



New Jersey ENERGY STAR® Homes
Residential New Construction (RNC) Program Guide

For Fiscal Year 2018
(7/1/2017 through 6/30/2018)

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1. Overall Program Description

The Residential New Construction (RNC) Program is designed to increase the energy efficiency and environmental performance of residential new construction buildings (single and multifamily) in New Jersey. The RNC program strategy is to establish standards for energy efficient new construction in New Jersey based on national platforms including International Energy Conservation Code (IECC) 2015 Energy Rating Index (ERI), Environmental Protection Agency (EPA) ENERGY STAR® Certified New Homes Program, Department of Energy (DOE) Zero Energy Ready Home (ZERH) Program, and the EPA ENERGY STAR Multifamily High-Rise Program (MFHR). The program offers technical support and incentives to builders of new single or multi-family residential structures or homes undergoing a complete rehabilitation (gut) that comply with these standards.

To participate in the RNC program, builders agree to work with independent third-party inspectors (Raters) who inspect, measure, and test the home's performance during and after construction. Incentives are designed to partially offset the construction costs associated with building higher efficiency homes.

2. Target Market & Eligibility

Newly constructed single family, multi-single (townhome), low-rise, and high-rise multifamily buildings up to six stories are eligible for program benefits if the home or multifamily building will use natural gas and/or electricity supplied by a New Jersey investor owned utility (IOU) as the primary heat source. Target markets for this program are homebuilders and Rating Companies

Multifamily buildings can either be considered low-rise (which participate in the first four pathways described above) or high-rise (which participate in the MFHR Program) depending on several factors including number of stories, heating and cooling systems, and percentage of commercial space in the building.

The RNC Program will also enroll any existing home undergoing substantial gut renovation or remodeling that meets the above criteria.

New homes are not eligible for equipment incentives under the Residential HVAC program (COOLAdvantage/WARMAdvantage).

3. Background for IECC Codes, ERI Path, and HERS Index

The New Jersey Department of Community Affairs (NJDCA) adopted the 2015 IECC on September 21, 2015. Homes that received building permits on or after March 21, 2016 will have to comply with this new

code. Homes built to the 2015 code will be at least 15% more efficient than ones built to the former 2009 IECC code.

The 2015 IECC aims to be more user-friendly and more flexible for builders to achieve targeted energy savings. New in this code is the Energy Rating Index (ERI) compliance path. The ERI is voluntary but gives builders the option of taking a "whole house" performance approach to meet the targeted ERI Index. In other words, rather than a builder having to install prescriptive measures, a builder can select a package of most efficient measures as well as the building envelope to achieve the best performance for each home.

A Home Energy Rating System (HERS) Index of 100 equates to the performance levels prescribed in the 2006 IECC (least efficient) and 0 is equivalent to a net-zero-energy home (most efficient). The EPA's ENERGY STAR certification and DOE Zero Energy Ready Home programs also utilize the HERS Index system. In short, the lower the HERS Index, the more efficient the home.

The US Department of Energy created a national Zero Energy Ready Home (ZERH) program with strict requirements. At a minimum, homes built to this standard meet the ENERGY STAR v3.1 guidelines and achieve a HERS Index of 50 or lower. When a renewable energy component is connected to the home (e.g. Solar PV system), the energy produced by the renewable component can offset the modeled electric consumption of the home annually, therefore, the net energy consumed on an annual basis by the home is zero.

4. Program Offerings

The Program offers builders flexibility and options to participate in the program by building homes to varying standards or guidelines. In all cases, the HERS Index is used to calculate the home's energy efficiency achieved and to determine the cash rebate the builder will earn. The three standards are outlined below:

- **IECC 2015 Energy Rating Index (ERI):**

As stated above, NJ has recently adopted this code and new residential construction must follow this code. Builders are encouraged to utilize the ERI "whole-house" performance pathway to achieve compliance with the code so that materials, systems, and appliances are all working together to maximize a home's energy efficiency. This is the standalone "entry level" pathway into the RNC program. The incentive for construction to this standard is a flat \$750 but could also be combined with all the other incentive levels listed below if the house or multifamily buildings meet all the requirements.

- **ENERGY STAR Certified Home v 3.0 or 3.1 Requirements:**

Builders can choose to construct a home in conformance with ENERGY STAR v3.0 or 3.1 specifications (depending on permitted code baseline) and can earn the ENERGY STAR certification for the home. In this case, the Rating Company will score the home's performance

using the HERS rating system. Table 1 below displays the incentives based on HERS Index. The home must meet or exceed the HERS Index Target, comply with all ENERGY STAR v. 3.0 or 3.1 mandated requirements and checklists.

- **Zero Energy Ready Home & Zero Energy Home + RE**

Builders can choose to build the home in conformance with the DOE ZERH specifications, which are above ENERGY STAR v3.1 specifications, meet or exceed the 2015 IECC insulation level, and certify to EPA's Indoor airPlus Program. (See Section 11 below for a weblink to the ZERH program.) The program also has a Zero Energy Ready Home 100% Renewables offering, whereby 100% of the building's modeled electric site energy usage must be met by renewable energy systems installed onsite at the time of completion of the home. Table 1 below displays the incentives based on HERS Index.

Table 1 below displays the incentives based on the above standards and energy savings achieved.

- **ENERGY STAR Multifamily High Rise:**

Builders must meet or exceed EPA ENERGY STAR Multifamily High Rise (MFHR) Program standards including:

1. Following Performance Path which utilizes ASHRAE approved energy modeling to determine energy savings of a customized set of measures;
2. Align with EPA guidance to allow multiple baseline codes with corresponding percent above code requirements.

Table 2 below displays the incentives based on energy savings, as determined by the EPA.

5. Financial Incentives

Tables 1 and 2 below display the financial incentives payable to the builder or contractor depending on the homes final HERS Index. *Note: The lower the Index, the larger the rebate.*

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Table 1: Single-family, Multi-Single and Low-Rise Multifamily incentive structure.

HERS (Before Renewables)	IECC2015 ERI Compliance	Single-Family			Multi-Single			Multifamily		
		ENERGY STAR® Home	Zero Energy Ready Home	Zero Energy Home 100% Renewables	ENERGY STAR Home	Zero Energy Ready Home	Zero Energy Home 100% Renewables	ENERGY STAR Home	Zero Energy Ready Home	Zero Energy Home 100% Renewables
75								\$625		
70					\$1,125			\$750		
65		\$1,750			\$1,313			\$875		
60		\$2,000			\$1,500			\$1,000		
55		\$3,000			\$2,250			\$1,500		
50		\$4,500	\$6,500	\$9,500	\$3,375	\$4,875	\$7,125	\$2,250	\$3,250	\$4,750
45		\$7,250	\$9,250	\$12,250	\$5,438	\$6,938	\$9,188	\$3,625	\$4,625	\$6,125
40		\$10,250	\$12,250	\$15,250	\$7,688	\$9,188	\$11,438	\$5,125	\$6,125	\$7,625
35		\$13,750	\$15,750	\$18,750	\$10,313	\$11,813	\$14,063	\$6,875	\$7,875	\$9,375
30		\$17,250	\$19,250	\$22,250	\$12,938	\$14,438	\$16,688	\$8,625	\$9,625	\$11,125
25		\$18,250	\$20,250	\$23,250	\$13,688	\$15,188	\$17,438	\$9,125	\$10,125	\$11,625
20		\$19,250	\$21,250	\$24,250	\$14,438	\$15,938	\$18,188	\$9,625	\$10,625	\$12,125

Table 2: Multifamily High Rise Incentive Structure

Baseline	Savings Before RE	Baseline	Savings Before RE	Baseline	Savings Before RE	Incentive Per Unit
90.1-2007	25%	90.1-2010	20%	90.1-2013 App G 2010 OR 2013	15%	\$1,250
	30%		25%		20%	\$1,500
	35%		30%		25%	\$1,750
	40%		35%		30%	\$2,000
	45%		40%		35%	\$2,250

6. General Process Outline

Specific program requirements and construction processes must be met for a builder to benefit from each incentive level. For all offerings, the program mandates that builders/developers work with a participating RESNET-Accredited HERS Rating Company/Provider to ensure that the high efficiency requirements are met.

In general, there is an overall process for a Builder to participate in the program as outlined below which applies to either single-family or multifamily projects.

1. A builder or developer selects and enters into agreement with a Rating Company (that is a participating member of the program) to perform the energy ratings, inspections, testing, and certifications required by the RNC program.

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2. A builder or developer enters into an [ENERGY STAR Partnership Agreement](#). (See Section 11 below for a weblink to the Partnership Agreement and related materials.)
3. A builder or developer arranges for an HVAC Designer and/or an HVAC Quality Installation Training and Oversight Organizations (H-QUITO) credentialed HVAC Contractor to design, install, and commission the HVAC systems.
4. The builder/developer works with the Rating Company to ensure that the builder's site personnel, crews, and contractors are familiar with program requirements.
5. The Rating Company then registers a project with the program through the online portal and uploads all supporting documents specified on the portal.
6. The Program reviews the Site Registration and all supporting documents. If deemed incomplete, the Rating Company will be notified of any deficiencies. The Rating Company will resolve the document issues and revise the online application and resubmit. Once all portal entries and documents are in order, the RNC program will enroll the project(s) and send an enrollment letter to the Rating Company.
7. The Builder will attend the Rating Company's design review meeting and a pre-construction meeting with all other appropriate contractors, sub-contractors, and stakeholders.
8. The Builder proceeds with construction and coordinates the scheduling of all required inspections with the Rating Company, mainly a Pre-Drywall Inspection and Final Inspection. The project must be successfully enrolled 2 business days before notifying the RNC program about the Pre-Drywall inspection.
9. If any deficiencies are identified by the Rating Company during either of these inspections, the builder must correct the deficiencies and the Rating Company must review and approve the corrections before the project can move forward towards a program incentive. The Rating Company enters the inspection results and uploads these inspection reports into the portal.
10. When all program requirements are met, an ENERGY STAR or ZERH label(s)/certificate(s) is issued by the Rating Company to the Builder/homeowner,
11. The Rating Company will complete the online incentive application and upload the EPA ENERGY STAR required checklists, a software data file, and the ENERGY STAR summary report completed by the Rating Company. In addition, the Rating Company shall upload the HVAC Design Report, heat/cool load report, and the HVAC Commissioning Checklist, which documents typically are not prepared by the Rating Company. Along with the above required documents, a valid Tax Clearance Certificate (TCC) for the Builder must be obtained by the Builder and provided to the Program by the Rating Company. To be valid, the TCC cannot have been issued more than 180 days prior to the Program's final approval of Incentive Application.

12. The Program reviews and approves the Incentive Application and payment is sent directly to the builder or homeowner in the form of a check.

7. Program Enrollment Procedures and Requirements

1. Rating Companies must utilize an [online portal](#) to submit electronic applications and all required program documents.
2. Projects will receive an Enrollment Letter and funds will be committed to each project when the Site Registration portal entries and documents are deemed complete. These project incentive commitments will expire according to building type:
 - a. For Single Family projects, in one (1) year;
 - b. For all other types of project (i.e., Multi-Single, Low-Rise Multifamily, and Multifamily High-Rise), in two (2) years.
3. All applicants must submit a valid municipal building permit with the enrollment application. In instances where an applicant is pursuing code compliance through the RNC Program, an Acknowledgement Letter will be issued in accordance with NJDCA Bulletin 15-4, on the understanding that the applicant must upload to the online portal the permit once the permit is granted. (See Section 11 below for a weblink to the NJDCA Bulletin 15-4.)
4. The project must be successfully enrolled 2 business days before notifying the RNC program about the Pre-Drywall inspection.
5. Single Family projects must complete a Pre-Drywall Inspection within 120 days of the enrollment date. Should this deadline not be met, the project incentive commitment will be cancelled and the commitment amount re-allocated for other projects.
6. A Low-Rise Multifamily and Multifamily High-Rise project may be granted one extension of its enrollment or commitment for a period equivalent to its original enrollment or commitment, if it demonstrates that its Pre-Drywall Inspections have been successfully completed by the time of its expiration date. Should these requirements not be met in the above-mentioned timeframes, the project will be cancelled and the commitment amount re-allocated for other projects.

8. Quality Assurance Document Reviews and Inspections

The Program Manager and/or Program Administrator (collectively, the Program Team) will conduct sample QA site inspections of enrolled homes at the pre-drywall and/or final Inspection phase of construction. Inspections may be performed with or without the Rating Company being present. The

Program Team also conducts sample QA document reviews. The intent of the inspections and document reviews is to confirm program requirements are being met. Documents subject to document reviews include the Rater inspection report, Rater Design Review Checklist, Rater Field Checklist, HVAC Design Report, HVAC Commissioning Checklist and the ACCA Manual J load calculation report. All items pertinent to the ENERGY STAR Certified Homes Mandatory requirements may be subjected to review and field inspections to ensure the application meets the overall intent of (a) the ENERGY STAR Certified Homes requirements, and (b) (i) applicable law and/or (ii) duly adopted Program requirements, if such law or Program requirements exceed the ENERGY STAR Certified Homes requirements. Inaccuracies, omissions, or noncompliant items observed at document review stage or field inspections may result in the Program Team requesting the applicant/Rating Company to provide clarification or corrective actions, and projects with unresolved issues may be denied Program incentives.

Inspection requirements will be adjusted based upon the track record of the program participants. Initial inspection rates for new builders and rating companies will be higher and will decrease as they demonstrate proficiency in proper building techniques and the requirements of the Program.

No inspection, QA, or document review, and no comment, question, or approval related to the foregoing, shall constitute a representation or warranty, or create any liability, on the part of the Program Team or New Jersey Board of Public Utilities (NJBPU) with respect to quality, safety, performance, or other aspect of any design, system, or product.

The Program Team and NJBPU acknowledge, and do not intend to supersede, the USEPA ENERGY STAR Certified Homes National Program Requirements v3 (Rev. 08)(2015), which, among other things:

- Identify "Completion of HVAC Design Report" as the responsibility of the "HVAC System Designer;" and
- State that "The Rater is only responsible for verifying that the designer has not left any items blank on the HVAC Design Report and for verifying the discrete objective parameters in Item 4.2 [sic] of this Checklist, not for verifying the accuracy of every input on the HVAC Design Report."

9. Program Dispute Resolution

The program is designed to allow for participation by any RESNET Certified Rater operating under a RESNET Accredited Rating Provider that meets the program requirements. There are NJBPU-approved contractor remediation procedures that will be followed if a Rating Company or builder is found to violate program procedures and rules or consistently violates program requirements which may include being barred from participating in the program.

Disputes, concerns, or complaints that arise will be addressed initially by the Program Manager at the point of contact. If resolution for whatever reason is not possible, there is a dispute resolution process

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backed by the NJBPU. (See Section 11 below for a weblink to information regarding the dispute resolution process.

10. Call Center Support

New Jersey's Clean Energy Program operates a call center staffed weekdays between 8 AM and 7 PM. The phone number is 866-NJSMART. The call center is trained in answering general questions about the program and application processes as well as able to provide specific information pertaining to an application.

11. Links to Website Information

- The below link routes to the overall homepage for the Residential New Construction program.
www.NJCleanEnergy.com/RNC
- The below link routes to the Building & Rating Company Information webpage:
<http://www.njcleanenergy.com/residential/programs/nj-energy-star-homes/builder-information/builder-information>
- The below link routes to the RNC portal that Rating Companies use to upload documents, inspection reports, and other submittals for program review. There is also a training video that Raters can watch to learn how to use the portal. Raters must register with the RNC program to use the portal.
www.NJCleanEnergy.com/RNCPORTAL
- This link below routes to all the technical information that is required for Builders and Raters to participate in the program including step-by-step instructions on how to enroll a home in the program along with program checklists used by the Raters.
<http://njcleanenergy.com/residential/programs/nj-energy-star-homes/builder-information/participation-documents/participation->
- The below link routes to a Frequently Asked Question (FAQ) page:
<http://www.njcleanenergy.com/residential/programs/nj-energy-star-homes/faqs/new-jersey-energy-star-homes-frequently-asked-questions>
- The below links routes to the webpage showing the Rating Companies approved to work within the program:
<http://www.njcleanenergy.com/residential/programs/nj-energy-star-homes/rating-companies>

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- The below link routes to the webpage regarding how to become an ENERGY STAR partner:
<https://www.energystar.gov/buildings/about-us/become-energy-star-partner>
- The below link routes to the webpage regarding DOE's ZERH program:
<https://www.energy.gov/eere/buildings/zero-energy-ready-home>
- The below link routes to the webpage regarding how to become an ENERGY STAR RNC Partner, including a link to the form of Partnership Agreement:
https://www.energystar.gov/partner_resources/join_energy_star/new_home_construction
- The below link routes to the webpage for NJDCA Bulletin No. 15-4:
http://nj.gov/dca/divisions/codes/publications/pdf_bulletins/b.15_4.pdf
- The below link routes to the webpage for information regarding the NJCEP dispute resolution process: <http://www.njcleanenergy.com/main/board-public-utilities/board-public-utilities-0>