



# **REPORT UPDATE: STATE STRATEGIES TO INCREASE ENERGY AND WATER EFFICIENCY IN LOW INCOME HOUSING TAX CREDIT PROPERTIES**

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This report was created by the National Housing Trust as part of the Energy Efficiency for All Initiative. Thank you to the JPB Foundation whose financial support made this project possible.

Energy Efficiency for All unites people from diverse sectors and backgrounds to collectively make multifamily affordable homes energy and water efficient. We do this work so people in under-invested communities – particularly Black, Latinx, and other communities of color – who have been marginalized can equitably benefit from the health, economic, and environmental advantages of energy and water efficiency.



NHT creates and preserves affordable homes to provide opportunity, advance racial equity, reduce economic disparities and strengthen community resilience through practice and policy.

## INTRODUCTION

The Low Income Housing Tax Credit (LIHTC) encourages private investment in the production and preservation of affordable rental housing. With limited allocations of highly competitive 9 percent tax credits each year, state housing finance agencies (HFAs) look for ways to stretch resources to create and preserve quality affordable housing to meet their state’s needs.

Maximizing the energy and water efficiency of LIHTC properties is a cost-effective way to reduce energy and water consumption, improve the financial performance of properties, and create healthier, more comfortable homes for residents. The cost of energy is the largest controllable, variable operating expense in affordable multifamily housing,<sup>1</sup> and water and wastewater charges have been increasing at well above the Consumer Price Index (CPI) for many years.<sup>2</sup>

In 2017, Energy Efficiency for All released [“State Strategies to Increase Energy and Water Efficiency in Low Income Housing Tax Credit Properties”](#) which identified the most common strategies HFAs were using to advance water and energy efficiency in housing credit properties. This updated report examines the same ten strategies to identify trends in how HFAs are using 9 percent LIHTCs to develop and preserve affordable rental housing that is energy and water efficient, and identify states encouraging higher levels of performance and promising practices. Table 1 shows the ten most common strategies and the number of states utilizing those strategies in 2017 and 2020. Appendix A identifies which states have adopted these strategies.

**Table 1: HFA strategies used in 2017 and 2020**

Strategy	2017	2020
Third-party Building Standards	33	38
Water Conservation	26	28
Performance-based Requirements or Incentives	13	22
Utility Coordination	12	17
Energy Audits or Modeling	13	14
Green Capital Needs Assessment	12	14
Required Energy Professional	4	15
Renewable Energy	8	11
Energy and Water Benchmarking	6	10
Project-specific Utility Allowances	2	3

### The Low Income Housing Tax Credit Program

The Low Income Housing Tax Credit program is our nation’s most successful tool for encouraging private investment in the production and preservation of affordable rental housing. LIHTC has financed over 3.2 million apartments since 1986, providing roughly 7.4 million families, seniors, veterans, and people with disabilities homes they can afford.

The LIHTC program is administered jointly by the U.S. Department of Treasury and state housing finance agencies. There are two types of tax credit rates in the LIHTC program—the “4 percent” rate and the “9 percent” rate. This report focuses on competitive 9 percent credits.

The amount of 9 percent credits a state can allocate in a given year is limited based on a per capita formula authorized by Congress. To allocate 9 percent tax credits, HFAs use a competitive process with selection criteria outlined in the HFA’s Qualified Allocation Plan (QAP) or similar document. Nine percent credits are highly competitive, and affordable housing developers pay close attention to threshold requirements and incentives (points or preferences) outlined in the QAP to maximize their chances of receiving an allocation.

Developers who receive an allocation of 9 percent credits sell these credits to corporations to offset the corporations’ tax liability. In return, developers receive equity to help cover the cost of preserving or constructing affordable rental housing. Apartments created or preserved using tax credits must be rented to households with incomes of no more than 60 percent of the area median income, or 80 percent of the area median income if electing the income averaging option. Rent restrictions must remain in place for at least 30 years from when the property is placed in service (i.e., when the housing is ready to be occupied).

# KEY TRENDS IN 2020

This report update reflects approved QAPs and accompanying documents as of September 17, 2020. The following sections provide an update on selected strategies HFAs are increasingly using to improve the energy and water efficiency and health of LIHTC properties and areas for improvement. Information on the number of HFAs using the strategies listed and how they are being applied differently to new construction and rehabilitation properties are available in the appendices at the end of the report.

## THIRD-PARTY BUILDING STANDARDS

Third-party building standards continue to be the most widely adopted method to improve the energy and water efficiency and health of LIHTC properties. Standards like Enterprise Green Communities, LEED, or EarthCraft provide a holistic approach to design and construction that can cost-effectively reduce energy and water consumption, incorporate healthier building materials, and improve resident health. Thirty-eight HFAs require or incentivize properties to meet the criteria of a third-party building standard, up from 33 HFAs in 2017 (Appendix E). While 38 states incorporate third-party standards, not all states require projects to be certified by an independent professional to have met the QAP requirement. Of these states, fifteen require new construction projects to be certified through a third-party building standard, and 12 of those states also require rehabilitation properties to be certified.

The **Pennsylvania Housing Finance Agency (PHFA)** has taken a thoughtful approach to requirements and points for green building and energy efficiency. PHFA requires that all new construction and rehabilitation developments meet the mandatory criteria of Enterprise Green Communities. Points are available to new construction and substantial rehabilitation and preservation developments with different pathways available depending on the construction types. Different pathways provide opportunities for upgrades that are appropriate for the project scope. For example, the third-party building standard pathway for a moderate rehabilitation project might not include requirements for building systems in the same way that a third-party building standard pathway for a substantial rehabilitation project does. PHFA awards points as follows:

Ten (10) points may be given to new construction and substantial rehabilitation developments achieving certification under one of the following green building standards:

- Enterprise Green Communities – 2015
- LEED v4 BD+C Homes & Multifamily Low-rise – Silver
- LEED v4 BD+C Multifamily Mid-rise – Silver
- LEED v4 BD+C New Construction/Major Renovation – Silver
- ICC/ASHRAE 700 National Green Building Standard - Silver

Ten (10) points may be given to preservation developments achieving certification under one of the following green building standards:

- Enterprise Green Communities – 2015 – Moderate Rehab
- LEED v4 O+M – Multifamily - Certified

### Points v. Requirements

To allocate 9 percent credits HFAs use a competitive process, with selection criteria outlined in the HFA's Qualified Allocation Plan (QAP) or similar document that outlines specific priorities, including types of housing and amenities that best meet the state's housing needs.

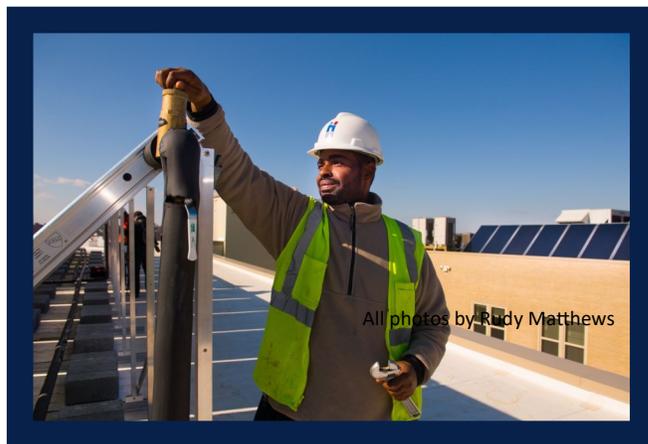
**Threshold requirements** are criteria that an application must meet to be considered for an allocation of tax credits.

**Points** are optional criteria that an applicant can pursue to achieve the highest score possible. Nine percent credits are highly competitive, with only the highest-scoring applications receiving an allocation of credits.

- ICC/ASHRAE 700 National Green Building Standard – Silver
- Under Section 305.3 – Whole Building Rating – Bronze
- Under Section 305.4 – Functional Areas Rating – Compliant with Chapter 12 (must include kitchens and bathrooms)

## ABOVE AND BEYOND CERTIFICATION

A growing number of HFAs encourage applicants to exceed the standard certification of commonly used third-party standards (e.g. LEED, Enterprise Green Communities, or Earth Craft) or pursue certification through third-party standards that require deeper energy savings, like Passive House or International Living Future Institute’s Living Building Challenge. In 2017, four states awarded points for certifying under these programs. In 2020, 13 states awarded points for Passive House certification, three awarded points for Living Building Challenge certification, and six awarded points for achieving Net Zero Energy or Zero Energy Ready homes (Appendix E).



In addition to the points PHFA awards for achieving certification through a third-party standard, additional points are available for projects that meet the HFA’s Energy Efficiency Goals, including points for achieving certification under the U.S. Department of Energy’s (DOE) Zero Energy Ready Home program or meeting the requirements of Passive House.

**The Delaware State Housing Authority (DSHA)** also awards points in a thoughtful way to encourage higher levels of energy efficiency. DSHA awards three base points for projects that meet the following standards:

- Enterprise Green Communities 2015
- National Green Building Standard
- LEED for Homes Multifamily, including BD+C: Homes/Multifamily Low-rise, and BD+C: Multifamily Midrise

An additional two points are awarded for new construction properties that achieve Passive House certification or DOE Zero Energy Ready Home. Acquisition/rehabilitation projects can earn two additional points for achieving a HERS index rating of 75 or less.

## ENERGY PERFORMANCE REQUIREMENTS AND INCENTIVES

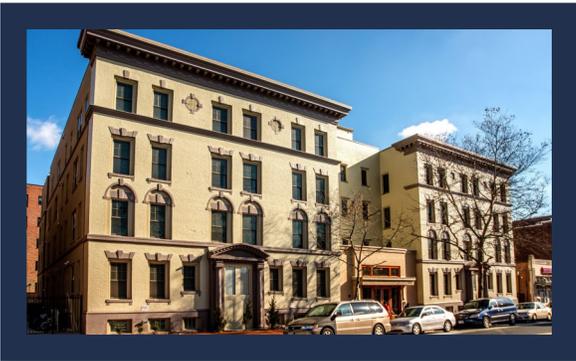
The area that saw the most growth from 2017 to 2020 was energy performance-based requirements or incentives. Performance targets encourage developers to evaluate all cost-effective energy efficiency opportunities and combine technologies to optimize the building’s performance as a whole. Twenty-two states, up from 13 in 2017, require or incentivize properties to improve the property’s energy performance (Appendix D). Ten states either require or award points for achieving a reduced HERS score to demonstrate improved performance, while others require energy modeling or an audit to identify a baseline and then award points for a percentage reduction in energy consumption above the baseline. Five states require or incentivize properties to achieve Energy Star Certification.<sup>3</sup>

For example, **Virginia Housing** requires new construction properties to meet ENERGY STAR Certification and requires rehabilitation properties to achieve a 30 percent post-rehabilitation decrease on its HERS score or a HERS score of 80 or lower. Adaptive Reuse projects must achieve a HERS score of 95 or below.

## UTILITY COORDINATION

Another encouraging trend is coordination with utility-sponsored, state, and federal energy efficiency programs. Utilities spent approximately \$8 billion on energy efficiency programs in 2018.<sup>4</sup> Coordination between HFAs and utilities can make it possible for LIHTC applicants to invest in deeper energy efficiency upgrades and stretch housing resources further by incorporating utility incentives and rebates into the property's capital stack. In 2020, 17 states required or incentivized coordination with utilities (up from 12 in 2017), and 11 have processes to evaluate and incorporate utility incentives into financing (Appendix G).

**Minnesota Housing**, the **Pennsylvania Housing Finance Agency** and **Connecticut Housing Finance Authority** require applicants to submit an energy rebate analysis detailing utility, local, state, or federal energy incentives or rebates to be included into the financing plan of the development.



In 2017, the **New York City Department of Housing Preservation and Development**, the **New York City Housing Development Corporation**, and **New York State Homes and Community Renewal** jointly developed an Integrated Physical Needs Assessment (IPNA) that helps property owners to easily participate in NYSERDA's energy efficiency programs or other utility incentive programs. The first of its kind, the IPNA includes an improved energy audit, water efficiency audit, a health assessment, and a solar potential evaluation tool in a single document. The streamlined process ensures HFAs, owners, and lenders have the information necessary to understand the full range of needs and opportunities in each property at the time of financing.

Other states align their energy performance requirements and points with utility energy efficiency program requirements to ensure that properties are eligible to receive utility incentives. **Rhode Island Housing** requires properties to meet Tier I standards under National Grid's Residential New Construction program guidelines.<sup>5</sup> Points are awarded to new construction properties that meet National Grid's Residential New Construction Tier II Standards and ENERGY STAR 3.1 standards. Points are awarded to substantial rehabilitation projects that demonstrate an ability to surpass Tier II standards under National Grid's program guidelines. National Grid's Residential New Construction Tier II Standards require a 25-44% improvement in energy performance over code.

## BENCHMARKING

One area with continued room for improvement is energy and water benchmarking. In 2020, 10 states required or incentivized properties to benchmark energy and water use (Appendix F). Utilities are increasingly providing multifamily property owners access to energy consumption data for the purpose of benchmarking, and many utility systems upload data directly to ENERGY STAR Portfolio Manager.<sup>6</sup> For example, **South Carolina Housing** requires new construction multifamily developments to benchmark energy and water consumption using ENERGY STAR Portfolio Manager for a minimum of five years and make data available to the agency. Benchmarking the energy and water performance of a building helps building owners make data-driven decisions to improve operations and maintenance and identify opportunities for upgrades that will keep operating costs low.

## CONCLUSION

COVID-19 has demonstrated the critical relationship between health, energy, and affordability. This update to the 2017 State Strategies Report demonstrates that HFAs are increasing their focus on the long-term benefits of more energy- and water-efficient affordable housing to improve the financial performance of properties, keep rent and utilities affordable, and provide healthier homes for residents.

## ENDNOTES

1. National Housing Trust, *Partnering for Success: An Action Guide for Advancing Utility Energy Efficiency Funding for Multifamily Rental Housing*, 2013.
2. American Water Works Association (AWWA) & Raftelis Financial Consultants, Inc. *2019 Water and Waste Water Survey*, AWWA, 2019.
3. ENERGY STAR standards and certification are also included as mandatory or optional criteria in common third-party building standards, Enterprise Green Communities, Earth Craft, National Green Building Standard and LEED.
4. Berg, W., Vaidyanathan, S., et al. *The 2019 State Energy Efficiency Score Card*, 2019.
5. National Grid, *Rhode Island Residential New Construction (RNC) Program and Zero Energy Homes*, National Grid. 2020.
6. Energy Star, *Utilities Providing Energy Data for Benchmarking in ENERGY STAR Portfolio Manager*. 2020.

## APPENDIX A:

### STRATEGIES STATES USE TO IMPROVE THE ENERGY AND WATER EFFICIENCY OF LIHTC PROPERTIES

Green boxes represent requirements or incentives added since 2017

	Green Capital Needs Assessment	Energy Audits/Modeling	Performance-Based Requirements or Incentives	Third-party Green Building Standards	Required Energy Professional	Energy and Water Benchmarking	Water Conservation	Utility Coordination	Project-specific utility allowances	Renewable Energy
Alabama							X			
Alaska				X		X				X
Arizona	X	X	X		X		X		X	
Arkansas							X			
California		X	X	X	X		X		X	X
Colorado				X	X	X				
Connecticut	X	X	X	X	X			X		X
Delaware		X	X	X		X				
District of Columbia			X	X	X			X		X
Florida	X			X			X			
Georgia	X	X	X	X			X			
Hawaii				X						
Idaho			X	X			X			
Illinois	X			X				X		
Illinois-Chicago	X			X						
Indiana				X	X		X			
Iowa		X	X		X		X			
Kansas		X	X		X		X			
Kentucky										
Louisiana				X						
Maine							X			
Maryland		X	X	X	X		X	X		X
Massachusetts				X		X	X	X		X
Michigan				X			X			
Minnesota				X				X		
Mississippi				X			X			
Missouri	X	X		X	X			X		
Montana				X	X		X			X
Nebraska	X									
Nevada		X	X				X			X
New Hampshire				X			X	X		
New Jersey			X	X		X	X	X		
New Mexico			X				X			
New York HCR	X		X	X	X	X		X		
NYC HPD	X	X		X		X		X		
North Carolina							X			
North Dakota				X						
Ohio				X						
Oklahoma							X			

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### STRATEGIES STATES USE TO IMPROVE THE ENERGY AND WATER EFFICIENCY OF LIHTC PROPERTIES

State	Green Capital Needs Assessment	Energy Audits/ Modeling	Performance-Based Requirements or Incentives	Third-party Green Building Standards	Required Energy Professional	Energy and Water Benchmarking	Water Conservation	Utility Coordination	Project-specific utility allowances	Renewable Energy
Oregon				X				X		X
Pennsylvania	X	X	X	X		X		X		
Rhode Island			X	X		X		X		X
South Carolina			X	X		X	X			
South Dakota			X				X		X	
Tennessee	X			X			X			
Texas				X			X			
Utah			X	X				X		
Vermont	X	X	X		X			X		X
Virginia			X	X	X		X			
Washington	X	X		X				X		
West Virginia					X					
Wisconsin				X						
Wyoming			X	X			X			

All appendices reflect approved QAPs and accompanying documents as of September 17, 2020

## APPENDIX B: GREEN CAPITAL NEEDS OR PHYSICAL NEEDS ASSESSMENT

State	Property Type	Stage Submitted
Arizona	Rehabilitation and Adaptive Reuse	At application
Connecticut	Rehabilitation	At application
Florida	Rehabilitation	Once invitation to credit underwriting has been accepted
Georgia	Rehabilitation (Adaptive re-use exempt)	Dated within 6 months of application submission
Illinois	Existing structures	At application
Illinois-Chicago	All projects	
Missouri	Rehabilitation	Energy audit can be completed with the CNA/PNA but energy audit must be submitted with the application
Nebraska	Rehabilitation and Adaptive Reuse	At application
New York HCR	Rehabilitation	At application
New York City HPD	Rehabilitation	At application
Pennsylvania	Rehabilitation and Preservation	At application
Tennessee	Rehabilitation	At application
Vermont	All projects	New Construction/Adaptive Reuse/Gut Rehab: Prior to 8609 Issuance All others: Prior to Reservation
Washington	Rehabilitation	At application. The ASHRAE Level 2 (or equivalent) audit maybe submitted stand-alone or as part of the CNA

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## APPENDIX C:

### ENERGY MODELING, ANALYSIS, OR AUDIT REQUIREMENTS

State	New Construction	Rehabilitation/ Preservation	Standard Referenced	Auditor Certification Referenced
Arizona	X	X		RESNET Home Energy Rater (HERS)
California	X	X	Sustainable Building Method and Energy Efficiency Requirements Workbook	For energy modeling and utility data analysis: California Association of Building Energy Consultants (CABEC) Certified Energy Plans Examiner (CEPE)-Res CEPE ID for 3 stories or less and Non Res CEPE ID for 4 stories or more and Whole House Rater. For Whole-building energy assessment: HERS Whole House Rater, BPI Multifamily Building Analyst, GreenPoint Rater for Existing Multifamily
Connecticut	X	X	ASHRAE Level II (recommended)	Professional Engineer's license in the State of Connecticut, Certified Energy Manager (CEM), BPI, RESNET HERS, or Energy Star
Delaware	X	X	ASHRAE protocol assessment	BPI, RESNET Home Energy Rater
Georgia		X		RESNET Home Energy Rater (HERS), BPI Building Analyst, or similarly qualified professional
Iowa	X	X		RESNET Home Energy Rater (HERS) or firm specializing in energy efficiency
Kansas	X	X		RESNET Home Energy Rater (HERS)
Maryland		X		RESNET Home Energy Rater (HERS), BPI Multifamily Building Analyst or Envelope Professional and a listed Qualified Energy Auditor by DHCD
Missouri		X	ASHRAE Level I (minimum)	BPI, RESNET Home Energy Rater, ENERGY STAR
Nevada	X	X		Nevada Housing Division contracts with a qualified energy company
New York City HPD		X	ASHRAE Level II (broadly followed)	AEE Certified Energy Manager (CEM), AEE Certified Energy Auditor (CEA), AEE Certified Measurement and Verification Professional (CMFP), BPI Multifamily Building Analyst (MFBA) ASHRAE High-Performance Building Design Professional (HPBDP), ASHRAE Building Energy Assessment Professional (BEAP), RESNET Home Energy Rater (HERS)
Pennsylvania		X		BPI Certified Multifamily Building Analyst
Vermont		X		
Washington	X	X	ASHRAE Level II or equivalent	WSFC's approved roster of energy modeling consultants

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## APPENDIX D:

### BUILDING ENERGY PERFORMANCE REQUIREMENTS AND INCENTIVES

New Construction				Rehabilitation		
State	Required	Points	Standard	Required	Points/ Preference	Standard
Arizona	X		HERS rating below 65	X		15% reduction in weighted average HERS index
California	X	X	Threshold: 2019 Title 24, Part 6, of the California Building Code Points: Low-Rise, 5-8 EDR points*; High-Rise, 7-12% reduction	X	X	Points: Improvement over current conditions based on the building's percentage decrease in estimated Time Dependent Valuation (TDV) energy use post rehabilitation as demonstrated using the performance module of California Energy Commission (CEC) approved software: 15% improvement=3 points 20% improvement =5 points
Connecticut		X	Gut Rehabilitations/New Construction – Projected energy cost savings ≥ 23% over current ASHRAE Standards.		X	Minor, Moderate or Substantial Rehabilitations – Projected reduction in energy consumption ≥ 33%
Delaware					X	HERS rating of 75 or less
District of Columbia					X	HERS rating of 70 or less or ENERGY STAR version 3.0 Certification
Georgia				X		20% or greater over pre-retrofit levels or measures that have a Savings to Investment Ratio (SIR) of 2.0 or greater
Idaho		X	HERS rating below 70		X	HERS rating below 100
Iowa	X		Required: HERS rating below 70 Points: HERS rating below 62 or exceed ASHRAE 90.1-10 by 20%		X	2015 International Energy Conservation Code (IECC) exceeded by eight percent (8%) or more.
Kansas	X		Energy Rating Index (ERI) of 75 or less as established by the 2012 International Energy Conservation Code (IECC)	X		Rehabilitation of existing structures must meet or exceed the Overall U-Value standards with an ERI index of 100 or less as established by the 2012 International Energy Conservation Code.
Maryland				X		Minimum of 15% energy savings over the existing building condition or install all energy conservation measures that have a Savings to Investment Ratio (SIR) of 2.0 or greater.
Nevada	X		ENERGY STAR v 3.1 Certification	X		Overall energy efficiency level that is 10% greater than the 2006 International Energy Conservation Code as determined by approved software
New Jersey	X		ENERGY STAR version 3.1 or ENERGY STAR Multifamily High Rise or P4P New Construction certification	X		Home Performance with ENERGY STAR, Pay for Performance, or ASHRAE Level 2 Energy Audit with targeted 15% savings
New Mexico	X		HERS rating of 65 or better	X		HERS rating of 75 or better
New York HCR	X		ENERGY STAR Certified Homes, ENERGY STAR Multifamily High Rise	X	X	Minimum 20% energy savings to comply with NYSERDA MPP. 2nd tier level target of 31% or greater; 3rd tier level of 36% or greater encouraged.
Pennsylvania		X	Achieve ENERGY STAR Version 3.0 and HERS Index of 60 or less without solar PV for 100% electric dwellings/buildings or 50 or less for dwellings buildings utilizing gas without solar PV		X	Achieve Energy Star® Version 3.0 and HERS Index of 70 or less without solar PV for electric dwellings/buildings or HERS Index of 60 or less without solar PV for buildings utilizing gas. Moderate Rehab: HERS Index of 80 or less without solar PV for 100% electric dwellings/buildings or 75 or less without solar PV for dwellings/buildings utilizing gas

## APPENDIX D:

### BUILDING ENERGY PERFORMANCE REQUIREMENTS AND INCENTIVES

New Construction				Rehabilitation		
State	Required	Points	Standard	Required	Points/ Preference	Standard
Rhode Island	X	X	Threshold: NGRID's RNC Tier 1 Standards Points: Up to 3 points for new construction developments that achieve NGRID's RNC Tier II and Energy Star 3.1 revision 8 standards to obtain a higher level of energy efficiency	X	X	Threshold: NGRID's RNC Tier 1 Standards. Points: Projects undertaking substantial rehabilitation rather than new construction will be awarded up to 3 points if they demonstrate an ability to achieve NGRID's RNC Tier II standards
South Carolina	X		ENERGY STAR Multi Family New Construction or ENERGY STAR v. 3.0 for Single Family, Townhouses and Duplex Developments			
South Dakota		X	HERS rating of 60 or less or latest version of ENERGY STAR for New Homes or ENERGY STAR Multifamily High Rise		X	HERS rating of 60 or less or latest version of ENERGY STAR for New Homes or ENERGY STAR for Multifamily High Rise
Utah	X		ENERGY STAR Certification	X		ENERGY STAR Certification
Vermont	X		All new construction and substantial rehabilitation: Efficiency Vermont's (EVT) 2020 High-Performance Track Standards	X		Efficiency Vermont's 2020 High-Performance Track Standards to the extent possible
Virginia	X		ENERGY STAR Certification	X		Rehab: 30% post-rehabilitation decrease on the HERS Index or score HERS rating 80 or lower Adaptive Reuse: HERS rating 95 or lower
Wyoming		X			X	HERS rating

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## APPENDIX E:

### THIRD-PARTY BUILDING STANDARDS

	New Construction		Rehabilitation/ Preservation		Third-Party Building Standard Referenced
	Required	Points	Required	Points	
Alaska		X		X	BEES (State-specific)
California		X		X	LEED, Passive House, Living Building Challenge, NGBS, GreenPoint Rated, WELL, EGC
Colorado	X		X		EGC, LEED, NGBS, ZERH Passive House or PHI Certification combined with 2015 EGC Self-certification
Connecticut		X		X	Passive House, (Zero Energy Ready mentioned)
Delaware		X		X	EGC, LEED, NGBS, Passive House, or DOE Zero Energy Ready Homes
District of Columbia	X	X	X	X	EGC, LEED, DOE Zero Energy Ready, ILFI Zero Energy
Florida	X				LEED, Florida Green Building Coalition, NGBS , EGC
Georgia	X		X		EarthCraft, EGC, LEED, NGBS
Hawaii		X		X	EGC, LEED, NGBS
Idaho		X		X	LEED, NW Energy Star, NGBS, EGC, Indoor Air Plus, Passive House
Illinois		X		X	LEED, Enterprise, NGBS, Net-Zero capable, Sustainable Design Checklist
Illinois-Chicago	X		X		LEED, Green Globes, Living Building Challenge, EGC, Passive House
Indiana		X		X	LEED, EGC, NGBS, or rating system accredited by the American National Standards Institute
Louisiana	X			X	LEED, EGC, NGBS, EarthCraft
Maryland		X		X	LEED, EGC, NGBS, EarthCraft
Massachusetts		X		X	LEED, EGC, Passive House
Michigan	X		X		MSHDA Affordable Green, EGC, NGBS, LEED
Minnesota	X	X	X	X	Minnesota Overlay to EGC
Mississippi	X	X	X	X	NGBS
Missouri	X				EGC, LEED, NGBS
Montana		X		X	Passive House
New Hampshire		X		X	Passive House, ILFI Net Zero, NGBS, LEED, Enterprise Green Communities
New Jersey		X		X	EGC, LEED, NGBS, Living Building Challenge, Passive House or Climate Choice Homes Program/Energy Star Tier 3 Participation
NYS HCR		X		X	EGC: New York Overlay, NGBS, LEED, Passive House
NYC HPD	X		X		EGC
North Dakota		X		X	LEED, EGC, NGBS
Ohio	X		X		LEED, EGC, NGBS
Oregon	X		X	X	EGC, Earth Advantage EA Multifamily, OHCS Self-directed path
Pennsylvania	X		X		EGC, LEED, NGBS, Passive House, Zero Energy Ready
Rhode Island		X		X	Net Zero and Passive House
South Carolina		X		X	EGC, LEED, NGBS, EarthCraft,
Tennessee		X		X	EGC
Texas		X		X	EGC, LEED, NGBS
Utah		X		X	EGC
Virginia		X		X	EarthCraft, EGC, LEED, NGBS
Washington	X		X		Evergreen Sustainable Development Standards
Wisconsin		X		X	Wisconsin Green Built Homes, EGC
Wyoming		X		X	LEED, EGC, NGBS, HERS rating

EGC-Enterprise Green Communities

LEED- Leadership in Energy and Environmental Design

NGBS- ICC 700 National Green Building Standard

## APPENDIX F:

### ENERGY AND WATER BENCHMARKING REQUIREMENTS AND INCENTIVES

	Required	Points/ Preference	Language
<b>Alaska</b>		X	The Alaska Housing Finance Corporation requires applicants awarded points for energy efficiency to respond to reasonable inquiries from AHFC regarding energy consumption at their properties throughout the term of the restrictive covenants recorded for the property.
<b>Colorado</b>	X		The Colorado Housing Finance Agency requires all buildings, once constructed, to annually assess and report their energy performance using the free ENERGY STAR Portfolio Manager tool.
<b>Delaware</b>	X		The Delaware State Housing Authority requires applicants to certify the use of a utility benchmarking service for all owner-paid utility accounts and a sample of tenant-paid utility accounts for a minimum of fifteen (15) years. Utility data shall be updated continuously and be no more than three (3) months old and made accessible to DSHA annually and upon request.
<b>Massachusetts</b>		X	The Massachusetts Department of Housing and Community Development awards points to projects that incorporate the following: Post construction energy use benchmarking -- for example, WegoWise, Energy Scorecards -- for a minimum of five years occupancy. Sponsors must commit to providing
<b>New Jersey</b>	X		The New Jersey Housing and Mortgage Finance Agency requires all new construction and rehabilitation projects to participate in the NJHMFA Energy Benchmarking Initiative. Common area and tenant utility data shall be uploaded to ENERGY STAR Portfolio Manager for a period of three years.
<b>NYS HCR</b>	X	X	New York State Homes and Community Renewal encourages all projects to track their utility usage as a tool to effectively manage energy efficiency. All projects financed through HCR tax-exempt bond and subsidy applications (4% LIHTC projects) are required to benchmark energy usage using ENERGY STAR Portfolio Manager and provide information annually to HCR.
<b>NYC HPD</b>	X		New York City Department of Housing Preservation and Development requires applicants receiving allocations to agree to New York City's Local Law 84 and HPD's Benchmarking Protocol.
<b>Pennsylvania</b>	X		The Pennsylvania Housing Finance Agency contracts with a third-party entity to monitor the utility consumption of projects.
<b>Rhode Island</b>		X	Rhode Island Housing awards points to projects that sign up with a Utility Benchmarking Service (UBS) for all utilities including tenant paid utilities. The cost for the UBS should be reflected in the applicant's operating expenses. Tenant leases must be modified to allow owner's access to tenant utility information. The UBS must be made available to RI Housing.
<b>South Carolina</b>	X		South Carolina Housing requires New Construction Multi Family Developments to use ENERGY STAR Portfolio Manager and must allow the SC Housing full access to this data for a minimum of five years.

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## APPENDIX G: COORDINATION WITH UTILITIES

State	
<b>Connecticut</b>	The Connecticut Housing Finance Agency (CHFA) requires applicants to submit an Energy Conservation Plan that includes information on the applicant's efforts to secure other energy efficiency-related funding, including utility-sponsored incentives and local, state and federal incentives. CHFA also provides a coordinated outline of the CHFA planning, design and construction process, with the Connecticut Energy Efficiency Fund (CEEF) process for awarding energy incentives through the state's electric utilities.
<b>District of Columbia</b>	Projects that have proposed uses that are associated with dedicated third-party funding sources including all viable green financing or funding sources must include those sources in financing application.
<b>Illinois</b>	The Illinois Housing Development Authority awards points to projects whose budgets leverage non-Authority sources that are available during the construction period to pay for expenses reflected in the development budget and either remain in the Project after construction, or are swapped out with another non-Authority Source as permanent financing. Sources includes grants from utilities.
<b>Maryland</b>	The Maryland Department of Housing and Community Development administers the Multifamily Energy Efficiency and Housing Affordability-EmPower (MEEHA-EmPower) program, which is funded by the state's investor-owned utilities. Through the MEEHA-EmPower program, DHCD provides loans and grants with flexible terms for the purchase and installation of energy conservation measures.
<b>Massachusetts</b>	The Massachusetts Department of Housing and Community Development awards points to projects that participate in applicable energy efficiency programs including, LEAN Low Income Multifamily Program, MassSave, or municipal program equivalent, or other local or state subsidy programs.
<b>Minnesota</b>	Minnesota Housing requires all projects receiving tax credits or deferred funding to provide an Energy Rebate Analysis. The estimated rebate will be considered a source used to size tax credit and deferred loan awards.
<b>Missouri</b>	The Missouri Housing Development Corporation awards points to projects that have executed Letters of Intent for leveraging funds, including energy/utility rebates.
<b>New Hampshire</b>	New Hampshire Housing awards 1 point for projects that participate in an energy charette via the state of New Hampshire Public Utility Commission to learn about energy audits/plans and possible participation in energy assistance programs.
<b>New Jersey</b>	The New Jersey Housing and Mortgage Finance Agency coordinates participation in New Jersey's Clean Energy Program which offers financial incentives for energy efficiency.
<b>New York HCR</b>	New York State Homes and Community Renewal requires applicants to submit an Integrated Physical Needs Assessment which includes information to help identify energy efficiency incentives through NYSERDA.
<b>New York HPD</b>	The New York City Department of Housing Preservation and Development requires applicants to submit an Integrated Physical Needs Assessment which includes information to help identify energy efficiency incentives through NYSERDA.
<b>Oregon</b>	Oregon Housing and Community Services allows 9% LIHTCs to be combined with various other public and private resources including the Low Income Weatherization Program (LIWP) .
<b>Pennsylvania</b>	The Pennsylvania Housing Finance Agency requires applicants to submit an Energy Rebate Analysis including a preliminary/draft explanation of all energy rebates that may be available for the project with estimated rebate amounts. The estimated rebate amounts are considered a source and used to size tax credit awards.
<b>Rhode Island</b>	Rhode Island Housing awards points for projects undertaking substantial rehabilitation that demonstrate an ability to surpass Tier II standards under National Grid's program guidelines. National Grid's Tier II Standards require a 25-44% improvement in energy performance.
<b>Utah</b>	Utah Housing identifies certain grants and financing that may be available to projects through programs such as the Enterprise Green Communities program, State of Utah Weatherization, renewable energy tax credits, state and local tax credits and incentives, and utility company incentives. Utah Housing also indicates that rebates from utility companies that result in Energy Star Certification must be reflected in the sources and uses at the time of application.
<b>Vermont</b>	The Vermont Housing Finance Agency incorporates Efficiency Vermont Energy Standards as part of its Green Building and Design Standards. Efficiency Vermont is Vermont's energy efficiency utility.
<b>Washington</b>	The Washington Housing Finance Commission requires applicants to contact their project's utility companies before submitting a 9% Competitive Tax Credit Application to discuss qualifying for energy efficiency incentives. To comply with this requirement, projects must submit the Utility Contact Form with their application.

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## APPENDIX H: RENEWABLE ENERGY INCENTIVES

State	Required	Points	
Alaska		X	Points are awarded for incorporating any cost-effective, on-site renewable energy (i.e. solar). The renewable energy system must, at minimum, be projected to generate an annual benefit of \$40 per unit, per year.
California		X	New Construction and Adaptive Reuse projects: points are awarded for energy efficiency with renewable energy that provides the following percentages of project tenants' energy loads: 40% low-rise 3 points, high-rise 4 points; 60% 4 points low-rise, 5 points high-rise; 80% 5 points low-rise only. Rehabilitation projects are eligible for points for renewable energy if they receive points for energy efficiency and include either: Photovoltaic (PV) generation that offsets 30% of tenant loads (if the combined available roof area of the project structures, including carports, is insufficient for provision of 30% of annual tenant electricity use, then the project shall have onsite renewable generation based on at least 90 percent (90%) of the available solar accessible roof area; or PV that offsets either 50 percent (50%) of common area load (if the combined available roof area of the project structures, including carports, is insufficient for provision of 50% of annual common area electricity use, then the project shall have onsite renewable generation based on at least 90 percent (90%) of the available solar accessible roof area); or c. Solar hot water for all tenants who have individual water meters.
Connecticut		X	Points awarded based upon the Sustainable Design Measures (SDM) provided and indicated in the plans, specifications, Energy Conservation Plan, third-party Energy Consultant's / Professional Engineer's report, and/or other supporting documents. Sustainable Design Measures include a renewable energy system. The project must provide a roof-top, building or landscaping integrated Photovoltaic (PV) system providing $\geq$ 33% of site lighting energy requirements, or an ENERGY STAR-qualified central geothermal HVAC system.
District of Columbia	X		All projects must either include solar panels, qualify as a Solar Ready Building as defined by the US Department of Energy, or provide an explanation as to why the project is not pursuing Solar Ready status.
Maryland		X	Points awarded to any project utilizing alternative energy (solar, geothermal, etc.) to reduce utility consumption of: water heating; heating and cooling; or electric usage for common areas or tenant units.
Massachusetts		X	Points awarded to projects that include any of the following features in the plans and specifications sufficient to provide a significant percentage of the total building load: Cogeneration (combined heat and power), on-site wind energy, on-site hydro-electric power, owner-provided solar photovoltaics, solar hot water generation, power purchase agreement in place to ensure lower utility rate, purchase of power from a utility providing clean energy, geothermal, or effective energy storage technologies.
Montana		X	Preference for design features, product selection and renewable energy options that directly reduce use of resources and result in cost savings. Examples include ground source heat.
Nevada		X	Points awarded for the installation of renewable energy sources (e.g., photovoltaics, wind power) that offset the project's total estimated electricity demand by: at least 5% (2 points), > 5% and $\leq$ 12.5% (4 points), > 12.5% and $\leq$ 20% (6 points), > 20% (8 points).
Oregon	X		Projects receiving funding must comply with OHCS Sustainable Development Standards, including SDS Module 2: OHCS Solar-Ready Requirements. To meet the requirement a project must participate in Energy Trust of Oregon Solar or Solar-Ready Incentive Program or alternate program, or must indicate it is Solar-Ready Exempt post feasibility study.
Rhode Island		X	Points awarded to developments that incorporate photovoltaic solar panels (PV) or other renewables including net metering.
Vermont		X	Developers are encouraged to maximize opportunities to install both on-site and community based renewable generation and non-fossil fuel mechanical systems that reflect best practices in long term

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