Program Requirements

A. Consultant Accreditation

Program consultants must be Residential Energy Services Network certified

B. Partnering with a Builder

Consultants must establish a partnership with a builder(s) by signing a Program Ally Application completed by the partnering builder

C. Computer Modeling

Consultants must use REM/*Rate*® software to calculate the homes estimated energy efficiency

D. Site Visit Protocol

A minimum of **two** site visits are required for **all** certified homes:

Site Visit 1 – Framing and Insulation Review

The Building Performance Consultant will review the insulation installation per Program requirements and review the framing for potential air bypasses.

Site Visit 2 – Performance Testing

Air Tightness: A blower door test will be conducted to verify the home meets the program air tightness requirement. Refer to Program Standard 2 for the air tightness requirement.

Ventilation Capacity: All ventilation equipment will be tested to ensure the performance meets the requirements of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) standard 62.2 — 2007 and Program requirements

Program Standards Verification: The Building Performance Consultant will confirm if all program standards have been met

E. 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.

1. Energy Efficiency Requirement

Description: The Home to be certified must be at least 10 percent more energy efficient than the same home if it were built to current uniform dwelling code. Efficiency is based on total MMBtu consumption as calculated by REM/*Rate* software

Reasoning: Establishes a base-line for energy efficiency

Verification: After the building file has been updated per Site Visit 1 & 2. Refer to the Performance Summary-UDC report for the Total % Diff, Annual Consumption (MMBtu/yr). This number represents the percent better than code value

2. Air Tightness Requirement

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

Reasoning: Building Air tightness is the most influential aspect of a homes energy efficiency

Verification: Site Visit 2 – Performance Testing. Blower Door test

3. Sealed Sump Basin

Description: All sump basins must have an air-tight cover with all piping and electrical penetrations sealed. Approved methods of air sealing a sump basin cover are:

- A manufactured sump basin cover designed to be air tight
- A custom fit cover caulked in place

Reasoning: Eliminates a significant source of air, moisture and soil gas infiltration. Contributes to better indoor air quality

Verification: Visual verification Site Visit 1 or 2

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 foam sheathing or pressure treated wood cut to fit and caulked in place are acceptable methods of air sealing

Reasoning: Eliminates a significant source of air, moisture and soil gas infiltration. Contributes to better indoor air quality

Verification: Visual verification Site Visit 1 or 2

5. Full Coverage Foundation Insulation

Description: The entire foundation wall must be insulated. A minimum of R5 insulation is required. The insulation can be located on the interior, exterior, or combination of both. Exclusions: Brick ledges or exposed foundation walls located inside an attached garage, and exposed foundation walls along stairways from the basement into an attached garage.

Reasoning: Reduce heat loss. Increase comfort

Verification: Visual verification Site Visit 1 or 2

6. Slab-on-Grade Thermal Isolation

Description: In slab-on-grade construction, the concrete slab between the conditioned space and unconditioned spaces shall be thermally isolated with a minimum R5 thermal break. Slab-on-grade construction can be defined as a home without a basement or crawl space. Excludes concrete steps and porches. The thermal values for complete slab-on-grade construction must meet or exceed current Wisconsin Uniform Dwelling Code requirements (comm. 22.31-1)

Reasoning: Reduce heat loss

Verification: Visual verification Site Visit 1

7. Whole-House Ventilation

Description: A mechanical ventilation system must be installed to provide whole-house ventilation compliant with ASHRAE 62.2 — 2007 and Program requirements.

Reasoning: Ensure adequate indoor air quality

Verification: Site Visit 2 – Performance Testing. Fan flow testing

8. Spot Ventilation for Bathrooms with a Tub or Shower

Description: An exhaust ventilation system ducted to the outdoors must be installed.

- Exhaust fan. Minimum tested flow of 50 cfm.

~ or ~

- For central exhaust systems: Minimum tested flow of 20 cfm continuous flow with 50 cfm boost capacity.

Note: A bathroom exhaust fan can be used to satisfy the Whole-House Ventilation standard. If this is the chosen method of whole-house ventilation, a control device operating the fan must also be installed outside the bathroom and wired in parallel with the fan switch. This control should be labeled as “Whole-House Ventilation.” Ventilation fans with a sone rating of 1 or less are highly recommended.

Reasoning: Remove moisture laden air from the home at its source

Verification: Site Visit 2 – Performance Testing. Fan flow testing

9. Spot Ventilation for Gas and Electric Ranges

Description: An exhaust ventilation system ducted to the outdoors must be installed.

- Gas Cook Tops: A range hood or a microwave ventilation system with a minimum rated capacity of 100 cfm.
- Electric Cook Tops:
    - A range hood or microwave ventilation system with a minimum rated capacity of 100 cfm.

~ or ~

    - A central system with a minimum tested flow of 20 cfm with a pick-up and control switch located in the kitchen.

Reasoning: Remove moisture laden air and odors from the home at their source

Verification: Site Visit 2 – Performance Testing. Fan flow testing

10. Space Heating and Water Heating System Design

Description:

- Any forced air space heating system must be closed combustion design with the piping for combustion and exhaust air connected directly to the outdoors.
- Any boiler space heating system must be of closed combustion or power vent design.
- Any gas or liquid propane water heating system must be:
    - Power Vent design with the piping for the exhaust air connected directly to the outdoors.
    - Direct Vent design with the piping (pipe within a pipe) 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.

Electric water heating systems are acceptable, but not recommended, and will have a negative impact on the homes energy efficiency.

Reasoning: Safety. Eliminate the possibility of backdrafting

Verification: Visual verification Site Visit 1 or 2

11. Fireplace Design

Description: Any gas fireplace must be direct-vent fully sealed 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 outdoors. Power vented pellet stoves must also have a depressurization safety shut off switch.

- A maximum whole house depressurization limit of negative 50 pascals with the largest tested exhaust ventilation device running has been added.
- Atmospherically vented (B-vent) fireplaces or stoves are prohibited

Reasoning: Safety. Eliminate the possibility of backdrafting

Verification: Visual verification and Performance Testing Site Visit 2

12. Carbon Monoxide Detectors

Description: Carbon Monoxide detectors must be installed in any home with combustion equipment or an attached garage. One battery operated, plug in or hard wired Carbon Monoxide detector is required for each floor with a bedroom. Combination Carbon Monoxide/Smoke detectors are highly recommended.

Reasoning: Occupant Safety

Verification: Visual verification, Site Visit 2

13. Insulated and Gasketed Attic Access Hatch

Description: Any attic access hatch in the conditioned space must be insulated to a minimum R20 with a perimeter edge gasket. The insulation must be permanently attached to the access hatch.

Reasoning: Increase air-tightness and reduced heat loss

Verification: Visual verification, Site Visit 2

14. Duct Testing

Description: Duct testing per ASHRAE Standard 152 is required when an air-handler, or any ductwork, are located outside the conditioned space. The limit for duct leakage to the outdoors shall not exceed 5 cfm per 100 square feet of conditioned floor area.

Reasoning: Energy efficiency

Verification: Visual verification, Site Visit 2

Performance Incentives

Financial incentives are available to builders who construct a home that meets a specific level of energy efficiency. The Performance levels are based on the home to be certifieds' estimated annual consumption, compared to the same home if it were built to current Wisconsin Uniform Dwelling Code. Additional incentives are available for Renewable Energy Systems. All incentives are awarded to the builder of the home and cannot be combined with any other Focus on Energy incentive program.

Homeowner eligibility: Homeowners can be eligible to receive performance incentives if they act as the General Contractor, hiring and managing subcontractors to build their home. The homeowners name must be on the building permit to be considered eligible to receive program incentives

Some Focus participating electric and/or natural gas providers have incentive programs outside of Focus on Energy. Customers of these providers might not qualify for incentives from both programs. Builders should check with the electric and/or natural gas provider of the home to be certified to verify eligibility for dual incentives in order to comply with program rules.

Incentive Eligibility (A) for Homes Located in Participating Focus on Energy Gas and Electric Utility Service Territories:

Note: Incentive amounts are subject to change.

Level	Performance Incentives	Technology Packages	Amount
1	10% - 19.9% More Efficient Than Code	None Required	$200
2	20% - 29.9% More Efficient Than Code	any 2 Required	$750
3	30% - 39.9% More Efficient Than Code	any 3 Required	$1,000
4	40% - 100% More Efficient Than Code	any 3 Required Plus a renewable energy technology and an HRV or ERV	$1,500

Number	Technology Packages
1	Compact Fluorescent Lamps
2	ENERGY STAR Qualified Light Fixtures
3	Energy Efficient Windows
4	R5 Exterior Above Grade Wall Insulation
5	R10 Exterior Above Grade Wall Insulation
6	Rim and Band Joist Spray Foam Insulation
7A	Residential Water Heaters
8A	Residential HVAC Systems
9	Renewable Energy System(s) additional financial incentives are available

Incentive Eligibility (B) for Homes Located in Participating Focus on Energy Electric Utility Service Territories Only, That Heat With Liquid Propane (LP), Oil or other

Level	Performance Incentives	Technology Packages	Amount
1	10% - 19.9% More Efficient Than Code	None Required	$100
2	20% - 29.9% More Efficient Than Code	any 2 Required	$200
3	30% - 39.9% More Efficient Than Code	any 3 Required	$300
4	40% - 100% More Efficient Than Code	any 3 Required Plus a renewable energy technology and an HRV or ERV	$400

Number	Technology Packages
1	Compact Fluorescent Lamps
2	ENERGY STAR Qualified Light Fixtures
3	Energy Efficient Windows
4	R5 Exterior Above Grade Wall Insulation
5	R10 Exterior Above Grade Wall Insulation
6	Rim and Band Joist Spray Foam Insulation
7B	Residential Water Heaters
8B	Residential HVAC Systems
9	Renewable Energy System(s) additional financial incentives are available

Technology Packages

Package 1 – ENERGYSTAR Qualified Light Bulbs

Description: All bulbs in the home shall be ENERGY STAR qualified CFLs or LED, including bulbs in exterior fixtures attached to the home. Excludes decorative and accent/task lighting.

Verification: Field verified. Fixture types confirmed on ENERGY STAR website. Model numbers obtained from builder invoice / bill of lading

Package 2 – ENERGY STAR Qualified Light Fixtures

Description: All interior and exterior light fixtures shall be ENERGY STAR qualified including ceiling fans.

Verification: Field verified. Fixture types confirmed on ENERGY STAR website. Model numbers obtained from builder invoice / bill of lading

Package 3 – Energy Efficient Windows

Description: All windows located in above grade walls shall have a U-Value of 0.24 or less. Including egress windows located in any wall. Excludes windows located in doors, foundation walls or garages.

Verification: Field verified. Window sicker

Package 4 – R5 Exterior Above Grade Wall Insulation

Description: R5 rigid foam insulation installed on all above grade walls. (Homes with a combination of rigid foam over OSB corner bracing are eligible).

Verification: Field verified

Package 5 – R10 Exterior Above Grade Wall Insulation

Description: R10 or greater rigid foam insulation installed on all above grade walls. (Homes with a combination of rigid foam over OSB corner bracing are eligible).

Verification: Field verified

Package 6 – Rim and Band Joist Spray Foam Insulation

Description: All rim and band joists shall be insulated and air sealed with closed cell foam with an R-Value equal to, or greater than the above grade walls.

Verification: Field verified

Package 7A – Residential Water Heaters (Gas and Electric participating utilities)

Description: Installed water heating system(s) must meet specific minimum efficiency requirements.

Incentive 7A Residential Water Heater Efficiency Requirements	
Water Heater Type	Minimum Efficiency Requirements
Tank-Type Natural Gas	• EF of 0.64 or greater • Must be power-vented
Tankless Natural Gas	• EF of 0.82 or greater • Must be power-vented • Must be ENERGY STAR® qualified
Condensing	• Thermal Efficiency of 90% or greater
Indirect	• Must be installed with a qualified boiler

Package 7B – Residential Water Heaters (Electrical participating utility only, heating with LP, Oil or other)

Installed water heating system(s) must meet specific minimum efficiency requirements.

Incentive 7B Residential Water Heater Efficiency Requirements	
Water Heater Type	Minimum Efficiency Requirements
Electric	• EF of 0.93 or greater • Natural Gas cannot be available in area

Verification: Field verified and cross referenced with Focus on Energy approved equipment list

Package 8A – Residential Heating Ventilation and Air Conditioning (HVAC)
(Gas and Electric participating utilities)

Description: Installed HVAC system(s) must meet specific minimum efficiency requirements.

Incentive 8A Residential HVAC Efficiency Requirements	
Equipment Type	Minimum Efficiency Requirements
Variable-Speed Gas Furnace	• 90% AFUE • Muti-stage burner • Electronically Commutated Variable-speed blower motor
Central A/C or Air-Source Heat Pump	• 15 SEER • TXV / EEV • Must be installed at the same time as a qualified furnace
Mini-Split. Ductless A/C or Heat Pump	• 15 SEER • TXV / EEV • Must install more than one indoor unit
Ground Source Heat Pump (Geothermal)	• ENERGY STAR® qualified. • Multi-stage compressor. • Air handler must have a variable-speed blower motor • Cannot use electric auxiliary heat
Hot-Water Boiler	• 90% AFUE • Modulating burner • Outdoor air reset • Must use natural gas

Verification: Field verified and cross referenced with Focus on Energy approved equipment list

Package 8B – Residential Heating Ventilation and Air Conditioning (HVAC)
(Electrical participating utility only, heating with LP, Oil or other)

Description: Installed HVAC system(s) must meet specific minimum efficiency requirements.

Incentive 8B Residential HVAC Efficiency Requirements	
Equipment Type	Minimum Efficiency Requirements
Variable-Speed Gas Furnace	• 90% AFUE • Muti-stage burner • Electronically Commutated Variable-speed blower motor
Central A/C or Air-Source Heat Pump	• 15 SEER • TXV / EEV • Must be installed at the same time as a qualified furnace
Mini-Split. Ductless A/C or Heat Pump	• 15 SEER • TXV / EEV • Must install more than one indoor unit
Ground Source Heat Pump (Geothermal)	• ENERGY STAR® qualified. • Multi-stage compressor. • Air handler must have a variable-speed blower motor • Cannot use electric auxiliary heat

Verification: Field verified and cross referenced with Focus on Energy approved equipment list

Package 9 – Renewable Energy Systems

Description: Various financial incentives are available to the builder from Focus on Energy and the federal government for installing a solar electric, solar hot water or wind energy system. Each system has its own unique requirements.

Incentive:

- Solar Electric, solar hot water and wind systems:

Up to 25% of the project cost (35% for nonprofit projects). Incentives are based on the systems performance. Refer to focusonenergy.com/incentives/residential/renewable/ for incentive requirements.

Verification: Field verified and cross referenced with Focus on Energy approved incentive requirements

Cooperative Advertising Reimbursement Program

Active Program builders can receive $500 annually plus an additional $100 per certified home, up to $3,000 per year for promoting their participation in the Focus on Energy's New Homes Program. Refer to the Cooperative Advertising Reimbursement Program fact sheet and Identity Guidelines for additional information.

Go to focusonenergy.com/homespartners and click on the Marketing link.

Best Practices for Energy Efficiency

A list of best practices will be created to provide builders and building performance consultants participating in the New Home Program with tips and technologies that can be implemented to make a home more energy efficient, more comfortable, and more durable. The best practices list will be accessible via the Focus on Energy website and will include photos and descriptions of energy efficiency and advanced building techniques.