

2019 Program Guide

New Home Certification Program



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FOCUS ON ENERGY[®], Wisconsin utilities' statewide program for energy efficiency and renewable energy, helps eligible residents and businesses save energy and money while protecting the environment. Focus on Energy information, resources and financial incentives help to implement energy efficiency and renewable energy projects that otherwise would not be completed.

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Focus on Energy New Home Certification Program 2019 Program Guide

2019 Updates at a glance

Eligibility (Page 2)

- Modified “Eligibility” definition
- Modified the “Exceptions” category
- Added a clarifying note to the “Eligibility” section

Program Standards (Pages 3-7)

Standard 7: Whole-house Ventilation

- Added an additional bullet point about balance ventilation systems on page 5

Standard 8: Spot Ventilation for Bathrooms with a Tub or Shower

- Modified the note following the description on page 6

Standard 10: Space Heating and Water Heating System Design

- Added an “Exceptions” section and asterisk notes on page 7

Performance and Eligibility (Page 8)

- **Table 1:** Revised the utility service definitions; removed asterisk and note
- **Table 2:** Modified the incentives for eligibility type A



New Home Certification Program Mission

To help builders and homebuyers construct the most energy-efficient, comfortable, durable, safest and highest-quality homes they can afford.

Eligibility

Any single-family home built in Wisconsin receiving natural gas and/or electricity from a utility participating in Focus on Energy is eligible. Homes may be stand-alone or part of a multi-unit building three stories or less, and must meet the requirements of Wisconsin Administrative Code section 320.04 (6) note 2, including all subcategories and notes. Homes must meet all applicable requirements contained within this document.

Exception:

- Homes with negative energy savings (kw, kWh or therms), as calculated using REM/Rate™ energy modeling software, are not eligible—except for homes with a geothermal space heating/cooling system that also receive natural gas service.

Building Performance Consultant Partnership

Participating builders must establish a partnership with a Building Performance Consultant (BPC). Both parties must complete a Trade Ally Application in order to participate in the program and receive incentive payments. A signed and completed W-9 form is also required. Apply online: focusonenergy.com/trade-allies.

BPC Accreditation

BPCs associated with the program must be Residential Energy Services Network (RESNET®) certified or possess an approved equivalent.

Computer Modeling

BPCs must use the Wisconsin version of REM/Rate energy modeling software to calculate each home's estimated energy savings. REM/Rate can also be used to demonstrate current code compliance.



Why are site visits important?

Verification

Ensure your homes meet program requirements.

Differentiate Your Business

Provide proof that builders associated with the New Home Certification Program build higher quality, more energy efficient, comfortable, durable and safer homes.

Added Value

Reduce the likelihood of customer callbacks.

A minimum of two site visits are required for each Focus on Energy Certified New Home.

Initial Site Visit

Framing and insulation review

The BPC reviews the framing for potential air bypasses, insulation installation and ensures the home is on track to meet all program requirements. Upon completion, the BPC submits a report to the builder indicating their findings.

Final Site Visit

Performance testing

The final site visit consists of the following:

- **Blower Door Test:** A blower door test is conducted to verify that the home meets program requirements for air tightness. Refer to Program Standard 2 on page 4 for the air tightness requirement.
- **Ventilation Capacity Testing:** All ventilation equipment is tested to ensure performance meets the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) 62.2 - 2010 Standard, as well as New Home Certification Program requirements. Refer to Program Standards 7, 8 and 9 on pages 5 and 6 for additional information.
- **Program Standards Verification:** The BPC confirms all applicable program standards have been met. Upon completion, the BPC submits a report to the builder indicating their findings.

Program Standards



All applicable program standards are required for certification.

Note: When Wisconsin Uniform Dwelling Code (UDC) requirements exceed program standards, UDC requirements shall prevail. When ductwork is located outside of the conditioned space, the duct system must adhere to the requirements of section SPS 322.43 of the UDC.

Standard 1: Energy efficiency requirement

Description: The home must be at least 25 percent more energy efficient than if it was built to the current Wisconsin UDC. Efficiency is based on total MMBtu/year fuel consumption as calculated by the Wisconsin version of REM/Rate energy modeling software. Refer to Tables 1 and 2 on page 8 for efficiency and incentive levels.

Rationale: This requirement establishes a minimum baseline for energy efficiency.

Verification: REM/Rate's customized Focus on Energy Certification Report calculates the percent better than code value.

Standard 2: Air tightness requirement

Description: Building air tightness must be equal to or less than 0.20 cubic feet per minute (cfm) per square foot of the total building shell area when the home is depressurized to minus 50 Pascals.

Rationale: Building air tightness plays the most significant role in residential energy efficiency. Air tightness not only influences heating and cooling energy consumption, but also provides draft-free comfort and contributes to overall building durability.

Verification: Blower door test during the final site visit.

Standard 3: Sealed sump basin

Description: All sump basins must have an air-tight cover with all piping and electrical penetrations sealed. Approved methods for air sealing a sump basin cover include a manufactured air-tight sump basin cover or a custom-fit cover caulked in place.

Rationale: This requirement eliminates moisture and soil gas infiltration. It also contributes to improved indoor air quality and home durability.

Verification: Visual verification during either site visit.

Standard 4: Sealed plumbing rough-in

Description: Any plumbing rough-in in the slab must be completely air sealed. Rigid code-approved material, such as foil faced THERMAX™ sheathing or pressure-treated wood cut to fit and caulked in place, are acceptable methods of air sealing.

Rationale: This measure eliminates moisture and soil gas infiltration, contributing to improved indoor air quality and home durability.

Verification: Visual verification during either site visit.

Standard 5: Full coverage foundation insulation

Description: The entire foundation wall surface must be insulated. The insulation can be located on the interior, exterior or a combination of both.

Exceptions: Brick ledges and exposed foundation walls located inside an attached garage and exposed foundation walls along stairways from the basement into an attached garage. However, it is highly recommended that these surfaces be insulated whenever possible. Any exposed foundation wall should be modeled separately in REM/Rate.

Rationale: Insulating the foundation wall reduces heat loss and increases comfort.

Verification: Visual verification during either site visit.

Standard 6: Slab-on-grade thermal isolation

Description: Slab-on-grade construction is defined as a home without a basement or crawl space. With slab-on-grade construction, any concrete slab between the conditioned and unconditioned space must be thermally isolated with a minimum R5 thermal break. The thermal values for complete slab-on-grade construction must meet or exceed current Wisconsin UDC requirements SPS 322.33 - Slab Floors.

Rationale: Thermal isolation reduces heat loss and increases comfort.

Verification: Visual verification during the first site visit.

Standard 7: Whole-house ventilation

Description: A mechanical ventilation system ducted to the outdoors must be installed to provide whole-house ventilation capability, compliant with both the ASHRAE 62.2 - 2010 Standard and New Home Certification Program requirements.

- A bathroom exhaust fan can be used to satisfy the whole-house ventilation standard. If this is the chosen method of whole-house ventilation, the control device operating the fan must be appropriately labeled (a simple label identifying the appropriate control device/switch fulfills this requirement).
- Dual-function bathroom fans with built-in override switching capability also satisfy the intent of this standard.
- Ventilation fans with a sone (loudness) rating of one or less are highly recommended.
- When a balanced ventilation system is used (Heat Recovery Ventilator/Energy Recovery Ventilator), it becomes, by default, the whole-house ventilation device.
- When the tested air tightness limit is at or below 0.15 CFM/50, a balance ventilation is highly recommended.

Rationale: Whole-house ventilation ensures enhanced indoor air quality management, resulting in improved home durability and comfort.

Verification: Performance testing during the final site visit.





Standard 8: Spot ventilation for bathrooms with a tub or shower

Description: An exhaust ventilation system ducted to the outdoors must be installed in any bathroom with a tub or shower. One of the following options may be implemented:

- Exhaust fan: Minimum tested flow of 50 cfm if a single-speed intermittent fan is used or minimum 50 cfm intermittent boost capacity if a multi-speed fan is used.
- Central exhaust systems: Minimum tested flow of 20 cfm continuous flow, with minimum 50 cfm boost capacity at each pick-up.
- Whole-house ventilation systems also providing spot ventilation: Minimum tested flow of 20 cfm continuous flow with minimum 50 cfm boost capacity at each pick-up.

Note: An appropriately-sized bathroom exhaust fan can be used to satisfy the whole-house ventilation standard. If this is the chosen method of whole-house ventilation, the control device or switch operating the fan must be labeled as “ventilation” to meet the requirement. Dual-function bathroom fans with built-in override switching capability also satisfy the intent of this standard. All bathroom ventilation fans with a sone rating of one or less are highly recommended.

Rationale: Spot ventilation removes moisture-laden air from the home at its source, providing indoor air quality management, home durability and comfort.

Verification: Performance testing during the final site visit.

Standard 9: Spot ventilation for gas and electric ranges

Description: An exhaust system ducted to the outdoors must be installed with the following criteria:

- Gas cooktops: A range hood or microwave exhaust system above the cooktop with a minimum rated capacity of 100 cfm.
- Electric cooktops: A range hood or microwave exhaust system above the cooktop with a minimum rated capacity of 100 cfm, or a central system with a minimum tested flow of 20 cfm continuous flow with a pick-up and control switch located in the kitchen.
- Cooktops with downdraft ventilation with a capacity of 100 cfm meet the requirements of this standard.

Rationale: Spot ventilation removes moisture-laden air and odors from the home at their source, ensuring adequate indoor air quality management, home durability, comfort and safety.

Verification: Performance testing during the final site visit.

Standard 10: Space heating and water heating system design

Description:

- Any fuel-burning, forced-air space heating system must be closed combustion design, with the piping for the combustion and exhaust air connected directly to the outdoors.
- Any boiler must be either closed combustion or power vent design.
- Any natural gas or liquid propane water heating system must meet one of the following criteria:
 - Power vent design with the piping for the exhaust air connected directly to the outdoors.
 - Direct vent design (i.e., pipe within a pipe) with the piping for exhaust and combustion air connected directly to the outdoors.
 - Closed combustion design with one pipe for the exhaust and one pipe for combustion air connected directly to the outdoors.

Exceptions: Based on the difference in operating cost of an electric water heater versus a natural gas water heater, homes with an electric water heater—where natural gas is available—are not eligible.*

**Excludes heat pump and geothermal water heaters.*

**Excludes cases where the customer participates in a Water Heater Load Management or Time of Use program offered by the electric utility, which allow the utility to control the water heater during times of high demand.*

Rationale: This measure facilitates combustion safety by reducing/eliminating the possibility of backdrafting.

Verification: Visual verification during either site visit.

Standard 11: Hearth products

Description:

- Any gas fireplace must be direct vent design with the piping for combustion and exhaust air connected directly to the outdoors.
- Any solid fuel-burning fireplace or stove must be closed combustion design, with the piping for combustion air connected directly to the firebox and the outdoors.
- Power-vented pellet stoves must have a depressurization safety shut-off switch.
- If a solid fuel-burning fireplace or stove meeting the requirements above is installed in the home, a whole-house depressurization test must be conducted. Home depressurization shall not be greater than -50 Pascals with the largest tested exhaust ventilation device running. If the home exceeds -50 Pascals, sufficient make-up air must be provided to bring the depressurization below -50 Pascals.
- Atmospherically vented (B-vent) fireplaces or stoves are prohibited.

Rationale: These guidelines facilitate combustion safety by reducing/eliminating the possibility of backdrafting.

Verification: Visual verification and performance testing during the final site visit.



Performance Incentives and Eligibility



Builders who construct homes that are at least 25 percent more energy efficient than the current Wisconsin UDC are eligible to participate in the program. Homes between 25 percent and 29.9 percent more efficient than code will receive the benefits of certification, but **will not** receive a financial incentive. Homes that are 30 percent or more efficient than code are eligible to receive financial incentives per Tables 1 and 2 below.

The performance level is based on the home’s estimated annual energy consumption compared to the same home if it were built to current Wisconsin UDC. Program incentives are awarded to the builder of the home only. Incentives are available on a first-come, first-served basis and amounts are subject to change.

Homeowner Eligibility: Homeowners are eligible to receive performance incentives only if they served as the general contractor—meaning they hired and managed the subcontractors who built their home.

Determining Incentives: Builders are eligible for one of two incentive categories (A or B), as noted in Tables 1 and 2 below. The categories are based on the home’s fuel sources and whether the utility (or utilities) that supplies the energy participates in Focus on Energy.

Table 1 • Eligibility

Incentive Eligibility Type		
Utility service from Focus on Energy / Participating utility type	A	B
Home receives natural gas and electricity from a utility participating in Focus on Energy	✓	
Home receives natural gas only from a utility participating in Focus on Energy	✓	
Home receives natural gas and electricity from a utility participating in Focus on Energy, but natural gas is not used as the primary space heating fuel		✓
Home receives electricity only from a utility participating in Focus on Energy		✓

Table 2 • Incentives

Performance Incentives		
Utility service from Focus on Energy / Participating utility type	A	B
Level 1: 25 – 29.9 % better than current Wisconsin UDC	\$0	\$0
Level 2: 30 – 34.9 % better than current Wisconsin UDC	\$600	\$350
Level 3: 35 – 99.9 % better than current Wisconsin UDC	\$1,000	\$550
Level 4: Energy neutral*	\$2,300	\$1,000

*An energy neutral home is a home designed and built with low energy needs; so low that the total annual amount of energy used, as calculated using REM/Rate energy modeling software, is equal to the amount of renewable energy produced on site.

\$500 Co-Op Advertising Credit

We'll cover a portion of your marketing expenses when you co-brand materials with Focus on Energy!

Trade Allies can receive up to 50 percent reimbursement – up to \$500 total – toward eligible marketing and advertising materials.

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Questions?

Visit focusonenergy.com/new-homes or Contact Andy Kuc, New Home Certification Program Manager
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