guidance:

a. In cases where the overlapping requirements exceed the DOE Efficient New Homes Single Family guidelines, these overlapping requirements shall be met.
b. In cases where overlapping requirements conflict with a requirement of these DOE Efficient New Homes Single Family program requirements, then the home is exempt from the conflicting requirement within these guidelines. However, certification shall only be allowed if the Rater has determined that no equivalent option is available that could meet the conflicting requirement of these guidelines. Note that a home must still meet the Target Home Energy Rating Index Target. Therefore, other efficiency measures may be needed to compensate for the omission of the conflicting requirement.

[6] The 'permit date' is the date on which the permit authorizing construction of the building was issued. In cases where multiple permits are issued for a project (e.g., footing permits, building permits), the 'permit date' is the date on which the permit authorizing construction of the building, including the building features affecting energy use (e.g., insulation levels, window U/SHGC specifications, mechanical equipment efficiency), was issued. Alternatively, the date that the Rater first verifies a DOE Efficient New Homes program provision requiring an on-site inspection (e.g., inspection of slab insulation) or the date of the contract on the home is allowed to be used as the 'permit date'. The permit application date is not allowed to be used.

[7] The term 'Provider' refers to an Approved Rating Provider as defined by ANSI / RESNET / ICC Standard 301 that is approved by an HCO for DOE.

[8] HCOs for DOE are independent organizations recognized by DOE to implement a DOE Efficient New Homes certification program for single-family and multifamily homes and apartments using the Energy Rating Index (ERI) compliance path.

[9] The software program shall automatically determine, without relying on a user-configured Target Home, the ERI target for each rated home by following the DOE Efficient New Homes Target Home Procedure, Version 2 (Rev. 3).

[10] In the event that a Rater is not able to determine whether a program requirement has been met, (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 DOE prior to project completion at: EfficientNewHomes@doe.gov and will receive an initial response within 5 business days. If DOE believes the current program guidelines are sufficiently clear to determine whether the item in question has been met, then this guidance will be provided to the Partner and enforced beginning with the house in question. However, if DOE 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 following the release of the revised program requirements, typically 60 days in length. This process will allow DOE to make formal policy decisions as Partner questions arise and to disseminate these policy decisions through the DOE Efficient New Homes Policy Record and the periodic release of revised program documents to ensure consistent application of the program guidelines.

[11] Sampling of DOE Efficient New Homes program requirements is not allowed for townhouses, single family homes, or duplexes. However, sampling of requirements for other certification programs referenced by DOE Efficient New Homes is allowed, but only to the extent permitted by their respective program requirements and allowances for sampling.

[12] The Rater must verify that each inspection checklist item has been met within program-defined tolerances.

[13] In some states, an earlier version of ENERGY STAR Single Family New Homes such as National Version 3.1 may be permitted to be used for certification by the ENERGY STAR Residential New Construction program. However, compliance with DOE Efficient New Homes Single Family Version 2 requires certification under ESSFNH National V3.2 or 3.3 in all states except Hawaii, where homes must be certified under ENERGY STAR Single Family New Homes Pacific Version 3.2 to be eligible for DOE Efficient New Homes Single Family Version 2 certification.

[14] Building envelope assemblies, including exterior walls and unvented attic assemblies (where used), shall comply with the relevant vapor retarder provisions of the 2021 (or 2024) International Residential Code (IRC).

[15] When using the 2021 UA approach, the total building envelope UA shall be less than or equal to the UA value that results from multiplying the U factors in the 2021 International Energy Conservation Code (IECC) Table R402.1.2 by the same assembly areas as the home being certified. When using the 2024 TC approach, the total building envelope TC shall be less than or equal to the total TC resulting from using the factors in 2024 IECC Table R402.1.2 and Equation 4-1 of that code.

The UA calculation shall be done using a method consistent with the ASHRAE Handbook of Fundamentals and shall include the thermal bridging effects of framing materials. The calculation for a steel-frame envelope assembly shall use the ASHRAE zone method or a method providing equivalent results, and not a series-parallel path calculation method. The performance of building envelope components can be traded off using the UA or TC approach. The 2021 UA or 2024 TC calculation (and energy model) for the home must accurately reflect all envelope details assessed in Items 3.1 through 3.5 of the ESSFNH National Rater Field Checklist.

In jurisdictions designated by a code official as having Very Heavy Termite Infestation, the slab edge insulation value and depth shall be adjusted in the UA or TC calculation. For the purpose of determining compliance with this requirement, the total UA or TC limit shall be calculated by replacing the code-required slab insulation R-value and depth with the slab insulation R-value and depth specified in the Rated Home. However, these projects

are still required to achieve the DOE Efficient New Homes ERI Target, which assumes the use of slab edge insulation per the 2021 IECC prescriptive values.

If no NFRC rating is noted on the window or in product literature (e.g., for site-built fenestration), select the U factor value from Tables 4 and 10, respectively, in 2013 ASHRAE Fundamentals, Chapter 15. Select the highest U-factor among the values listed for the known window characteristics (e.g., frame type, number of panes, glass color, and presence of low-e coating).

[17] Exceptions:

a. 15 square feet of fenestration per dwelling unit are exempt from the SHGC requirements and may be excluded from area-weighted average.
b. Fenestration used as part of a passive solar design is exempt from the SHGC requirements and may be excluded from the area-weighted average. Exempt fenestration must be facing within 45 degrees of true south and directly coupled to thermal storage mass that has a heat capacity > 20 btu / $ft^3x^{\circ}F$ and provided in a ratio of at least 3 ft^2 per ft^2 of south-facing windows. Generally, thermal mass materials will be at least 2 inches thick.
c. In Phius or PHI certified homes, where triple-glazed window assemblies with thermal breaks/spacers between the panes are used, such windows meet the intent of Item 3.2.

[18] If no NFRC rating is noted on the window or in product literature (e.g., for site-built fenestration), select the SHGC value from Tables 4 and 10, respectively, in the 2013 ASHRAE Handbook of Fundamentals, Chapter 15. Select the highest SHGC value among the values listed for the known window characteristics (e.g., frame type, number of panes, glass color, and presence of low-e coating).

[19] Exceptions:

a. Up to 10 ft. of total duct length is permitted to be outside of the home's thermal and air barrier boundary. Jump ducts are not included as part of this duct length and are covered by exception (d).
b. Ducts (but not air handlers) may be located in a vented attic if minimum R-8 duct insulation is used, duct leakage to outdoors is measured ≤ 3 CFM25 per 100 ft^2 of conditioned floor area, and:
    - In Moist (A) climate zones (per 2021 IECC Figure R301.1), an additional 1.5 in. (minimum) of closed-cell spray foam encapsulates the ducts and ductwork is buried under 2 in. (minimum) of blown-in insulation; OR
    - In Dry (B) and Marine (C) climate zones (per 2021 IECC Figure R301.1), ductwork is buried under at least 3.5 in. of blown-in insulation.
c. Ducts which meet the criteria for "Ducts Located in Conditioned Space" as defined by 2021 IECC Section R403.3.2 or 2024 IECC Section R403.4. Note that for ducts located in ceilings, wall cavities, or floor cavities separating unconditioned from conditioned space, for the purpose of DOE Efficient New Homes compliance, the R-value of any duct insulation shall count towards the IECC-required level of insulation separating the duct from unconditioned space.
d. Jump ducts which do not directly deliver or return conditioned air from/to the heating/cooling equipment may be located in attics if all joints, including boot-to-drywall, are air sealed and the jump duct is fully buried under the attic insulation.
e. Ducts and air-handling equipment associated with rooftop make-up air units or dedicated outdoor air systems (DOAS) that provide ventilation, and may also provide supplemental heating and cooling, are permitted to be outside of the building's thermal and air barrier boundary.

This provision does not apply to equipment or ductwork that only provides ventilation.

Ducts located in unvented attic assemblies meeting the requirements of Section 806.5 of the 2021 (or 2024) IRC satisfy this provision. Note that homes with unvented attic assemblies must follow the appropriate envelope air leakage testing provisions in Standard ANSI/RESNET/ICC 380.

[20] Hot water delivery systems meet the following efficiency requirements:

To minimize water wasted while waiting for hot water, the hot water distribution system shall store no more than 0.5 gallons (1.9 liters) of water in any piping/manifold between the hot water source and any hot water fixture, except for fixtures in bathrooms without a shower or bathtub. System options include manifold-fed systems, structured plumbing systems, core plumbing layouts, and on-demand recirculation systems. The following requirements apply to recirculation systems:

a. Recirculation systems must be based on an occupant-controlled switch or an occupancy sensor. A sensor or switch must be installed for each fixture or set of fixtures within a room (e.g., a bathroom with multiple fixtures) located beyond a 0.5 gallon stored-volume range from the water heater.
b. Recirculation systems which operate based on “adaptive” scheduling, meaning that they “learn” the hot water demand profile in the home and adapt their operation to anticipate this profile, are permitted at this time, and do not require the use of occupant-controlled switches or occupancy sensors.
c. Recirculation systems that are activated based **solely** on a timer and/or temperature sensor are not eligible.

To verify that the system stores no more than 0.5 gallons (1.9 liters), Raters shall either use the Calculation method or the Field Verification method. In the Calculation method, the Rater shall calculate the stored volume between the hot water source and the furthest fixture using the piping or tubing inside diameter and the length of the piping/tubing. In the case of on-demand recirculation systems, the 0.5-gallon (1.9 liter) storage limit shall be measured from the point where the branch feeding the furthest fixture branches off the recirculation loop, to the fixture itself. An Excel-based tool is available on the DOE Efficient New Homes website for this calculation.

Using the Field Verification method, no more than 0.6 gallons (2.3 liters) of water shall be collected from the hot water fixture before hot water is delivered. Only the fixture with the greatest stored volume between the fixture and the hot water source (or recirculation loop) needs to be tested. To field-verify that the system meets the 0.6-gallon (2.3 liter) limit, Raters shall first initiate operation of on-demand recirculation systems, if present, and let such systems run for at least 40 seconds. Next, a bucket or flow measuring bag (pre-marked for 0.6 gallons) shall be placed under the hot water fixture. The hot water shall be turned on completely and a digital temperature sensor used to record the initial temperature of the water flow. Once the water reaches the pre-marked line at 0.6 gallons (approximately 24 seconds for a lavatory faucet), the water shall be turned off and the ending temperature of the water flow (not the collection bucket) shall be recorded. The temperature of the water flow must increase by ≥ 10 °F in comparing the final to the initial temperature reading. Under the DOE Efficient New Homes Single Family program, the Rater must confirm compliance with these requirements.

[21] Water heaters and fixtures meet the following efficiency criteria:

a. Gas water heaters, if present, shall have a Uniform Energy Factor ≥ 0.87
b. Electric water heaters, if present, shall have a Uniform Energy Factor ≥ 2.2
c. Solar water heating systems, if present, shall have a minimum solar fraction, as follows:

2021 IECC Climate Zone	1, 2	3, 4A, 4B	4C, 5, 6	7, 8
Minimum Solar Fraction (SF)	0.80	0.64	0.47	0.28

   i. The solar water heating system’s Solar Fraction (SF) must be documented by an OG-300 certification. Alternatively, projects may find an equivalent system in the OG-300 directory which contains the same OG-100 elements as the chosen system and meets or exceeds the minimum required solar fraction. In this situation, documentation of the OG-100 elements and the

comparable OG-300 system must be provided. All systems must be made up of OG-100 tested components.

ii. When a solar water heating system meeting these specifications is used, gas and electric water heaters used for backup are exempt from the Uniform Energy Factor (in the two prior sub-items) requirements of 0.87 and 2.2, respectively.

d. All showerheads and bathroom sink faucets and/or faucet accessories shall be WaterSense labeled.

e. The hot water distribution system shall store no more than 1.8 gallons between the hot water source and the furthest fixture. In the case of on-demand recirculation systems, the hot water source is considered as the point at which the branch feeding the fixture branches off the recirculation loop. Recirculation systems must be based on an occupant-controlled switch or an occupancy sensor. A sensor or switch must be installed for each fixture or set of fixtures within a room (e.g., a bathroom with multiple fixtures) located beyond a 1.8-gallon stored volume range from the water heater. This storage limit shall be verified by either (1) a calculation using the piping or tubing interior diameter and the system length based on plans, or (2) by a field verification test, using the protocol described in the prior endnote, which demonstrates a minimum temperature rise of 10 °F by the time 2.0 gallons of water is delivered to the furthest hot water fixture. Fixtures in bathrooms without a shower or bathtub are exempt from the system storage limit requirement.

Projects using this compliance option are not permitted to use hot water recirculation systems which operate continuously or operate based solely on a timer or temperature sensor.

[22] WaterSense label may be verified in one of two ways:

a. A cut sheet for the installed product indicates that it is WaterSense labeled and field verification shows that the installed product is the one described on the cut sheet.

b. The installed product can be found in the most recent WaterSense Product Search tool (https://lookforwatersense.epa.gov/products/) and field verification shows that the installed product matches the product described in the search tool.

[23] ENERGY STAR product certification must be verified with a visual confirmation that installed product is listed in the online ENERGY STAR product registry.

[24] For products in categories which are not covered by ENERGY STAR product criteria, these products are exempt.

[25] Due to industry supply chain challenges, DOE is temporarily allowing the use of non-ENERGY STAR certified refrigerators. Any project utilizing this temporary alternative must account for the non-ENERGY STAR certified refrigerator in the energy model and achieve an ERI value equal to or lower than the ERI of the DOE Efficient New Homes Target Home. DOE advises partners that this alternative may be rescinded in a future program update.

[26] Up to 5% of lighting, for task or decorative lighting, may be exempt from this provision. The Target Home specification for lighting will remain at 100% regardless of whether this exemption is used (Exhibit 2).

[27] Builder-installed lighting does not include lighting inside appliances (e.g., refrigerator, laundry, microwave, cooking equipment).

[28] This provision does not apply to H/ERVs that are used to provide exhaust ventilation for bathrooms.

[29] Homes permitted on or before 12/31/2026 must certify under either Indoor airPLUS (IAP) Version 1 (Rev. 4) or the IAP Version 2 Certified (or Gold) tier. Homes permitted on or after 1/1/2027 must certify under the IAP Version

2 Certified (or Gold) tier. See the Indoor AirPlus program site for Version 2 program documents: https://www.epa.gov/indoorairplus/indoor-airplus-program-documents

[30] An HRV or ERV is required to provide whole-house mechanical ventilation for homes in Climate Zones 6 – 8 and must meet or exceed the following specifications: ≥ 65% SRE (@ 32 °F) and ≥ 1.2 CFM/Watt (at one or more rating points).

[31] Advisory: DOE encourages, but does not require, that partners use equipment listed in the Home Ventilating Institute (HVI) Certified Products Directory (CPD) to comply with this requirement. The listing may be used to demonstrate compliance with this program requirement.

[32] The DOE Efficient New Homes Single Family program requires that the provisions of the PV-Ready Version 2 Checklist are completed, unless one or more of the exceptions below applies in which case the PV-Ready features in the Checklist are not required. The exceptions are:

a. The home already includes an on-site PV system.
b. The home receives renewable energy from a community solar system, and there is a legally binding agreement in place for the provision of this energy to the home with a duration ≥ 15 years and written to survive a full or partial transfer of ownership of the property.
c. The location has significant natural shading (e.g., trees, tall buildings impacting the south-facing roof).
d. The home as designed does not have at least 500 square feet of roof area oriented in between 110 degrees to 270 degrees of true north.

The Rater shall document which, if any, exceptions apply.

[33] The following exceptions apply:

a. If the addition of the 30-amp Electric Vehicle Charging branch circuit increases the electrical service to the next nominal size (e.g., from 200-amp to 400-amp service), connecting the circuit to the electrical panel is not required. The conductor shall be labeled as “electrical vehicle charging.” The Rater shall retain a copy of the electrical sizing calculations or statement from the electrical designer for their records but need not evaluate the documentation.
b. In model homes with the garage temporarily converted to a sales or construction office, connecting the 30-amp Electric Vehicle Charging branch circuit to the electric panel is not required if the intended breaker is servicing a temporary electric load in the garage/office space. The conductor shall be labeled as “electrical vehicle charging.”
c. Where the local electric distribution entity has certified in writing that it is not able to provide 100% of the necessary distribution capacity that would be needed according to this requirement within 2 years after the estimated date of the certificate of occupancy, the required EV charging infrastructure shall be reduced based on the available existing electric distribution capacity. The Rater must include the utility’s written explanation in the project records.
d. When meeting the capacity requirements to satisfy this requirement will alter the local utility infrastructure design requirements on the utility side of the meter so as to increase the utility side cost to the builder or developer by more than $450 per dwelling unit, the required EV charging infrastructure shall be reduced based on the available existing electric distribution capacity. The Rater must include documentation from the utility regarding added costs in the project records.
e. Dwelling units for which no parking is provided by the builder are exempt from this requirement.

[34] Dwelling units in communities that include parking for the dwelling unit (assigned or non-assigned) but do not include a private driveway or garage for the individual dwelling unit must comply with the DOE Efficient New Homes Multifamily Version 2 EV-Ready Checklist (most recent revision) for the parking area(s) intended for use

by the residents of the certified dwelling units. A copy of the completed checklist must be included in the documentation record for each certified dwelling unit.

[35] The individual branch circuit shall have a rating not less than 240V/30A or 120V/20A. Installed water heaters using a branch circuit meeting one of these ratings satisfy this requirement.

[36] The 3' x 3' x 7' volume may contain the existing water heater. An exception to the requirement for the 3' x 3' x 7' space is provided when the installed water heater is an electric system or a fossil fuel tankless water heater.

[37] If a branch circuit outlet is installed, it shall be in compliance with 2021 IRC Section E3702.11 (or 2024 IRC Section E3702.12) based on heat pump space heating equipment sized in accordance with 2021 (or 2024) IECC R403.7 and shall terminate within three feet of each fossil fuel space heater. Alternatively, code-compliant wiring conduit to facilitate future wiring for a heat pump installation may be installed and shall terminate within three feet of each fossil fuel space heater.

Homes using electric heating systems as the primary heating for the home are exempt from this requirement.

[38] Compliance with DOE Efficient New Homes Version 2 program requirements is based on climate zones as defined in the 2021 IECC. Climate Zones as defined by the 2021 IECC may be viewed online: https://codes.iccsafe.org/content/IECC2021P1/chapter-3-re-general-requirements. Note that some locations have shifted to a different climate zone in the 2021 IECC as compared to prior versions of the IECC.

[39] HVAC System Type for the Target Home shall be the same as the Rated Home, with the following exceptions. The Target Home is configured with an air-source heat pump when the Rated Home has an air-source or ground-source heat pump, electric strip heat, or baseboard heat. Applicable efficiency levels are based on Exhibit 2.

[40] While the corresponding ERI Target Procedure specifies air conditioners and heat pumps using SEER and HSPF, in this document they have been converted to the current rating metrics, SEER2 and HSPF2, assuming a ducted split system.

[41] The Target home's duct leakage shall be configured as the maximum allowable total duct leakage to achieve Grade I, per Standard 310, section 5.4.1, Table 2a (shown below):

Time of Test	Number of Returns	Leakage Limit (CFM at 25 Pa)
Rough-In	< 3	The greater of ≤ 4 per 100 ft^2 of CFA or ≤ 40
Rough-In	≥ 3	The greater of ≤ 6 per 100 ft^2 of CFA or ≤ 60
Final	< 3	The greater of ≤ 8 per 100 ft^2 of CFA or ≤ 80
Final	≥ 3	The greater of ≤ 12 per 100 ft^2 of CFA or ≤ 120

[42] Envelope leakage shall be determined by using Standard ANSI/RESNET/ICC 380.

[43] DOE has adopted the following definitions for door types (from the ENERGY STAR eligibility criteria in the Version 6.0 Product Specification for Residential Windows, Doors, and Skylights):

i) Opaque: A Door or Sidelite with no glazing (per NFRC 100).

ii) ≤ ½-Lite: A Door with ≤ 900 in^2 (6.25 ft^2, 0.581 m^2) of glazing or a Sidelite ≤ 281 in^2 (1.95 ft^2, 0.181m^2) of glazing (per NFRC 100). Includes ¼- and ½-lite Doors and Sidelites.

iii) > ½-Lite: A Door with > 900 in^2 (6.25 ft^2, 0.581 m^2) of glazing or a Sidelite with > 281 in^2 (1.95 ft^2, 0.181m^2) of glazing (per NFRC 100). Includes ¾-lite and fully glazed Doors and Sidelites.

[44] In homes with heat pumps with electric resistance back-up heating, programmable thermostats shall incorporate controls to prevent the excessive use of electric back-up heating. This functionality may be described as adaptive recovery, recovery mode, or similar terms.