



A Resource Guide for the Multifamily Affordable Housing Market to Access Funds from the Inflation Reduction Act and Bipartisan Infrastructure Law



Executive Summary

The Inflation Reduction Act (IRA) and Bipartisan Infrastructure Law (BIL) constitute a once-in-a-lifetime opportunity for the multifamily affordable housing (MFAH) market to access federal funds for green solutions such as energy efficiency, solar, energy storage, electrification, etc. These funds provide an opportunity to close any funding gaps or reduce your project costs and still end up with a greener property. Between the mass of new funding and the growing pressure to decarbonize the nation, "business as usual" design and retrofit solutions are rapidly becoming impractical. The great news is that if you learn how to navigate the BIL/IRA landscape and partner with the right service provider, you can leverage this opportunity to achieve meaningful benefits for your property.



This Resource Guide will help MFAH players take advantage of the opportunities created through IRA and BIL. It contains summaries of the various financial resources, examples of how to braid funds for projects, case studies, lessons learned, and other means to understand this new landscape. This Guide is organized according to funding source, rather than technology solution, to give readers a sense of the scope and function of each funding bucket. For example, some funds can only be used for specific green solutions, e.g. energy efficiency only or solar only; while others may be used to achieve a specific goal, e.g., a certain percentage of energy savings or decarbonization achieved.

Holistic green retrofits can improve property value, preserve housing affordability, and increase occupancy with safer, healthier, and more comfortable residences—while reducing operation and maintenance (O&M) costs and tenant turns. Upgrading mechanical systems, lighting, appliances, building shell, etc. improves the property's functioning and extends its life. Furthermore, the green upgrades continue to yield benefits over the 20-year life of the installs. Some of this is easier said than done, and obviously, the project's success depends on its design and execution. Projects must be tailored to maximize savings and reduce costs. Depending on the property, a well-designed project might combine energy efficiency upgrades with health and safety

upgrades. It might include solar, energy storage, and electric vehicle infrastructure solutions. Whatever the final scope of work, this is where knowing about all the new IRA and BIL money—and how to access it—becomes vitally important.

Besides the typical Low-Income Housing Tax Credit (LIHTC) and other known sources to a MFAH developer, here are some IRA and BIL funding sources available for braiding into a capital stack:

- 45L tax credits for new construction (up to \$5,000 per unit);
- 179D tax deductions for existing properties (up to \$5/sq. ft.);
- Investment Tax Credits (ITC) for solar, battery energy storage systems, and EV charger installs (minimum 30% percent of project cost but as much as 70%);
- Utility rebates (depends on your utility, but could be over \$5,000 per unit);
- Weatherization Assistance Program (WAP) (approx. \$10,000 per unit, if your state will allow multifamily (MF) housing to access WAP funds);
- U.S. Dept. of Energy Rebate Programs (up to \$14,000 per unit for electrification solutions or \$8,000 for EE installs);
- HUD's Green and Resilient Retrofit Program (up to \$80,000 per unit under the *Comprehensive* funding cohort); and
- EPA's plethora of programs that offer \$35 billion, in grants or low-cost loans for green upgrades in MFAH.

The federal funds will be discussed in detail in subsequent sections, and we have created a [dedicated webpage](#) to access additional informational resources. **Bottom line: IRA and BIL can help you close your funding gap, reduce your budget needs, and/or let you meet climate goals with little to no investment from you.** Some of the new funding is already in circulation, so there is still an opportunity to plan for the funds that have yet to be released because the administering agencies are still developing their plans. While this is certainly the largest funding ever seen, the demand far exceeds supply, and funds will not last long. Those prepared with their plans to green their MFAH properties are most likely to gain access to the IRA/BIL funds.

As we learn more about the plans for these funds, we will continue to update this document.

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Table of Contents

Terms and Acronyms.....	1
Planning for Access	2
Bipartisan Infrastructure Law.....	3
Dept. of Energy Weatherization Assistance Program.....	3
Inflation Reduction Act.....	5
Treasury Tax Credits and Deductions.....	5
Solar and Storage Investment Tax Credit.....	5
New Energy Efficient Homes Credit (45L).....	7
Energy Efficient Commercial Homes Deduction (179D).....	8
Alternative Fuel Vehicle Refueling Property Credit (30C).....	8
Dept. of Energy Home Energy Rebate Programs.....	9
Dept. of Housing and Urban Development Green and Resilient Retrofit Program.....	10
Environmental Protection Agency Grant and Loan Programs.....	12
Greenhouse Gas Reduction Fund.....	12
Environmental and Climate Justice Block Grants.....	13
Climate Pollution Reduction Grants.....	13
Case Studies.....	14
Frequently Asked Questions.....	19

Terms and Acronyms

BESS: Battery Energy Storage System	IRA: Inflation Reduction Act
BIL: Bipartisan Infrastructure Law	ITC: Investment Tax Credit
CDFI: Community Development Financial Institution	LI: Low-Income
CS: Community Solar	LIHTC: Low-Income Housing Tax Credit
DAC: Disadvantaged Community	LMI: Low- and Moderate-Income
DOE: U.S. Dept. of Energy	MACRS: Modified Accelerated Cost Recovery System
DSCR: Debt-Service Coverage Ratio	MFAH: Multifamily Affordable Housing
EPA: Environmental Protection Agency	MF: Multifamily
EV: Electric Vehicle	PPA: Power Purchase Agreement
GGRF: Greenhouse Gas Reduction Fund	PV: Photovoltaic
GRRP: Green and Resilient Retrofit Program	SF: Single-family
HPWH: Heat Pump Water Heater	SREC: Solar Renewable Energy Credit
HUD: U.S. Dept. of Housing and Urban Development	TBL Fund: Triple Bottom Line Foundation
HVAC: Heating, Ventilation, and Air Conditioning	VNM: Virtual Net Metering
ICAST: International Center for Appropriate and Sustainable Technology	WAP: Weatherization Assistance Program

Planning for Access

Unfortunately, there is a significant risk that the MFAH market will end up accessing a relatively meager portion of the funds from the IRA and BIL. Many MFAH stakeholders are simply unaware of the legislation or its applicability to them. And currently, within the relatively small group of federal and state agencies attempting to increase services for MF housing, many are leaning on all the same methods and means they use for single-family homes—an approach that yields negligible benefits, especially for affordable housing properties.

MFAH stakeholders need to act fast. This year, many funds are moving from the federal government into states' coffers, subsequently hitting communities at different times throughout the year. Some states, like Tennessee, are dedicating significant portions of their new funds to increase energy efficiency and clean energy



services in MFAH, and they can potentially be a reference for others. But many of the IRA's funding buckets, which have confronted political opposition since they were in draft form, still regularly come under fire. Election season is upon us, and the final outcomes could signal a dramatic reduction of the available funds. We're facing a very real possibility that many of these resources could disappear almost as quickly as they arrived. Thus, your planning activities should take a couple of different forms:

- Advocacy – Pushing state and federal agencies to design programs that, as a minimum, allow MF housing to access the incentives, or ideally set aside funds for MF housing. Agencies need to be convinced that creating MF- and MFAH-focused programs will enable them to spend their allocations in a manner that is cost-effective, simple, scalable, deeply impactful, and in alignment with the federal Justice40 initiative. So, MF and MFAH stakeholders must present [a persuasive argument and the data](#) to back it up.
- Planning for Bridge Funding – All grant funds or even tax credits are paid after the project is completed and certified as such. However, contractors will need funds upfront to start work and be paid before the incentives are paid out by the

government. Tax credits can be transferred or sold for quick cash—at a discount, plus additional funds are needed for lawyers and CPAs and purchasing insurance. Bridge financing can enable MF property owners to access loans for projects that can be repaid once the IRA incentives are in hand.

Bipartisan Infrastructure Law

DOE Weatherization Assistance Program

The U.S. DOE's WAP is designed to reduce energy costs for LI households while ensuring their health and safety. The BIL provided approximately \$3.2 billion for the WAP on top of the approximately \$1.6 billion standard allocation. So, in roughly the next three years, the WAP is aiming to spend almost \$5 billion on energy efficiency, solar, and health and safety upgrades.

MFAH owners and managers can avail themselves of WAP resources if their state allows MF projects for the entirety of the MF market. All states can serve MF, but very few actually do. The vast majority of WAP agencies (state program administrators and their service providers) are unfamiliar with the MFAH sector and do not understand the regulatory and logistical requirements. They are not familiar with central HVAC and hot water equipment. DOE requires different energy auditing tools for MF. And most importantly, DOE allows states to require project cost-share from rental properties (projects are 100% free for owner-occupied single-family homes). Consequently, current WAP agencies don't have the expertise or capacity to serve the MFAH sector.



Ironically, the cost-effectiveness of serving MFAH is typically twice that of serving single-family homes. Put it another way—by serving MFAH, state agencies can serve twice as many LI households with the same budget for a single-family program. This is due to the smaller square footage of apartments as compared to single-family homes, the cost-share requirements for rental properties, the volume efficiencies of servicing a MFAH property (with, say, 100 units on one contract versus 100 individual single-family contracts across a city), and the ability to leverage other resources, such as utility rebates, tax credits, green incentives, etc.

The DOE and U.S. Department of Housing and Urban Development (HUD) are encouraging states to include MFAH to quickly scale weatherization efforts and expend the additional funds. The DOE has engaged with HUD and other federal agencies to leverage "categorical eligibility" to develop a list of subsidized MFAH that can automatically qualify for WAP services. Since BIL was signed into law, we see various states allocating some of their funds to benefit MFAH and others considering it. However, within this group, most are leaning on their experience with single-family housing and, therefore, are not developing appropriate internal processes for their MF programs. For example, their systems require entering project details (e.g., enrollment, energy audit, inspections, invoicing...) one apartment at a time, which is unnecessarily burdensome and prevents offering common-area upgrades. The majority of states are sticking with "business as usual" and trying to use all their funds for single-family.

WAP is a bureaucratic institution with a long history. Most state agencies are set in their ways. Most current WAP service providers have been working in this space for the



past 30 years and are entrenched institutions with established ways of doing things. Change will be difficult. In advocating for increased focus on MFAH, the industry will have to offer a roadmap that makes it easy for state WAP agencies to meet their BIL spending goals and maximize community benefits while putting forth minimal effort (see: [ICAST's new dedicated webpage](#)).

The MF industry can advocate at the state agency level for two approaches that will soften the ground for them and their current service providers:

1. ***State Agency Retains a Statewide Service Provider for MFAH.*** The state agency hires a MFAH specialist (service provider) for the whole state that will focus only on MF properties. This service provider will help the state agency meet all WAP requirements while spending the BIL funding with the help of local contractors (who also specialize in MF work).

2. **Service Providers Subcontract MFAH Specialists.** Current service providers can subcontract MFAH specialists to help them spend their BIL funds and serve a population they have been unable to serve.

DOE rules require WAP service providers to be 501c3 nonprofits, including those serving MFAH. And these organizations need to have expertise in everything from client education to property assessments to engineering to construction management to inspection and reporting. Another key skill is the ability to leverage multiple funding resources (e.g., utility rebates, green incentives) to reduce the necessary WAP dollars per project and the financial contribution required from the owner.

Inflation Reduction Act

Treasury Tax Credits and Deductions

Solar Investment Tax Credit

The IRA increased the baseline Solar Investment Tax Credit (ITC) to 30% and offers bonus credits of 10% or more for various conditions. The ITC now also applies to standalone energy storage projects, and the credits are eligible for direct pay and transferability.

Among other key changes, the credit was extended for 10 years. MFAH properties can receive a 20% bonus ITC if they share over 50% of

Base Tax Credit (guaranteed)	30%
Domestic Content Bonus	10%
Energy Community Bonus	10%
Multifamily + LI Economic Benefit Project *	20%
<i>* Have to apply (not guaranteed)</i>	

utility savings with their tenants. Guidance on how exactly this sharing of benefits is still a work in progress with the IRS. Irrespective of whether a MFAH project wishes to share the 20% bonus ITC, the base 30% ITC, when combined with LIHTC and the ability to reduce utility allowance with all of the IRA incentives, provides a developer with a lot more benefit than the cost of the green installs. ITCs can be braided with other credits (e.g. LIHTC, 45L, 179D, etc.) and incentives (e.g., utility rebates or Solar Renewable Energy Credits (SRECs)). Most, if not all, LIHTC syndicators will take the ITC along with LIHTC. Further, the credits can be transferred to third parties, and nonprofits can claim them as cash through a process called “direct pay” or “elective pay.”¹ Though cashing

¹ At the [end of January](#), IRS announced the launch of the [IRS Energy Credits Online](#) for taxpayers who intend to make an [elective payment or transfer election](#) for a clean energy tax credit. Entities will use IRS Energy Credits Online to complete a required [pre-filing registration process](#) and receive a registration number. This registration number must be included on the taxpayer’s annual return when making an elective payment or transfer election for a clean energy credit.

out is uncommon—it was last done during the American Recovery and Reinvestment Act period—it is a game changer for nonprofits who can cash out the value of ITC (they lose the value of accelerated depreciation but gain full value for ITC). The transferability is also valuable for both nonprofit and for-profit developers since the MFAH property does not have much of a tax liability to monetize the ITC. The ability to “sell” to investors opens solar up for many more properties. The downside is that most ITC investors want volume, not one project, so aggregating projects to meet investor volume requirements becomes important.

Solar can help save on utility costs and/or help bridge a funding gap.

How? Say you invest \$1 million in solar for your MFAH property, it should generate at least \$64,000 in utility bill savings, which at a debt-service coverage ratio (DSCR) of 1.15 gives you \$55,652 in extra cash

for financing, and at a 6.5% debt constant, yields \$856,187 in additional debt for the project. Additionally, the \$1 million solar investment increases the tax basis by \$1 million, thus providing approx. \$810,000 in 9% LIHTC value (or ~\$360,000 in 4% LIHTC value) plus approx. \$270,000 for the solar 30% ITC. Add the modified accelerated cost recovery system (MACRS) depreciation, utility rebates, SREC value and WAP grants, and your solar can be at no cost, plus you get additional debt for your project.

Furthermore, you can transfer the tenants' utility savings into rent through a utility allowance adjustment to support additional debt.

	9% LIHTC	4% LIHTC	No LIHTC
Tax Credit Equity	\$810,000	\$360,000	\$0
30% ITC	\$270,000	\$270,000	\$270,000
MACRS Depreciation	\$52,500	\$52,500	\$52,500
Supportable Debt	\$856,187	\$856,187	\$856,187
	\$1,988,687	\$1,538,687	\$1,178,687

This is all good news, but only if your state allows you to create a shared solar project via community solar (CS) law or virtual net metering (VNM). Both allow you to allocate the energy generated from your solar project to your tenants and house meters, without having to create individual solar systems for each meter (besides the higher costs of such a solution, it has other downsides that impact financial viability significantly). And unfortunately, a master-metered property has other issues, such as utility rate structures that impact the viability of solar for those projects. That is to say: the devil is in the details, but the business case for solar-for-MFAH is the best it's ever been—especially if you have a LIHTC project or other opportunities to braid the solar ITC with other incentives and are in a solar-friendly state.

MFAH stakeholders should also note that the demand for these dollars is high. Late last year, the DOE, IRS, and Treasury [announced](#) more than 46,000 applications for new energy facilities in affordable housing, LI communities, on Indian land or directly benefitting low-income households, requesting more than four times the total available capacity from the IRA's [Low-Income Communities Bonus](#)



[Credit program](#). The applications were filed during the initial 30-day period that ended Nov. 18. Of the 1.8 gigawatts of capacity available, 200 megawatts are set aside for facilities that are part of federally subsidized residential buildings, including those supported by LIHTCs. The initial 30-day application window has closed. New application submissions continue to be accepted and will be evaluated on a rolling basis. The DOE provided a [program dashboard](#) to quantify the demand. Another base 1.8 GW of capacity will be available via application in 2024.

New Energy Efficient Homes Credit (45L)

This credit is for the construction of new energy-efficient homes; it predates the IRA but originally expired at the end of 2021. Under the IRA, it has been revived, increased, and extended to 2032.

45L [applies to](#) both new construction and deep retrofits, but the requirements are a tough hurdle for retrofits, so these should be the focus of new construction projects. The base 45L credit is \$500/unit for Energy Star and \$1,000/unit for DOE's zero-energy ready standards. This credit is [not eligible](#) for direct pay or transferability, but it can be stacked with LIHTC without a basis reduction. There is no application process for 45L credits; it is an as-of-right credit, provided the MFAH property qualifies.

In September, the IRS released [guidance](#) on the 45L tax credit to clarify who is eligible to claim the credit, what the energy savings requirements are for each tier of the credit (e.g., for homes certified under DOE's Zero-Energy Ready Homes (ZERH) program), and what the requirements are for certification and substantiation. ZERH program requirements vary by housing sector, and new editions of the requirements are

referred to as program “versions.” In November, DOE released information on project certification according to the various ZERH versions. [Read the bulletin](#) to learn more.

Energy Efficient Commercial Buildings Deduction (179D)

179D is [a tax deduction](#) for EE improvements to commercial buildings, such as improvements to interior lighting; heating, cooling, ventilation, and hot water; and building envelope. This deduction is permanently available and predates the IRA; however, the IRA increased it.

The 179D [base deduction](#) is up to \$1/sq. ft, depending on increased efficiency. You can deduct adjusted basis in “qualified retrofit plans” that reduce energy use intensity by at least 25%. This deduction is not eligible for direct pay or transferability, but it can be braided with LIHTC and other IRA incentives. But unlike 45L and ITC, the LIHTC eligible basis still must be reduced by the amount of the 179D deduction. Lastly, 179D is only applicable to buildings four+ stories above grade.

Alternative Fuel Vehicle Refueling Property Credit (30C)

Through the IRA, MFAH properties that install new electric vehicles (EV) chargers or charging equipment can claim a tax credit of [up to 30%](#) of the cost of the installation and equipment.

As demand for EVs [intensifies](#), MFAH owners and operators are increasingly forced to explore their EV charging options. EV sales have soared, increasing by 67% from 2021 to 2022, and the DOE [has adopted](#) an International Code Council provision requiring apartment communities to provide EV charging infrastructure for up to 20% of lots with 25 or more parking spaces. States such as California and New York are working to phase out sales of new gas-powered vehicles within the next 15 years.

In January of 2024, the IRS released [additional guidance](#) on qualifying for the credit, as well as answers to [frequently asked questions \(FAQs\)](#). To be eligible for the 30C credit (as amended by the IRA), the property must be placed in service on or after Jan. 1, 2023, through December 31, 2032. Property placed in service before



Jan. 1, 2023, may be eligible for the 30C credit under the law in effect before the IRA. Generally, property is “placed in service” when it is ready and available for a specific use, regardless of whether or not it is actually used at the time. Additional guidance for business and other eligible entities can be found [here](#).

Qualified alternative fuel vehicle refueling property must be placed in service in one of two types of population census tracts (or both, if the population census tract qualifies under both categories). Treasury’s new notice includes an intent to propose regulations to define “eligible census tract,” as well as [lists](#) of tracts determined to be eligible under the rules the agencies intend to propose. The categories are:

1. **Low-income community census tracts:** Census tracts as described in the “low-income community” definition of the New Markets Tax Credit (NMTC) (Internal Revenue Code section 45D).
2. **Non-urban census tracts:** Census tracts defined as “non-urban” according to Treasury/IRS guidance.

The DOE has published [resources](#) to help consumers better understand and navigate geography-based eligibility (not that these resources do not constitute formal IRS guidance). IRS [worked with](#) the Treasury and DOE on additional FAQs that can be found on [DOE’s website](#).

DOE Home Energy Rebate Programs

IRA provided the DOE with approx. \$9 billion for the Home Energy Rebate programs, comprising the Home Efficiency Rebates Program and the Home Electrification and Appliance Rebates Program. Eligible customers will be able to access rebates for their EE and electrification projects.

As of the time of this writing, DOE has [released application guidance for states and territories](#) to apply for program funding, and it expects that many will launch their programs in 2024. DOE has also produced a tracker [showing which states and territories have applied for and received funding](#). Once programs launch, MFAH will be able to receive up to \$14,000 per apartment to install heat pump-based HVAC, water heaters, and induction stoves, and to upgrade their electrical infrastructure. MFAH can receive up to \$8,000 per apartment for other efficiency solutions.

The DOE has given states significant flexibility in designing their Rebate programs. MFAH needs to push SEOs to design programs that can effectively serve MFAH;

otherwise, the States may create programs that ultimately favor the single-family market. History shows that programs designed around single-family without considering MFAH will ignore that market segment. For guidance, SEOs should engage with the creators and administrators of successful programs in the MF space, such as Utah's Rocky Mountain Power (RMP) MF Energy Efficiency Program. This program offers a one-stop-shop approach that includes outreach and education, income qualification, project design and management, and reporting. It was crafted in collaboration with MF stakeholders, and it is one of the country's leading electrification programs in MF.

HUD Green and Resilient Retrofit Program

The U.S. Dept. of Housing and Urban Development (HUD) recently announced the availability of [landmark funding](#) through the new Green and Resilient Retrofit Program (GRRP) to support retrofits for HUD-assisted MFAH properties.

The IRA provided HUD with approximately \$837M in grant funding and \$4B in loan authority for the GRRP. This program simultaneously invests in utility efficiency, renewable energy generation, and climate resilience strategies in HUD-assisted MFAH. Building owners can invest in technologies such as solar panels, heat pumps, wind-resistant roofing, and other measures to reduce greenhouse gas emissions and make properties healthier and safer for residents in the face of more severe weather and a changing climate. If you are an owner who receives HUD assistance through Sections 202, 811, Section 8 project-based rental assistance, or certain other small programs, you may be eligible for a grant or loan award under [one of three pathways](#). Funds from each pathway are being awarded in four application windows, referred to as “waves,” and HUD has been making awards since last year. The pathways are as follows:

- The [Elements pathway](#) provides up to \$40K per unit or \$750K per property. With \$140M million in funding, HUD expects to make approximately 200 awards. These awards provide funding for owners to include climate resilience and utility efficiency measures in projects already in the process of a recapitalization transaction. Examples of eligible investments include installing electric HVAC heat pumps, ENERGY STAR windows, fire-resistant roofs, and clean energy generation systems. **As of the time of this writing, there are only two funding waves remaining for this funding opportunity.**
- The [Leading Edge pathway](#) provides funding of up to \$60K per unit or \$10M per property. With \$400M in funding, HUD expects to make approximately 100 awards. These awards provide funding for retrofit activities to achieve an

advanced green certification. Best for properties in the planning stages of a recapitalization effort, these awards complement the existing financing strategy, allowing projects to reach the highest standards of utility efficiency and climate resilience and be recognized under programs like LEED and PHIUS. **As of the time of this writing, there are only two funding waves remaining for this funding opportunity.**

- The [Comprehensive Pathway](#) provides funding of up to \$80K per unit or \$20M per property. With \$1.47B in funding, HUD expects to make approximately 300 awards. These awards fund properties with the highest need for climate resilience and utility efficiency upgrades, regardless of prior development or environmental retrofit experience. Awardees will have access to support in commissioning property assessments to plan a redevelopment that meets the property's specific needs and the GRRP retrofit objectives. Note that HUD has set aside up to 40% of these funds for properties that cannot achieve benchmarking. **As of the time of this writing, there are only two funding waves remaining for this funding opportunity.**



The kind of money HUD expects to spend per unit indicates the scope of work they want to see is well beyond just HVAC, hot water, LED lighting, low-flow devices, window, and insulation upgrades. ICAST expects projects that require energy efficiency upgrades but also health and safety enhancements, solar and energy storage, energy management, and other solutions that can bring the costs/unit to the GRRP expectations, i.e., a comprehensive retrofit towards a high level of green standards. Properties most likely to benefit from the GRRP are those with an existing benchmarking program in need of major rehab and on their way to a repositioning transaction, who can achieve the stringent green certifications the GRRP needs.

We suspect that due to the lack of availability of utility consumption data uniformly across all utilities, HUD had to come up with another way to benchmark. HUD created a tool specifically for the GRRP, called Multifamily Building Efficiency Screen Tool (or

MBEST), to screen MF buildings based on existing systems and building features that impact energy use. The Technical Assistance provider program, which utilizes HUD Multifamily Assessment Contractors (or MACs), is also new.

EPA Grant and Loan Programs

Greenhouse Gas Reduction Fund

The IRA provided the Environmental Protection Agency (EPA) \$27 billion for the Greenhouse Gas Reduction Fund (GGRF). This program will make grants that facilitate access to financing and technical assistance nationwide. EPA is providing the grants to eligible states, tribes, territories, municipalities, and nonprofit entities, and those grantees will ultimately provide financial assistance to communities.

The Agency intends for the GGRF to enable communities, small businesses, and individuals to seek financing from the broad range of financial institutions that will be direct and indirect recipients of GGRF grants, including local community financing entities, and LI and disadvantaged CS programs, and more. By statute, at least \$15 billion must help LI and disadvantaged communities, and MFAH fits right into that definition. Note that eligible entities' application windows for these funds closed in October of 2023.



The **\$7 billion Solar for All competition** will award up to 60 grants to states, territories, Tribal governments, municipalities, and nonprofits to expand the number of LI communities and DACs primed for residential solar investment. [EPA aims](#) for this program to fund long-lasting programs—these programs will transform markets by not only providing financial assistance to many projects in the market but also funding project-deployment technical assistance such as workforce development, project development services, consumer education and outreach, among other critical services needed to overcome non-financial residential deployment barriers. The EPA also released the list of Notices of Intent received from [states, territories, municipalities](#), and [eligible nonprofit recipients](#).

The **\$14 billion National Clean Investment Fund** competition will provide grants to 2–3 national nonprofit clean financing institutions that can partner with the private sector to provide accessible, affordable financing for tens of thousands of clean technology projects across the country. These national nonprofit financing entities will help families, small businesses, communities, and others access necessary capital for cost-saving and air pollution-reducing clean technology projects—with at least 40% of capital flowing into LI communities and DACs.

The **\$6 billion Clean Communities Investment Accelerator** competition will provide grants to 2–7 hub nonprofits that will, in turn, deliver funding and technical assistance to build the clean financing capacity of local community lenders working in LI and disadvantaged communities. These hub nonprofits will enable hundreds of public,



quasi-public, not-for-profit, and nonprofit community lenders—such as community development financial institutions, credit unions, green banks, housing finance agencies, minority depository institutions, and many others—to finance clean technology projects in LI communities and DACs, with 100% of funds dedicated to these communities.

Environmental and Climate Justice Block Grants

The IRA makes [\\$3 billion](#) available for the EPA to provide grants and technical assistance to community-based organizations, alone or in partnerships, to reduce indoor and outdoor air pollution, including greenhouse gases; monitor for pollution; improve community resilience to the impacts of climate change, including extreme heat and wildfire; and build the capacity of these organizations to engage with state and federal decision-making processes.

Climate Pollution Reduction Grants

The IRA makes [\\$5 billion](#) available for EPA to provide grants to Tribes, states, air pollution control agencies, and local governments to develop and implement plans for reducing greenhouse gas emissions. Only recipients whose plans were funded through this program are eligible for implementation grants. Eligible entities must submit their applications by April 1, 2024.

Case Studies

Hacienda Cooperative. A front-of-the-meter 109 kW solar project. The property is a four-story building built in 1966. The property owner was partially motivated by a desire for a new roof, as theirs was in poor condition, and partly by the money available through Washington D.C.'s SRECs. ICAST, in collaboration with Triple Bottom Line Foundation (TBL Fund), is implementing a CS PPA to sell energy at a 20% discount to the tenants of this property and other properties owned by the same ownership group. The owner is responsible for recruiting tenants to the CS project, while a third-party payment processing firm will be billing and collecting payments from the tenants for ICAST. For this project, ICAST is accessing incentives provided by the IRA to assist in financing.



- Number/type of units: 66 / MF
- Type of project: Solar plus new roof
- Solar installation: Roof-mounted solar
- Utility type: Investor-owned, Pepco DC
- Interconnection: CS
- Project financing: TBL Fund is providing the debt and equity financing.

Robert L Walls Senior Citizens Center. A behind-the-meter project that will receive 30 kW of solar PV. The motivation for installing solar on this property is to reduce the utility costs for the tenants and owner. This property partners with the District of Columbia Housing Authority to provide affordable housing to the city's senior citizens. ICAST, in collaboration with TBL Fund, is implementing a PPA with the owner. ICAST is accessing the incentives provided by the IRA.

- Number/type of units: 48 / MF
- Type of project: Solar plus new roof
- Percent of load offset by solar: 10% (the roof is small and has T-Mobile telecommunication equipment on it)
- Solar installation: Roof-mounted solar
- Utility type: investor-owned, Pepco DC
- Interconnection: Net Metering
- Project financing: TBL Fund is providing the debt and equity financing.



Cordon Pointe. HUD PBRA with 104 units, 40 townhome-style apartments and 64 standard apartments. It was built in 1971 and is located in Kalamazoo, Michigan.

The scope of work includes the following energy efficiency measures (EEMs):

- Replace Incandescent and CFL Lighting with LEDs – both inside the units and exterior lighting.
- Replace showerheads and kitchen and batch aerators with low-flow fixtures.
- In the 64 apartments (8-plex/bldg..), replace 8 gas boilers with high-efficiency boilers and replace all central AC (CAC) units with higher efficiency CAC.
- For 40 Townhomes: Replace old gas fired forced air furnaces/central AC with cold climate heat pumps (fuel-switch).
- Replace in-unit electric storage water heaters with 40-gallon heat pump water heaters.
- Install pipe insulation for water heaters.
- Add insulation to attic to bring level from R-24 to R-60.
- Air and duct sealing.
- Install exhaust fans in bathroom to meet ASHRAE ventilation standards.
- Install smoke alarms.
- Install CO detectors in 64 apartments.
- Upgrade dryer venting.
- Upgrade cook stoves to induction stoves

Braiding of Funds

Uses:

- The project budget for these energy efficiency measures (EEMs) is: \$1,536,000

Sources:

- Utility rebates can provide up to \$320,715 (\$3,083.80/unit),
- DOE's Weatherization program can provide \$808,285 (\$7,772/unit),
- The DOE Home Electrification and Appliance Rebates can provide \$400,000 (\$10,000/unit), OR alternately, the DOE HOMES program can up to provide \$512,000 (\$8,000/unit)
- **MFAH owner pays little to nothing.**



Patronage Villa. Affordable, rent-restricted property. Garden style, 275-units over 112 buildings. It was built in 2003 and is located in Chattanooga, Tennessee.

Scope of Work for Patronage Villa I (72-units, 25 buildings) includes the following EEMs:

- ✓ Replace 60 Watt Incandescent with 9 Watt LED Bulb (Qty: 432)
- ✓ Replace 2.2 GPM Kitchen Aerators with 1.0 GPM (Qty: 72)
- ✓ Replace 2.2 GPM Bath Aerators with 0.5 GPM (Qty: 119)
- ✓ Replace 2.5 GPM Showerheads with 1.5 GPM (Qty: 84)
- ✓ Replace Manual T-stat with EcoBee Light Smart T-stat (Qty: 72)
- ✓ Replace Gas Furnace with Carrier 2.0 Ton ccASHP (Qty: 72)



- ✓ Attic Insulation (From R-7 To R-49) (Qty: 39000)
- ✓ Air Sealing (Qty: 72)
- ✓ Duct Sealing (Qty: 72)
- ✓ ASHRAE 62.2 Compliant Bath Fan. (Qty: 119)
- ✓ Digital Readout CO Detector (Qty: 72)
- ✓ Sealed Battery Smoke Alarm (Qty: 119)



Braiding of Funds

- Total Project Cost \$1,006,187
- WAP Grants: \$297,883
- DOE Rebates: \$576, 000
- Total Net Customer Cost: \$134,304

Forefront Lofts

- HUD Section 8 property
- Standard apartments
- 120 units over 16 buildings
- Built in 1985
- Washington, DC

Scope of work: Replace old gas fired forced air furnaces/central AC with cold climate heat pumps in all units. Plus, onsite 134 kW solar PV install.



Braiding of Funds

- Total Project Cost: \$1,602,000
- The DOE Home Electrification and Appliance Rebates can cover HVAC upgrades (~\$10,000/unit for a total of ~\$1.2M)
- Solar Investment Tax Credit (ITC) covers 50% total solar costs (\$402,000)

Owners have applied to HUD's Green and Resilient Retrofit Program, Leading Edge cohort. If funded, they will also:

- *Attain NGBS Gold+ Zero Net Energy*
- *Install six Level 2 electric charging stations on-site for resident use (1 station per 20 units)*
- *Remaining costs for solar*

- ITC is 30% base plus 20% bonus for low-income housing
- Remaining: \$201,000

- *Battery storage for their solar system*

Embark at Pine. HUD Section 8 property. Standard apartments, 150 units over 33 buildings. It was built in 1973 and is located in Carthage, North Carolina.

Scope of work (all units):

- ✓ Cold-climate heat pump and heat pump water heater upgrades
- ✓ Upgrades to property’s electrical infrastructure to support added electrical load
- ✓ Mold remediation
- ✓ LED lights
- ✓ Low-flow showerheads
- ✓ Pipe insulation
- ✓ Aerator replacements for bathrooms and kitchens
- ✓ Smart thermostats
- ✓ Energy-efficient refrigerators
- ✓ 168 kW solar install, plus battery energy storage system



Braiding of Funds

- Total project cost: \$6,150,000
- Utility rebates provide \$450,000 (\$3,000/unit),
- The DOE Home Electrification and Appliance Rebates provide up to \$2.1M (\$14,000/unit)
- GRRP Leading Edge cohort pays for the remaining: \$3,600,000
- **Project is free to the owner.**

Frequently Asked Questions

Does “affordable housing” refer strictly to subsidized properties? Not necessarily. Depending on programs' income-qualification requirements, "naturally occurring affordable housing" properties may also be eligible. ICAST can help with navigating eligibility thresholds.

I thought onsite solar projects were expensive. The small project sizes for MF installs can make them costly due to volume inefficiency and high transaction costs. Additionally, many market actors are not above price gouging. It's crucial to weigh your options and consult someone you trust. Finding the right consultant is also essential for navigating your financing options, especially for properties in the subsidized space.

Are costs the only barrier to onsite solar projects? No – your property may simply not be a good candidate. Common physical barriers include inadequate electric capacity, inadequate sun exposure due to shading or orientation, or simply limited roof or ground space. Community solar can provide a cost-effective alternative.

Where can I learn more about solar? ICAST developed a [Resource Guide](#) to help legislators, regulators, utilities, investors, program implementers, and other stakeholders better understand the barriers to scaling PV solar for LI residents in MFAH and how to overcome them. The Guide includes best practices, lessons learned, case studies, key processes, resources, and tools for replication by others.

What value does heat pump technology add to my property? Besides the benefits of decarbonizing the property, heat pump HVAC systems and heat pump water heaters can reduce operational costs while creating healthier, safer, more comfortable, and more affordable homes for LI tenants.

Aren't heat pump systems fairly new and untested? Heat pump technology has been around for decades. There have, however, been recent technological innovations that have dramatically improved their performance, efficiency, and costs. The new generation of heat pump HVAC systems can heat homes when outdoor temperatures are well below 0°F, and with approximately three times the efficiency of their conventional or "business as usual" alternatives. Heat pump water heaters can also perform with roughly three times the efficiency of conventional domestic hot water tech.

Some of my colleagues considered switching to heat pumps and it looked to be very expensive. In the retrofit market, cost parity between heat pumps and business-as-usual options (i.e., gas-fired furnaces, central air conditioning units for space conditioning, and gas-fired hot water systems) has not yet been reached, mainly because of the need to pay for upgraded electrical infrastructure (e.g., panels, wiring) to support the higher electric loads. It's crucial to take advantage of all your opportunities to offset your costs—provided by a mix of financial resources, such as utility and IRA rebates—and to recognize the long long-term operational cost-savings that will be achieved with the heat pumps. The size of some rebates will vary by region due to various factors, including supportive policies (e.g., state-level greenhouse gas reduction plans), the volume of high installs in the region, the availability of qualified installers, and the price they charge for an install, etc.

Can I work with any HVAC contractor for my heat pump installation?

Unfortunately, no. Many HVAC contractors are opposed to high-efficiency heat pumps because of negative experiences with previous generations of equipment and may try to move you away from them. Some contractors are willing to install the systems but lack the proper training. For example, they may recommend heat pump sizes based on the ' apartment's square footage, the capacity of the old equipment, or their personal experience rather than conducting comprehensive energy audits or using recommended HVAC sizing resources. So, it's important to choose the right installer. In some parts of the country, heat pump training for contractors has been integrated into decarbonization or heat pump deployment efforts.

Where can I learn more about heat pumps? ICAST has produced a [Resource Guide](#) to help MFAH property owners and managers (among others) learn about heat pumps and their many benefits for the MFAH sector. Other resources include a Northeast Energy Efficiency Partnerships [product list](#) of ASHPs [best suited](#) to heat efficiently in cold climates, and a [Buying Guide](#).

Why should I invest in EV equipment? Installing EV charging infrastructure can improve property value, help property owners attract and retain tenants, and reduce the disproportionate cost of transportation for LI residents.

What are the most important cost considerations when it comes to investing in EV infrastructure and chargers? Installation costs, which can [vary](#) based on factors including:

- the number and type of charging infrastructure (Level 1, 2, or 3),
- the geographic location, which governs labor and permitting costs, and local utility plus state and local government incentives,
- the specific location of EV charger on your MFAH site, with costs for required trenching, and
- the required electrical upgrades to utility transformers and electrical panels to accommodate existing and future electric load increases.

Labor is the largest expense in a typical installation, and the per-charger cost decreases significantly for larger installations.

What resources can I use to offset my costs for EV work? There is a variety of federal, state, local, utility incentives that may be available to offset installation costs. DOE offers a [resource](#) that you can use to identify your options.

Can I go with any charging infrastructure “level” for my property? Level 2 chargers are the most common in apartment buildings. They can also network and balance electrical loads.