



Electrification

Creating More Efficient and Sustainable Housing Credit Properties

2023

As states seek to reduce carbon emissions to achieve their climate goals, transitioning buildings from fossil fuel energy sources to electricity— known as electrification — is emerging as a critical part of the solution. Given that affordable housing is in short supply and high demand, it is increasingly important to ensure that existing units provide safe, healthy, and resilient homes for low-income residents. Electrification is a key part of this strategy. Replacing gas systems and appliances with highly efficient electric-powered alternatives – ideally powered by renewable energy – greatly improves the sustainability, health, and quality of housing.

In addition to reducing emissions that cause climate change, eliminating gas from the home can deliver improved indoor air quality for residents: children living in a home with a gas stove are 42% more likely to develop asthma symptoms and 24% more likely to receive an asthma diagnosis by a doctor.¹ Additionally, when coupled with renewable energy, electrification can relieve the utility cost burden for low-income households and housing providers, making housing more affordable overall.

The following analysis, which examined 53² Qualified Allocation Plans (QAPs) released before March 2023, provides insight into how state and local housing finance agencies (HFAs) are furthering electrification and creating climate-friendly, healthy homes for residents of Low Income Housing Tax Credit properties.

Electrification Trends Across States

The purpose of the Housing Credit program is to expand the supply of affordable housing. HFAs must weigh this priority against advancing project design characteristics that could increase construction costs and limit the overall number of units preserved or built. The upfront construction and ongoing operating costs of all-electric multifamily buildings can cost more than mixed-fuel buildings, especially when rehabilitating existing buildings.

9 OUT OF
53 HFAs

encourage the
electrification of Housing
Credit properties

¹ Out of Gas, In with Justice (2023) We Act. <https://www.weact.org/wp-content/uploads/2023/02/Out-of-Gas-Report-FINAL.pdf>

² All 50 states, plus DC, New York City and Chicago released before March 2023 were reviewed.

At least **9 HFAs** recognize the benefits of fossil-fuel-free housing and encourage all-electric building and/or electrification through the state's Housing Credit program. The most common way HFAs limit fossil fuel use in buildings is by awarding more points to projects that include individual electrical systems or appliances than gas-burning systems or appliances. This can include electrifying domestic hot water, space heating, and appliances such as dryers or ovens. In recognition of the higher cost and more complex process of electrifying existing buildings, some HFAs limit electrification incentives or requirements for new construction.

The following examples illustrate the various ways HFAs incentivize developers to include electric systems and appliances in their projects:

- D.C. Department of Housing and Community Development awards points to projects that are all-electric with no onsite combustion, meaning the presence of fossil fuels systems.
- Delaware State Housing Authority awards points to rehabilitation projects that transition existing gas appliances and mechanical systems to all-electric systems.
- Massachusetts Executive Office of Housing and Livable Communities awards points to new construction and rehabilitation projects that electrify their heating, cooling, and/or hot water systems.
- Maryland Department of Housing and Community Development provides points to projects that use heat pumps for the building's hot water systems.
- Nevada Housing Division awards points for projects that include electric heat pumps for the building's hot water system.

While electrifying individual systems and appliances can create meaningful outcomes, some states go even further by including incentives and requirements for projects to be **all-electric**, meaning there is zero use of fossil fuel systems and appliances. Another approach is to encourage **electric-ready construction**, meaning developers construct buildings with sufficient electric load capacity and physical space needed to convert to all-electric in the future. Colorado's QAP notes that projects that are electric-ready are *more* competitive for Housing Credit awards, and that all-electric projects are the *most* competitive as these projects better support the state in meeting its climate action goals.³

See Table 1 for more details on this and other states incorporating all-electric or electric ready approaches.

Three ways HFAs encourage electrification in their QAP:

1. By incentivizing or requiring the electrification of individual building systems or appliances;
2. By incentivizing or requiring electric-ready buildings; and
3. By incentivizing or requiring all-electric baseline construction standards.



³ Colorado General Assembly HB19-1261, Climate Action Plan To Reduce Pollution <https://leg.colorado.gov/bills/hb19-1261>

New York State's All-Electric Affordable Housing

Many state and local jurisdictions have updated their building energy codes to reflect an increased priority in electric and renewable energy. New York's Climate Action Council has proposed measures that would greatly expand electrification requirements across the state, including mandates that certain new construction residential buildings must be all-electric, restrictions on the purchase of fossil fuel appliances, and bans on non-renewable energy sources.³ Some of these efforts are reflected in the state's QAP. For both new construction and adaptive reuse projects, developers are required to "utilize high-performance all-electric heating/cooling and domestic hot water equipment and other in-unit or shared appliances." Table 1 includes more information on all-electric projects and baseline requirements for heating and cooling systems.



Electrification in Third-Party Green Building Standards

The HFAs referenced in this report and in Table 1 include those whose QAPs explicitly include electrification requirements and point incentives for new construction and rehabilitation projects. However, there are other ways states can ensure developers include electrification measures in their projects. Many QAPs integrate third-party green building standards – several of which include electrification – either as a threshold requirement or by awarding points. For example, when obtaining Enterprise Green Communities certification, developers can receive additional points if the project is all-electric or all-electric ready. International Living Future Institute has several certification pathways under the [*Living Building Challenge 4.0*](#) that have electrification requirements.



The Wave of Electric Vehicles and EV Requirements

Some HFAs go beyond unit systems and appliances as ways to electrify projects by encouraging specific types of transportation onsite -- particularly in the form of incentives for electric vehicle use. As of May 2023, eight QAPs including Arizona, Chicago, Colorado, Minnesota, New York, Oregon, Texas, and Utah include provisions around electric vehicles. Of these eight states and jurisdictions, three QAPs incentivize developers to include EV-charging stations in their projects and five have requirements and point incentives detailing the number of EV-charging stations per number of parking spots at the property.

These requirements and incentives are consistent across new construction, adaptive reuse, and rehabilitation projects.

How the Inflation Reduction Act Can Support Electrification

Developers often find it difficult to secure financing to convert to electric systems and install high-efficiency electric appliances. However, electrifying buildings remains critical to ensuring sustainable and high-quality affordable housing, improving indoor air quality, and achieving climate goals. The Inflation Reduction Act (IRA) provides \$370 billion in funding and tax credits to invest in clean energy solutions. Multiple IRA programs provide funding for electrifying low-income housing:

- [HUD's Green and Resilient Retrofit Program \(GRRP\)](#) provides \$40,000-\$80,000 per dwelling unit or \$750,000-\$20M per property to support decarbonization in specific types of HUD-subsidized projects, including converting existing systems to electric or purchasing electric equipment (i.e., electric air source or ground source heat pumps and electric domestic hot water heat pumps) and appliances such as ovens, cooktops, ranges, and clothes dryers.
- [DOE's High-Efficiency Electric Home Rebates Program](#) will provide up to \$14,000 per dwelling unit for low-income households in rebates for electric appliances and electrical system improvements or upgrades.
- [EPA's Greenhouse Gas Reduction Fund \(GGRF\)](#) prioritizes funding for net-zero emissions projects that are highly efficient and all-electric, free of on-site emissions.

Conclusion

Energy use in housing is a significant source of greenhouse gas emissions. Eliminating fossil fuel use in Housing Credit properties ensures that these units provide safe, healthy, and resilient homes for low-income residents. Combining electrification with energy efficiency upgrades and renewable energy can reduce household utility bills and the overall cost of housing for residents. HFAs can support these objectives by incentivizing developers to electrify their buildings and install highly efficient electric appliances, such as heat pumps. IRA funding is available to support paying for the costs of these improvements.

Learn more about how QAPs can accelerate the affordability, opportunities, and sustainability of affordable housing on our [QAP analysis home page](#).

TABLE 1: Agency Strategies to Require and Incentive Electrification

HFA	INCENTIVIZED	REQUIRED	INFORMATION IN QAP OR SUPPORTING DOCUMENTS
CO	X*		<p>Prioritizes electric-ready or all-electric applications, especially highly energy-efficient projects and projects that are certified as net zero carbon emissions or net zero carbon emissions ready.</p> <p><i>2023-2024 QAP, pg. 55</i></p>
CT	X		<p>Developers can receive points in Connecticut if projects are all-electric, include a resiliency hub (with back-up power for critical systems, emergency lighting, and potable water), and have a PV system that offsets at least 90% of property-specific energy demand.</p> <p><i>2022-2023 QAP, pg. 36</i></p>
DC	X		<p>The District awards points for buildings that are electric with no on-site combustion and/or that include low-embodied carbon design.</p> <p><i>2023 QAP, pg. 38</i></p>
DE	X		<p>Developers can receive points for rehabilitation projects if they convert existing gas appliances and mechanical systems to all-electric systems.</p> <p><i>2023-2024 QAP, pg. 43</i></p>
MA	X		<p>Massachusetts awards points for electrification of heating and cooling and hot water.</p> <p><i>2022-2023 QAP, pg. 55</i></p>
MD	X		<p>Maryland awards points for domestic water heating heat pumps.</p> <p><i>Multifamily Rental Housing Financing Program Guide, pg. 82</i></p>
MN	X		<p>Developers can receive points for each system is designed as all-electric ready.</p> <p><i>Minnesota Overlay and Guide to the 2020 Enterprise Green Communities Criteria 2021, pg. 30</i></p>
NV	X		<p>Nevada awards additional points if projects include electric heat pumps for hot water.</p> <p><i>2022 QAP, pg. 25</i></p>
NY		X	<p>In New York, developers must follow the all-electric baseline requirements for new construction and adaptive reuse, including all-electric heating and cooling systems, hot water equipment, and appliances. Rehabilitation projects are required to include specific all-electric appliances and systems. There are also baseline requirements for the type of electric heating and cooling systems developers must include in their projects.</p> <p><i>Sustainability Design Guidelines New Construction and Existing Buildings</i></p>

*Does not award points but notes that it is a project preference.