ENERGY STAR
Residential New Construction Programs

The Year Ahead

RESNET Building Performance Conference

February 25th, 2019
The Numbers
### Annual ENERGY STAR Certified Homes Built

<table>
<thead>
<tr>
<th>Year</th>
<th>Homes Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>95,158</td>
</tr>
<tr>
<td>2017</td>
<td>98,199</td>
</tr>
<tr>
<td>2016</td>
<td>93,525</td>
</tr>
<tr>
<td>2015</td>
<td>83,895</td>
</tr>
</tbody>
</table>

**Graph:**
- X-axis: Year (2000 to 2018)
- Y-axis: Number of Homes
- The graph shows the number of ENERGY STAR certified homes built annually from 2000 to 2018, with a peak in 2006.
Program Requirements
Overhaul of ENERGY STAR Technical Website

ENERGY STAR Certified Homes Version 3 Program Requirements

Should I use the Version 3 Program Requirements?
To earn the ENERGY STAR, a home must be certified under Version 3 of the program requirements, unless it is located in California, Connecticut, Delaware, District of Columbia, Florida, Guam, Hawaii, Illinois, Iowa, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nevada, New Jersey, New York, Northern Mariana Islands, Oregon, Puerto Rico, Rhode Island, Texas, U.S. Virgin Islands, Vermont, or Washington. A home in these locations must be certified using Regional Specifications.

How to Certify a Home
Select the core energy efficiency measures
Working with a Home Energy Rater, builders configure the preferred set of energy measures for their home and verify that the resulting HERS Index meets or exceeds the ENERGY STAR HERS Index target. The National Program Requirements contain more information about how the target is defined and the typical measures used to meet this target. See the National Program Requirements (182KB).

Complete Mandatory Measures
Certification of a home also requires the completion of the following:
- Rater Design Review Checklist and Rater Field Checklist (632KB)
- IMAC Design Report (38KB)
**EFFICIENCY FEATURES AT A GLANCE**

### Envelope, Windows, & Doors
- Radiant Barrier? n/a
- Insulation Install. Quality Grade I
- Ceiling Insulation R-49
- Wall Insulation R-20 cavity or R-13 cavity + 5 cont.
- Attic Wall Insulation R-11 wet or R-13 int
- Floor Insulation R-19
- Basement Wall Insulation R-10 cont. or R-13 cavity
- Crawlspace Wall Insulation R-10 cont. or R-13 cavity
- Slab Insulation R-10; 2 ft
- Infiltration Rate 0.4 ACH50
- Windows U-factor: 0.30 / SHGC: 0.48
- Door: Opal U-factor: 0.37 / SHGC: 0.77
- Door: 0.5 Lite U-factor: 0.25 / SHGC: 0.25
- Door: > 0.5 Lite U-factor: 0.30 / SHGC: 0.40

### Heating and Cooling Equipment
- Gas Furnace 105 AFUE, ENERGY STAR
- Oil Furnace 85 AFUE, ENERGY STAR
- Gas Boiler 90 AFUE, ENERGY STAR
- Oil Boiler 80 AFUE, ENERGY STAR
- Heat Pump 15 HSPF / 12 SEER
- Air Conditioner 13 SEER

### Water Heating Equipment
- Gas Water Heater 40 gal: 0.61 EF; 50 gal: 0.57 EF
- Electric Water Heater 40 gal: 0.83 EF; 50 gal: 0.81 EF
- Oil Water Heaters 40 gal: 0.53 EF; 50 gal: 0.64 EF
- Solar Water Heater n/a

### Thermostats & Ductwork
- Thermostat Type Programmable
- Location of Ducts and All Handlers All within conditioned space
- Duct Insulation for Ducts in Unconditioned Space n/a
- Duct Leakage to Outside n/a

### Lighting & Appliances
- Refrigerators ENERGY STAR
- Dishwashers ENERGY STAR
- Ceiling Fans ENERGY STAR
- Lighting ENERGY STAR: light bulbs in 16% or qualifying light fixture locations
PROGRAM VERSIONS AT A GLANCE

STEP 1: SELECT A PATH
- ERI and Prescriptive
- ASHRAE / Title 24

STEP 2: Select State or Territory

VERSIONS:
- Version 1 currently in effect
- Version 1.1 currently in effect
- Regional version currently in effect

ELIGIBILITY

These requirements apply to most multifamily buildings. See flow chart (PDF, 85 KB) for the specific multifamily projects that are eligible. Multifamily projects permitted prior to January 1, 2021, may continue to certify through the MFHRI or Certified Homes program, based on the eligibility requirements of those programs.

PROGRAM REQUIREMENTS

National Program Requirements
MFNC National Program Requirements Version 1/1.1/OR-WA 1.2 (PDF, 490 KB)

Regional Program Requirements
MFNC California Program Requirements Version 1.2 (PDF, 387 KB)

Mandatory Measures
MFNC Rener Design Review Checklist (PDF, 523 KB)
MFNC Rener Field Checklist (PDF, 736 KB)
MFNC HVAC Design Report (PDF, 415 KB)
MFNC HVAC Functional Testing Checklist (PDF, 407 KB)
MFNC Water Management System Requirements (PDF, 143 KB)

IMPLEMENTATION TIMELINE

To determine the program Version that a multifamily building is required to be certified under, identify the location and permit date of the building below. Note that the National Version 1.1 program requirements are being implemented in states that have adopted the residential 2012, 2015, or 2018 IECC, or an equivalent code. Note as well that regional program requirements, and associated implementation timelines, have been developed for buildings in CA, OR, and WA.

SUPPORTING DOCUMENTS

Coming Soon!
ENERGY STAR. The simple choice for energy efficiency.

Working with ENERGY STAR

ENERGY STAR is the government backed symbol for energy efficiency recognized by more than 90% of American households. ENERGY STAR certified homes and apartments are designed and constructed to be significantly more energy efficient than those built to code while lowering homeowner utility bills and providing superior comfort, quality, and durability.

ENERGY STAR provides marketing, technical, and programmatic support to both partners and other organizations, including:

- ENERGY STAR Sales and Marketing Resources:
  - Consumer Brochure
  - Consumer Video
- Educational Resources and Technical Support:
  - Live Webinars, Recorded Presentations, and Training Videos
  - Technical Support
  - Multifamily High Rise Training Resources

There are opportunities for various types of organizations to support the construction of energy-efficient new homes and apartments through the ENERGY STAR Residential New Construction Program. Learn more about participating with ENERGY STAR, including eligibility to partner with the program.
Program Requirements Overview

- All ENERGY STAR Versions (e.g., v3, v3.1, Regional Versions) share the same two key components:

  **Performance Target**
  - Version 3 ERI Target: ~ 65-75
  - Version 3.1 ERI Target: ~ 55-65
  - Regional ERI Target: Varies

  **Mandatory Features**
  - National Version 3/3.1 Checklists
  - Tropics Version 3/3.1 Checklists
Current Implementation of Program Requirements

- **National Version 3**
  - States in blue

- **National Version 3.1**
  - States in green

- **Regional Version**
  - States in orange

Legend:
- Blue: Version 3 currently in effect
- Orange: Regional version currently in effect
- Green: Version 3.1 currently in effect
Program Version Plans for 2019

- OR is scheduled to implement the WA/OR v3.2 program requirements for homes permitted after 4/1/2019.
- No other states are currently scheduled to implement a new version in 2019.
- However, NC, PA, OR, and VA are under review for possible implementation of the National Version 3.1 requirements.
- Working on better tailoring the program requirements for Puerto Rico and the US Virgin Islands.
- Refreshing program requirements for manufactured housing.
What is a Revision?

1. It clarifies
2. It simplifies
3. It improves
What is a Revision?

1/3 reduction in rater tasks!
Rev. 09  It’s Fine.

- No new checklists.
- No new checklist items.
- No fewer checklist items.
- No fewer checklists.
- Just modifications to a handful of existing checklist items.
- Backwards compatible.
#1. 4- and 5-story building eligibility requirements

- Dwelling units in buildings ≤ 5 stories are eligible to participate regardless of their HVAC and water heating configuration.
- Footnote 5 has been revised to recommend that centralized heating, cooling, and hot water systems be modeled using the RESNET Guidelines for Multifamily Ratings.
#2. Required rating and registration with Verification Oversight Org.

- We now explicitly require homes to receive a rating and be registered with an EPA-approved VOO.
#3. Revised Effective Date section of National Program Requirements

- The Implementation Timeline tables have been revised for clarity.
- Includes information about both the applicable Version and Revision.

### Old Format

<table>
<thead>
<tr>
<th>State</th>
<th>Applicable to Homes with the Following Permit Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>MA</td>
<td>On or after 01/01/2015</td>
</tr>
<tr>
<td>DC, IL, MD, RI</td>
<td>On or after 04/01/2015 (except for Calvert County and St. Mary's County in MD, for which the applicable permit date is on or after 07/01/2015)</td>
</tr>
<tr>
<td>IA</td>
<td>On or after 06/01/2015</td>
</tr>
<tr>
<td>DE</td>
<td>On or after 12/01/2015</td>
</tr>
<tr>
<td>MT, OR, WA</td>
<td>On or after 01/01/2016</td>
</tr>
<tr>
<td>MN, VT</td>
<td>On or after 04/01/2016</td>
</tr>
<tr>
<td>NV</td>
<td>On or after 07/01/2016</td>
</tr>
<tr>
<td>NJ</td>
<td>On or after 04/01/2017</td>
</tr>
<tr>
<td>TX</td>
<td>On or after 10/01/2017</td>
</tr>
</tbody>
</table>

### New Format

<table>
<thead>
<tr>
<th>State / Territory</th>
<th>Homes Permitted On or After This Date Must Meet the Adjacent Version &amp; Revision</th>
<th>Version</th>
<th>Revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>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</td>
<td>07-01-2016</td>
<td>National v3</td>
<td>Rev. 08</td>
</tr>
<tr>
<td></td>
<td>01-01-2019</td>
<td>National v3</td>
<td>Rev. 09</td>
</tr>
<tr>
<td>DC, DE, IA, IL, MA, MD, MN, MT, RI, VT</td>
<td>07-01-2016</td>
<td>National v3.1</td>
<td>Rev. 08</td>
</tr>
<tr>
<td></td>
<td>01-01-2019</td>
<td>National v3.1</td>
<td>Rev. 09</td>
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<tr>
<td>NV</td>
<td>07-01-2016</td>
<td>National v3</td>
<td>Rev. 08</td>
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<tr>
<td></td>
<td>10-01-2016</td>
<td>National v3.1</td>
<td>Rev. 08</td>
</tr>
<tr>
<td></td>
<td>01-01-2019</td>
<td>National v3.1</td>
<td>Rev. 09</td>
</tr>
<tr>
<td>MI, NJ</td>
<td>07-01-2016</td>
<td>National v3</td>
<td>Rev. 08</td>
</tr>
<tr>
<td></td>
<td>04-01-2017</td>
<td>National v3.1</td>
<td>Rev. 08</td>
</tr>
<tr>
<td></td>
<td>01-01-2019</td>
<td>National v3.1</td>
<td>Rev. 09</td>
</tr>
</tbody>
</table>
#4. Low-end bedroom pressure-balancing limit specified

- A low-end bedroom pressure-balancing limit has been specified.

<table>
<thead>
<tr>
<th>Old Policy</th>
<th>New Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 150 CFM: ? to +3 Pa</td>
<td>&lt; 150 CFM: -3 to +3 Pa</td>
</tr>
<tr>
<td>≥ 150 CFM: ? to +5 Pa</td>
<td>≥ 150 CFM: -5 to +5 Pa</td>
</tr>
</tbody>
</table>

- Footnote has clarified door configurations during testing:
  - Doors separating bedrooms from the main body of the house shall be closed (e.g., a door between a bedroom and a hallway)
  - Doors to rooms that can only be entered from the bedroom shall be open (e.g., a closet, a bathroom)
#5. Increased tolerances for HVAC Design

- Conditioned floor area used in the design can be:
  - 100 ft$^2$ smaller - 300 ft$^2$ larger than the rated home.

- Window area used in the design can be:
  - 15 ft$^2$ smaller - 60 ft$^2$ larger than the rated home, or,
  - For homes with > 500 ft$^2$ of windows, 3% smaller to 12% larger

- Heating capacity of furnaces paired with cooling can be:
  - 100 - 400% of the heating load.
Rev. 09

It’s Fine.
Rev. 10?

• To Do List:
  – Begin to integrate RESNET’s new HVAC grading standard.
  – Provide flexibility for innovative vent. system products.
  – Other items tagged by partners as needing attention…
• Tentative release date: September 2019
Updated Builder Sales Training Kit

- The Sales Training Kit provides the tools and materials to implement an in-person builder sales training.
- The goal of this training is to apply customized value propositions to various client profiles to sell more ENERGY STAR certified homes.
- The kit includes:
  - Presentation slide deck
  - Trainer’s guide
  - Participant guide
  - Take-away sales tools
- The training has four modules that can be completed in approximately two hours.
Updated Builder Sales Training Kit

- Updated Customer Profiles
  - Data from Shelton Group’s 2017 Energy Pulse report
- New Resources
  - Selling ENERGY STAR
  - Communicating the Benefits of ENERGY STAR
  - Certificate of Completion Template + Printing Tool
- View Sales Training Kit here or by logging into your “My ENERGY STAR Account” (MESA).
Updated Builder Sales Training Kit

1. If you have utilized the Sales Training Kit before, please raise your hand.
2. Are planning to use or would consider using this resource in the future?
3. Would you be interested in either of these options?
   - **Option 1**: A webinar for all interested partners where we provide a high-level overview of the training.
   - **Option 2**: A one-on-one, train-the-trainer session for your company to walk you through the training in greater depth.
PSA: Give Credit Where Credit is Due!

- Mandatory contact update form in MESA must be completed.
- If not, homes submitted for certification cannot be approved.
- MESA login screen redirects to the form if it hasn’t been filled out yet.
- Providers – please contact us at energystarhomes@energystar.gov if you want a list of your Raters and builders who haven’t completed their form.
- Urge your clients to complete their form!
Major Initiatives in 2019
EPA created RaterPRO to promote adoption of high-quality ratings across the industry by increasing their value and reducing their cost.
RaterPRO Workflow

1. Import specifications from projected rating file
2. Inspect home using RaterPRO tablet app
3. Export confirmed rating back to HERS software
RaterPRO Strengths

- Practically eliminate raters’ office time after inspection

✓ Energy Star Rater Field Checklist is synced
RaterPRO Strengths

- Practically eliminate raters’ office time after the inspection
  - Energy Star Rater Field Checklist is synced
  - Punchlist sent to builder
RaterPRO Strengths

- Practically eliminate raters’ office time after the inspection
  - Energy Star Rater Field Checklist is synced
  - Punchlist sent to builder
  - Photos and notes are automatically attached to the job
RaterPRO Strengths

- Practically eliminate raters’ office time after the inspection
  - Energy Star Rater Field Checklist is synced
  - Punchlist sent to builder
  - Photos and notes are automatically attached to the job
  - Edits to home specifications synced in real-time
RaterPRO Strengths

- Built for the field
  - Native app is fast and responsive
  - Cloud-based, with ability to work offline
RaterPRO Strengths

• Powerful Quality Assurance
  – Front elevation photo required
RaterPRO Strengths

• Powerful Quality Assurance
  – Front elevation photo required
  – Job History with geo-location provides full accounting of inspection procedures

Job History

Created: Feb 5, 2019 1:56:49 PM by Mario Tate

Edited: Feb 5, 2019 1:57:02 PM by Mario Tate
  • Total Editing Time: 39 minutes
  • 1 photo(s)
  • 44 pre-drywall status update(s)
  • 56 final status update(s)

Completed: Feb 5, 2019 2:35:58 PM by Mario Tate

Submitted to Provider: Feb 5, 2019 2:46:37 PM by Myron Gray
RaterPRO Strengths

- Powerful Quality Assurance
  - Front elevation photo required
  - Job History with geo-location provides full accounting of inspection procedures
  - Archival report provides permanent record
RaterPRO Strengths

• Eliminates rater’s back office time
• Built for the field
• Powerful quality assurance
Timeline

- Update: **RaterPRO Version 1.0** will be available in **June**
- v1 will include all Beta features, plus:
  - Geo-tagging
  - Archival report
  - Energy Gauge support
Public Beta

- Beta has been available for almost a year
- 29 organizations have joined as beta users
- 100’s of real-world homes rated
- Rolling updates every three weeks

REM/Rate or Ekotrope | iPad with iOS 10 or above
Email: energystarhomes@energystar.gov
Open Source
Open Source Background

• Community has consistently requested an open-source project for a variety of reasons:
  – To run on organizations’ own servers for independent control
  – To integrate with existing systems (scheduling, billing, etc.)
  – To customize for individual needs
• Solicited input last year at a RESNET pre-conference session
• Offered three options to make RaterPRO more “open.” Consensus was open source project would be the best path.
• EPA agrees – Making RaterPRO open-source fulfills EPA’s goal of investing in the infrastructure of the rating industry at large
## Phased Rollout for Open Source

<table>
<thead>
<tr>
<th>Phase</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase 1: Code Preview</strong></td>
<td></td>
</tr>
<tr>
<td>• Preview of pre-release source code</td>
<td></td>
</tr>
<tr>
<td>• Limited documentation</td>
<td></td>
</tr>
<tr>
<td><strong>Phase 2: Free-to-Fork</strong></td>
<td></td>
</tr>
<tr>
<td>• EPA will continue to own and operate ‘RaterPRO’</td>
<td></td>
</tr>
<tr>
<td>• Version 1.0 source code released under MIT License</td>
<td></td>
</tr>
<tr>
<td>• 3rd parties can fork versions on their own servers</td>
<td></td>
</tr>
<tr>
<td>• Can sell modified version as commercial product</td>
<td></td>
</tr>
<tr>
<td>• Must re-brand (can’t use the name “RaterPRO”)</td>
<td></td>
</tr>
<tr>
<td>• Limited EPA support resources</td>
<td></td>
</tr>
</tbody>
</table>

**Signup** with Elliot at RESNET conference or **Email:** energystarhomes@energystar.gov
Future of Open Source

- EPA’s focus in 2019 is on v1.0 users’ needs, but excited to see what community does with open-source forks in meantime.
- EPA interested in a collaborative open source project:
  - EPA would work with community to set development priorities.
  - EPA would manage pull requests from community contributors.
  - Features would appear in “canonical” RaterPRO that EPA hosts and be published for 3rd-party use in forked versions.
- Depends on community uptake and interest. Let us know!
Multifamily New Construction
ES MF New Construction Programs: pre-2019

- Single Family Homes
- Factory Built Homes
- Low Rise Multifamily Buildings

- Mid and High Rise Multifamily Buildings
- Launched in 2011 to cover buildings previously ineligible for Certified Homes

Certified Homes (ESCH)

MFHR
Goal of ENERGY STAR MFNC Program

Delineation between SF and MF

One MF program for all building heights with common space requirements

What is Single-Family?
• Detached homes
• Two-family dwellings
• Townhomes (IRC definition)
What is Multifamily?

Most attached housing

Townhomes too, with some revised/added requirements & ESCH Reference Design

Mixed use, if residential is more than 50% by OSF

Not hotels, dorms, skilled nursing, or assisted living
ENERGY STAR Program Decision Tree

Is the building new construction\(^1\) \& residential\(^2\)?

- **NO**
- **YES**

Is the building a motel/hotel, dormitory, skilled nursing facilities, or assisted living facility?

- **NO**
- **YES**

ENERGY STAR Buildings and Plants

Does the building have one or two units, or is it a townhome\(^3\)?

- **YES**
  - ENERGY STAR Certified Homes
- **NO**
  - ENERGY STAR Multifamily New Construction
ENERGY STAR MFNC Building Types
Multifamily New Construction (MFNC) Requirements Overview

Performance Target

ASHRAE  ERI  Prescriptive

Mandatory Features

Testing, Verification & Oversight

ENERGY STAR
ENERGY STAR MFNC Partners

Builders & Developers

- Complete online Partnership Agreement
- View online orientation video
- Responsible for Water Management System Requirements
- Either the Builder OR Developer must be a partner
ENERGY STAR MFNC Partners

Raters

Roles & Expectations
• Verify that all requirements have been met
• Collect the other documentation

Requirements
a) Be a Certified Rater, Approved Inspector, or an equivalent as determined by an Oversight Org
b) Have completed an EPA-recognized training class
c) Complete an online Partnership Agreement
ENERGY STAR MFNC Partners

Raters

Training

• MFNC Rater Training (similar format as current ESCH Rater training)
  – MF add-on for current Rater Partners
  – MF/ESCH combo for new Rater Partners

• MFNC Rater Training is optional for ENERGY STAR Rater Partners until Jan 1, 2020
## ENERGY STAR MFNC Program Docs

<table>
<thead>
<tr>
<th>All Paths</th>
<th>Path Specific</th>
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<tbody>
<tr>
<td>National Program Req's</td>
<td>ERI: Target Procedure</td>
</tr>
<tr>
<td>Rater Design Review Checklist</td>
<td>MF Workbook (optional)</td>
</tr>
<tr>
<td>Rater Field Checklist</td>
<td>ASHRAE: Performance Path</td>
</tr>
<tr>
<td>HVAC Design Report</td>
<td>Calculator</td>
</tr>
<tr>
<td>HVAC Functional Testing Checklist</td>
<td>Simulation Guidelines</td>
</tr>
<tr>
<td>Water Management System Requirements</td>
<td>MF Workbook</td>
</tr>
</tbody>
</table>

ERI:
- Target Procedure
- MF Workbook (optional)

ASHRAE:
- Performance Path Calculator
- Simulation Guidelines
- MF Workbook

Prescriptive:
- MF Workbook
Multifamily Workbook

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rater Design Checklist (Reset All)</td>
<td>Show all Footnotes</td>
</tr>
<tr>
<td>Hide all Footnotes</td>
<td>SELECT PATHWAY (Reset to All Paths)</td>
</tr>
<tr>
<td>Prescriptive</td>
<td>ERI</td>
</tr>
<tr>
<td>Title 24: Dwelling Unit Models</td>
<td>Required Only</td>
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<tr>
<td>Title 24: Whole Building Models</td>
<td>Optional Only</td>
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<table>
<thead>
<tr>
<th>1</th>
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</thead>
<tbody>
<tr>
<td>Project Name:</td>
<td>Number of Units:</td>
</tr>
<tr>
<td>Project Address:</td>
<td>City:</td>
</tr>
</tbody>
</table>

### Rater Design Review Checklist 1

<table>
<thead>
<tr>
<th>1. Partnership Status</th>
<th>Must Correct</th>
<th>Rater 3 Verified</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1 Rater has verified that builder or developer is an ENERGY STAR partner using energystar.gov/partnerlocator</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Builder Name:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developer Name:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ENERGY STAR MFNC Now Online!

ENERGY STAR RESIDENTIAL NEW CONSTRUCTION PROGRAM REQUIREMENTS

PROGRAM VERSIONS AT A GLANCE

STEP 1: SELECT A PATH
- ERI and Prescriptive
- ASHRAE / Title 24

STEP 2: Select State or Territory

ELIGIBILITY
These requirements apply to most multifamily buildings. See flow chart (PDF, 85 KB) for the specific multifamily projects that are eligible. Multifamily projects permitted prior to January 1, 2021, may continue to certify through the MFHR or Certified Homes program, based on the eligibility requirements of those programs.

PROGRAM REQUIREMENTS
National Program Requirements
MFNC National Program Requirements Version 1/1/17/CR-WA 1.2 (PDF, 490 KB)
ES MFNC Timeline

✓ Jan 2019: MFNC website and program launch
✓ Feb 2019: Stakeholder webinar & RESNET sessions
• Jan 2019 – Dec 2020: Choose ESCH, MFHR, or MFNC
• Jan 2019 – July 2019 (?): ERI Path limited
  – Not yet available in all energy rating software
  – Need RESNET to approve ERI above 5 stories
• Jan 2019- Dec 2019: MFNC-specific training not req
• Jan 2020: Raters must complete MFNC training
• Jan 2021: MFNC required for buildings with permit dates January 1, 2021 and later
MFNC RESNET Sessions

Now Available! The ENERGY STAR Multifamily New Construction Program

Tuesday, February 26, 2019 - 8:30 AM-10:00 AM, Bayside A
Presenters: Gayathri Vijayakumar and Rebecca Hudson

ENERGY STAR Multifamily New Construction Program: Q&A

Wednesday, February 27, 2019 - 8:30 AM-10:00 AM, Bayside A
Presenters: Gayathri Vijayakumar and Rebecca Hudson
Summary

MFNC requirements: [www.energystar.gov/mfnc](http://www.energystar.gov/mfnc)

MFNC program available now! Applies to all multifamily buildings with three or more units

MFNC required if permitted on or after 1/1/2021

MFNC Rater Training available in 2019 but not required until January 2020

Contact [energystarhomes@energystar.gov](mailto:energystarhomes@energystar.gov) with any questions, for webinar recordings, or to be added to the stakeholder list for MF updates
Earning HERS Points for Quality HVAC Design & Installation
Installation defects in HVAC systems are commonplace

- Improper airflow.
- Incorrect refrigerant charge.
The installation process impacts airflow and refrigerant charge

- **Airflow is impacted by the installation:**
  - Fan-speed setting
  - Components attached to the system (like the filter)
  - Duct system installed

- **Refrigerant charge is impacted by the installation:**
  - Length of refrigerant line
Why is this relevant to HERS / ERI ratings?

- Today, installation faults have zero impact on a HERS or ERI rating.
- Not only do these faults impact efficiency, they impact performance.
- ENERGY STAR has promoted quality installation since 2011.
- However, uniform and practical procedures for Raters to assess systems will be a more effective approach.
- And, HERS / ERI points can be granted in exchange.
Guiding principles of the standard

- Take a ‘carrot’ rather than a ‘stick’ approach.
- Reward incremental improvement by HVAC professionals and Raters.
- Rely upon procedures that deliver value in and of themselves.
Conceptual overview of standard

- Follow the insulation quality-installation model:
  - **Grade III:**
    - The default.
    - HVAC system installation quality is not assessed.
    - No HERS points earned (but no penalty either).
  - **Grade II:**
    - Rater assesses HVAC system.
    - HVAC system installation quality is so-so.
    - Some HERS points are earned.
  - **Grade I:**
    - Rater assesses HVAC system.
    - HVAC system installation quality is pretty good.
    - Full HERS points are earned.
Std. 310: Standard for Grading the Installation of HVAC Systems
Next Steps

• Q2 – Q4 19: Public comment process. Develop Rater training. Draft HERS software modifications.

• Q1 – Q2 20: Begin using standard?
Summary

• A major step towards unifying ENERGY STAR and HERS ratings.
• For Raters: provide additional value during site visits.
• For ENERGY STAR builders: earn HERS points for things they’re basically already investing in.
• For utilities: quantify savings from proper HVAC design and installation.
• Overall, will help slowly transform HVAC design and installation.
• Learn more about this exciting topic tomorrow, 10:30, in Grand Chenier.
Verification Oversight Organization
Eligibility Criteria
VOO Eligibility Criteria

• In August, we released a Request For Information about expanding VOO eligibility criteria to include ISO/IEC 17065 accreditation.
• ISO/IEC 17065 is an international standard for recognizing organizations that certify products, processes, and services.
• 11 individual organizations and groups submitted comments.
• We also conducted additional outreach to ensure key stakeholders had their viewpoint represented and understood the possible changes.
• We expect to release a Response to Comments in early March.
### EPA & DOE Conference Sessions

All Sessions Located in Bayside A Unless Otherwise Noted

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<th>Session</th>
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<td>The Top 10 Technical Challenges of Zero Energy Ready Homes</td>
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Parting Thought

• ENERGY STAR team is making major investments in you and the rest of the RESNET community:
  – Multifamily New Construction program. More rating types.
  – RaterPRO. Less tedium.
  – Volunteering on multiple RESNET sub-committees

• We are working hard to help you succeed.

Thank you for your hard work!
ENERGY STAR Certified Homes

Web & Email:
Main: www.energystar.gov/newhomespartners
Technical: www.energystar.gov/newhomesguidelines
Training: www.energystar.gov/newhomestraining
HVAC: www.energystar.gov/newhomesHVAC
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