Leveraging Funds to Unlock Retrofit Programs for Multifamily Affordable Housing

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ABSTRACT

The Inflation Reduction Act (IRA) and Bipartisan Infrastructure Law (BIL) present an extraordinary opportunity to design and document best practices for leveraging financial resources for whole-building decarbonization projects in multifamily affordable housing (MFAH). This segment is historically considered "hard to serve" and the mechanics of financing MFAH-focused projects and programs have traditionally presented one of the most stubborn obstacles. Property owners rarely have the resources to pursue decarbonization solutions, and they often perceive a "split incentive" wherein they pay for upgrades and only the residents will benefit from the utility bill savings. This segment is also inherently complex in terms of ownership and financial structure, as it comprises both "naturally occurring affordable housing" properties, and subsidized properties—such as those receiving U.S. Dept. of Housing and Urban Development (HUD) assistance. Subsidized affordable housing properties are subject to a mix of rules and regulations that undermine their ability to access incentives or take on debt. Further, too few program designers and implementers—whether for utilities, or for local, state, or federal programs—have sufficient expertise with MFAH to navigate these challenges. Leveraging IRA and BIL incentives with utility rebates, state tax credits, etc. can facilitate whole-building decarbonization retrofits at zero or minimal cost to the property owners, thereby increasing project uptake and delivering greater home health, safety, comfort, and affordability for the low-income (LI) renter households. However, capturing this opportunity requires industry leaders and stakeholders to collaborate to identify, design (where necessary), and implement best-practice approaches to serving MFAH.

Introduction

The Bipartisan Infrastructure Law (BIL) and Inflation Reduction Act (IRA), signed into law in 2021 and 2022, respectively, provide massive investments in clean energy. They create an unprecedented opportunity for utilities, government agencies, service providers, workforce groups, and others, to coordinate funding buckets and expertise to exceed individual program goals while maximizing benefits for communities. Certain funding programs that were created or expanded by the BIL and IRA are covered by the Biden Administration's Justice40 initiative, and thus, 40% of the benefits of those programs must flow to disadvantaged communities that are marginalized, underserved, and overburdened by pollution (The White House 2023; The White House "Justice40…").

Almost 30% of the nation's housing is in MF properties, and the households living in these buildings very often overlap with the priority groups that are meant to benefit from the Justice40 initiative (United States Census Bureau). Currently, MF buildings provide housing for over 19 million low-income (LI) households nationally ("Analysis of ACS 2020 Data…"). Many MF properties, especially MFAH properties, are 50+ years old with fossil-fuel based mechanical systems and deteriorating building shells, and plagued by health and safety hazards. These conditions increase utility bills, which are the largest variable operating expense for MFAH

(Better Buildings 2023). High energy burdens make it difficult for the LI residents to make steady rent and utility payments *and* pay for other necessary living costs, such as healthcare, food, medicines, transportation, etc.

This market is chronically perceived as "hard to serve" by agencies, utilities, service providers, contractors, and financiers. Thus, it remains a significant, missed opportunity in terms of energy savings, fossil fuel reductions, energy management opportunities, and benefits for underserved communities. Further, the influx created by the IRA and BIL can only go as far as those administering the funds will allow. Many government agencies in charge of deploying the new funding sources are understandably concerned with expending their allocations timely and cost-effectively while ensuring compliance. They are receiving dollar amounts that far exceed anything they have worked with previously, and they are hoping that continuing to prioritize their tried-and-true residential markets—single-family (SF) houses—will be sufficient to exhaust the funds.

Fortunately, there has long been available data that can guide these agencies in developing MFAH-focused programs that can be launched and scaled quickly, are replicable, are highly impactful, and that align with the Justice40 initiative. If, in some cases, not enough data. A persistent pain point for programs that *do* endeavor to serve MFAH is leveraging the necessary funds. To begin with, "leveraging" is only one way to describe the activity of bringing together funds from multiple sources to deliver decarbonization solutions. Other, often more precise terms include coordinating, blending, *braiding, layering, sequencing, stacking, and co-funding.*[1] The language used, the exact definitions, and the requirements for each activity change depending on which entity—and often, which department within that entity—is using the term. Still more challenging, the language is evolving. In this paper, "leveraging" is used to refer, broadly, to the act of bringing together multiple funding sources for upgrades, projects, or programs. References to activities that fall under that umbrella, like "braiding," will be accompanied by the source from which the definition was retrieved. The semantics create just one significant hurdle; others include identifying all of the appropriate funds for projects, managing the various requirements for each funding source, monitoring for any changes in guidelines, and ensuring compliance.

If program administrators and implementers work collaboratively, they can improve and streamline their processes and develop new resources that will change the landscape for leveraging activities going forward.

About ICAST

ICAST (International Center for Appropriate and Sustainable Technology) is a national 501c3 nonprofit with a 22-year history of designing and scaling clean energy solutions for LI residents of multifamily affordable housing and disadvantaged communities.

ICAST manages a range of programs including utility energy efficiency, weatherization, photovoltaic solar, beneficial electrification, healthy homes, workforce training, and more. To date, ICAST has served over 134,000 households in MF properties. In the process, it has invested $194 million in local communities, achieved $335 million in lifetime utility cost savings, created 2,660 sustainable jobs, and abated 5.2 billion lbs. of carbon emissions over the lifetime of the upgrades. It has also installed over 13,600 cold-climate heat pump HVAC

[1] Note that "co-funding" is a term specific to the Federal Weatherization Assistance Program, managed by the U.S. Department of Energy. Readers can review Weatherization Program Notice 22-9 for more information.

systems. In 2024, ICAST plans to invest over $70 million in green solutions through its various programs.

Key Considerations: Leveraging Funds for Multifamily-Focused Programs

Opportunities

Favorable Attributes of Serving MF and MFAH Properties vs. Serving SF Houses. MF and MFAH constitute a valuable opportunity to programs for numerous reasons, including:

- In the MFAH market, 80% of the property ownership resides with 20% of the potential customer base. So, while educating one customer nets one home for the SF program, it can net tens of thousands of apartments for the MFAH program. Further, one contract with a MF property owner can cover dozens or hundreds of homes in one location. Achieving the same volume for SF necessitates individual contracts for each house spread across a city. Additionally, MF apartments are, on average, smaller than 800 square feet, where SF homes are typically larger than 2,000 square feet.
- The customer base keeps the contractors accountable because the contractor wants to avoid developing a bad reputation and losing future projects. The same is not true for SF programs, where the contractor serves one home and moves on. SF programs therefore generally require strict oversight requirements that exceed those of MF programs. The reputational risks are different in working in single-family business-to-consumer transactions vs multifamily business-to-business, and the oversight requirements should match. MF contracts are executed by larger contractors that typically serve commercial properties. This means the program is easier to scale up because the contractors have a size, talent pool, and financial wherewithal that SF-focused contractors cannot match. Contractors for MF can also bring volume discounted pricing, further reducing cost.
- MFAH programs can tap funds that are unavailable to LI SF programs. These include the monetization of tax credits and depreciation, grant funds, and more. Further, while it is not a viable option to ask LI SF homeowners to fund upgrades or take on debt to pay for those upgrades, it is viable to ask MF property owners, given the financial benefits they accrue from the project.
- LI SF homeowners need extensive upfront education on the program, in various formats—events, meetings, etc.—and in different languages, adding significant costs. In contrast, engaging directly with LI households does not apply to MF because the management company engages with the tenants, as they do for all other services and complaint-resolution processes. SF programs should also include the cost of educating the owners on the energy efficiency solutions installed, where for MF programs, the property maintenance staff are the ones that receive education on the upgrades.

Funding Opportunities. In addition to the existing funds for offsetting decarbonization costs in MFAH, such as utility rebates and state tax credits, the IRA and BIL bring in a whole new suite of financial resources. The following are culled from the White House's Guidebooks for the IRA and BIL.

The IRA provided the U.S. Dept. of Energy (DOE) almost $9 billion for its new Home Energy Rebate programs, to be managed by states and Tribes to provide rebates for energy

efficiency and electrification solutions. The U.S. Dept. of Housing and Urban Development (HUD) received $4.8 billion to implement a Green and Resilient Retrofit program, which has been providing grants and direct loans for conserving energy and water in HUD-assisted MFAH properties. The Environmental Protection Agency (EPA) received approximately $35B to award grants and loans to various recipients for reducing emissions. Additionally, existing tax credits were significantly increased through IRA. The Solar Investment Tax Credit (ITC) was increased to 30% and, combined with the ITC's new bonus credits, MFAH properties can receive up to 50%. This credit also now applies to standalone energy storage projects, and it is eligible for direct pay and transferability. The New Energy Efficient Homes Credit (45L) will now provide tax credits of up to $5,000 per unit for projects that meet DOE's Net Zero ready requirements and meet Prevailing Wages. Most importantly, the IRA eliminated the basis reduction for stacking ITC and 45L with the Low-Income Housing Tax Credit (LIHTC). The BIL provided $3.2 billion in additional funding for the DOE-managed federal Weatherization Assistance Program (WAP) for five years. With the new BIL funding, many states have become very interested in bringing WAP services to the traditionally ignored MFAH. This is timely, because the DOE is actively funding a WAP redesign that will demonstrate how states can scale services in MFAH while leveraging distributed energy resource solutions. Some states, like Tennessee, are dedicating significant portions of their new funds to increase energy efficiency and clean energy services in MFAH, and they may potentially be a reference for others.

Leveraging various program funds in concert with green financing—such as Power Purchase Agreements and Energy Performance Contracts—reduces the need for heavy investments by the MFAH property owner. This, in combination with education regarding the benefits property owners can expect from the upgrades (e.g., increased property value and net operating income, reduced operating costs), helps negate the "split incentive." It also addresses key timing issues, because the grants, tax credits, rebates, etc., that are available for a project will reach consumers' hands at different times, depending on the project's scope of work and the federal, state, local, and utility program structure. Bridge financing can help projects get off the ground and the loans can be repaid once the various incentives are available. A Bridge Loan is a loan secured by expected rebates, incentives, and tax credits.

Barriers

With Program Administrators and Service Providers. Myriad challenges hit funds as they move from federal, state, and local governments' coffers into the communities they are intended to benefit. They include insufficient coordination within and between agencies and/or utility companies, evolving policies and regulations, and poor long-term planning for spending commitments and revenue sources. With that foundation, it is immediately difficult to leverage multiple program resources in innovative and impactful ways, even in circumstances where it is "technically" possible.

Each program or funding source has different requirements, such as qualified contractors, income eligibility, reporting, etc. Further, regulations and requirements often change, and the updates need to be tracked, which falls on the service providers' shoulders. This makes it difficult to coordinate funds that will make the project pencil out, and to do so without inadvertently creating a compliance juggernaut that kills the project with administrative burden.

There is limited guidance to help service providers or customers navigate the available incentives and the ways they can be leveraged. This extends to interactions with financing

institutions and how their offerings can fit into the picture. As a result, agencies and program administrators are missing a valuable opportunity to develop project pipelines and get their money spent. Due to resource constraints and education gaps (discussed in greater detail below), MFAH property owners and managers generally aren't proactive about clean energy projects or wading through the incentives available to them. Extensive outreach and education are necessary to bring them on board, and that fact is one of the many reasons that service providers tend to see this segment as prohibitively burdensome to serve.

There are examples of service providers and administrators who have been able to overcome some of these barriers in specific regional markets with differing levels of success. Great examples of these include: The Association for Energy Affordability, Energy Outreach Colorado, Elevate Energy, The New York State Energy Research and Development Authority, Commonwealth Edison, the Sacramento Municipal Utility District, and others. Please see "Case Studies" below for project examples from some of these stakeholders.

However, none of these programs have yet utilized the massive influx of funding becoming available through the Greenhouse Gas Reduction Fund, the Department of Energy's Home Energy Rebate Programs, or EPA's Climate Pollution Reduction Grants, representing over $40 billion in new investments, that has not yet hit the market. These dollars, which represent both a massive opportunity and challenge, have already begun to affect how, and by who, these successful programs will be funded.

With MFAH. Key characteristics of the MFAH market can exacerbate the barriers described above. If programs are ill-equipped to work with this segment, they can end up facing a slog through technical, financial, and administrative burden. Few administrators and service providers are willing to take this segment on holistically, and those that are, tend to keep their goals small or focused on "low hanging fruit" such as lighting or other direct install measures. Meaning, of course, that the benefits for households in MFAH are negligible.

The MFAH market comprises: (1) subsidized properties, e.g., HUD-assisted housing, U.S. Dept. of Agriculture-Rural Development (USDA-RD)-assisted housing, and LIHTC-financed housing; and (2) "naturally occurring affordable housing" (NOAH) properties, which constitutes the majority of MFAH. NOAH properties are typically in poor condition (Class C and D), or located in distressed or underinvested neighborhoods. As stated, MFAH buildings are already chronically neglected by clean energy programs—beyond receiving "low-hanging fruit" offerings like low-flow devices and LEDs—for reasons such as:

- property owners' lack of resources, e.g., time, funds, and/or in-house expertise;
- property owners' hesitance in taking on grants or debt, in case it compromises their eligibility for foundational subsidies, such as LIHTC;
- property owners' ignorance of energy financing, which can be leveraged without risking their subsidies because it can be off-balance-sheet financing that is neither a grant nor a debt;
- property owners' ignorance of and/or aversion to clean energy programs;
- the inherent diversity in MF building stock (size, configuration, baseline technologies, financing/ownership models, age), which can seem daunting to program administrators and their service providers;

- the "split incentive" issue, i.e., owners pay for the upgrades and the tenants benefit from the utility bill savings;[2] and
- a contractor base that is largely unfamiliar with MF properties, clean energy technologies, the paperwork requirements of working with government funds, or all of the above.

Case Study: The Federal Weatherization Assistance Program. The DOE's WAP reduces energy costs for LI households by increasing the energy efficiency of their homes, while ensuring their health and safety. The program, started in 1976, now supports 8,500 jobs and provides weatherization services to approximately 35,000 homes every year (DOE).

While states have always been "able" to serve MFAH properties with their DOE WAP allocations, historically, this is one of the programs that has severely underserved MFAH. In addition to the universal barriers described above, there are key program barriers, such as: states often require MFAH to provide cost-share for WAP projects and few service providers are capable of securing it, and few service providers are familiar with the technology in MF properties or the WAP modeling tools required by the DOE for MF projects, etc.

New York, New Mexico, Colorado, Tennessee, Connecticut, and Michigan are among the few outliers that have chosen to provide MF-focused programs *and* incorporate sophisticated leveraging as a key component of program design. The Federal WAP has long encouraged leveraging, and stakeholders have been endeavoring to deliver work in this area for years. However, for MF, it has largely been achieved only on smaller properties (2-4 units) and with business-as-usual financial resources, such as utility rebates and Low-Income Home Energy Assistance funding. Myriad WAP- and MF-specific barriers currently prevent this activity from being taken further. For example, current regulatory restrictions make it very difficult for MFAH to braid[3] WAP with LIHTC, and with ITCs.

Recommendations

Leveraging. States should develop guidance where lacking; remove any statutory barriers; and educate service providers, the contractor base, and consumers. Agencies should proactively and consistently engage subject matter experts to gain their insights on the barriers to leveraging funds. Maintaining a continuous exchange of knowledge and expertise from national players and local stakeholders is crucial to success, and utilities must brought in, else their programs could become redundant or in direct competition with the IRA and BIL funding programs. In soliciting such expertise, agencies should request specific examples with timelines and process flows, as this information will improve (1) internal processes and communication, (2) coordination with other agencies, and (3) the guidance that is subsequently released to service providers.

If the goals of multiple government programs are complementary, agencies can coordinate announcements and application details to target and attract applicants that can facilitate successful interaction of those programs. They can adjust their application grading

[2] Note that the split incentive has less of a direct connection to *decarbonization* solutions, as these solutions in themselves may not reduce costs unless other efficiency measures and solar are brought in to drive deeper savings and ensure utility bill reductions. However, the split incentive does become a challenge in pursuing the other measures.

[3] Per Weatherization Program Notice 22-9: Braiding is defined as "multiple separate funding sources are used, including DOE WAP funds, on one weatherization project to address the different needs within the home, while ensuring each funding source is isolated and tracked independently". Braided leveraged funds are not included in the WAP budget that Grantees submit to DOE in the application for annual formula funds.

criteria to favor applicants that submit feasible and detailed coordination and implementation plans. Higher priority can be given to applicants that already manage funds from other programs and can offer proof of shovel-ready projects or proven program designs.

Note that raising the bar for service providers and program implementers will accomplish nothing if agencies do not provide support to prevent undue administrative burden—especially given the additional complexity created by the IRA and BIL. Agencies should collaborate to refine or reimagine existing tools for assessments, monitoring, reporting, etc., and create mechanisms for integration where possible. Further, they should ensure that program implementers have clear, consistently updated guidance on the alignment or complementary interaction of key program components. For example, program eligibility can be a moving target, and it will be much easier for implementers to meet their quotas if they are empowered with comprehensive guidance on eligibility in terms of (1) income, (2) type or performance of upgrade (4) type of project, and (5) goals, e.g., measured or modeled energy savings.

Leveraging as Part of a Comprehensive Program Design. In selecting implementers for MF and MFAH programs, "proven program designs" must respond to the varied and evolving needs of these property types *and* simplify process flows for partners and stakeholders while ensuring cost-effectiveness. If they do not, the program will fail to bring in the funding leverage that it could, and will likely fall short of its goals (a disservice to future programs' attempts at enhanced leveraging practices). At the beginning of 2024, ICAST's experts produced a guidance document that may be used by various program administrators and service providers seeking to build successful programs to serve MF and MFAH (ICAST). It is an aggregation of recommendations from industry leaders on various aspects of program design, launch, or management, that may be applicable whether the program is for energy efficiency, solar, energy storage, beneficial electrification, electric vehicles, etc.:

1. *Programs Should Utilize A One-Stop-Shop Approach.* The REEOs, ACEEE, and others highly recommend the one-stop-shop (OSS) service model (Friedman et al. 2016; ACEEE 2021). With the OSS, the program implementer offers turnkey services that include outreach and education to MFAH owners and managers, energy assessments, project design and engineering, identifying and applying for incentives and financing, construction planning, contractor selection and management, inspection/monitoring, and reporting. The OSS is a customer-focused solution, which encourages engagement with the program and ultimately streamlines pipeline development and project execution for programs.
2. *Programs Should Utilize Simple Rules and Processes for Qualification, Intake, Processing, and Reporting.* This can take several forms. For example:
    a. There needs to be uniformity in the definitions of LI and LMI, i.e., households earning up to 80% of area median income (AMI) are considered LI, and families earning up to 120% AMI are considered LMI. As stated, eligibility can be a moving target—most federal and state agencies use these definitions, but not all. The exceptions make it harder to scale a program since MFAH owners and managers are used to the standard definitions and track for them.
    b. Programs should allow for income qualification of the entire MFAH property via certifications and proof from the owner, rather than requiring each tenant to submit proof of income. MFAH owners and/or managers of subsidized properties

already have the income data for their tenants because they are required to document this information to ensure that they meet their subsidizing agency(s) requirements. Therefore, going door-to-door (as required in a SF program) is unnecessary, time-consuming, and does not yield the desired results since MF tenants have no incentive to prove they are LI.

c. Programs should leverage Categorical Eligibility, which can take multiple forms: (1) federal agencies' published lists of subsidized properties that automatically qualify for services without the need for further verification, and (2) proactively seeking properties that qualify for categorical eligibility but are currently unlisted, such as public housing authority properties and housing finance agencies. It is worth noting that for the latter approach, an OSS implementer can help submit the documentation necessary for those properties to be included on agencies' published lists (e.g., Certification of Income Eligibility).
d. For the energy audit, MF programs should utilize a standardized sampling plan for the property. Many Utility Demand-Side Management (DSM) and WAP programs focused on MF, require a representative sampling (typically between 10-20%) of each unit type on the property, with minimums (typically at least three units) of each type of unit, e.g., 3-bedroom, studio, etc. Again, programs with different sampling requirements—or worse, requiring 100% of units to be audited—significantly add to the program costs and complexity. Inspections, of course, need to be done at 100% of the units with appropriate data gathered per unit for reporting and invoicing purposes.
e. Any benchmarking requirements should be flexible and incorporate all reasonable workarounds and exceptions to ensure that all eligible MFAH customers can participate. Utility consumption data is not uniformly available across all utilities, so Benchmarking requirements can ultimately box out MFAH customers, especially rural properties (see EPA's map on which utilities provide benchmarking data to understand that benchmarking is mainly an urban and East/West Coast phenomenon). HUD's Green and Resilient Retrofit Program is an example of how benchmarking can be replaced with something else. To increase program participation, HUD created a new tool, called Multifamily Building Efficiency Screen Tool (or "MBEST"), to screen MF buildings based on existing systems and building features that impact energy use (HUD).

3. *When Possible, Programs Should Utilize A 100% Pay-For-Performance Model.* Under the Pay-for-Performance (P4P) model, implementers and MFAH properties are compensated for achieved program goals, such as energy savings. This aligns the goals for all stakeholders and minimizes the risk for the government administrator. ACEEE found that the P4P model is one of several strategic incentive tools that can be leveraged to encourage building owners to pursue more extensive energy-saving projects, resulting in higher energy savings and providing building owners with more certainty around the project's success (ACEEE 2021).
4. *Programs Should Allow Flexibility in Staff Location.* Service providers should be allowed to remain flexible in terms of subcontractor recruitment and remote work. Programs can be effectively run with a few local staff strategically distributed through the service territory, covering functions such as outreach and education, auditing, inspections, and community support. If the service provider can offer evidence of successful program

management from remote offices, programs should not require the service providers to be fully, physically established in the given service territory.

5. *Programs Should Utilize A "Mass Customization" Approach.* Under the "mass customization" approach, every project is tailored to drive the highest benefits for each specific property based on its unique needs. A "one-size-fits-all" retrofit program can only offer the most common "low-impact" solutions such as LED lights, low-flow showerheads and aerators, pipe wraps, etc., that lead to negligible savings or benefits. For projects to incorporate whole-building solutions, they need to be tailored individually to maximize energy efficiency savings and provide significant and measurable benefits. It should be noted that electrification for MFAH must be implemented with thorough due diligence. Natural gas is typically much cheaper than electricity, so properties transitioning away from gas can see utility bills increase unless other energy efficiency solutions are implemented to increase the overall efficiency of the property while pursuing electrification. A best practice for ensuring cost reductions is leveraging electrification solutions with other energy efficiency measures and PV solar. Note, however, that for subsidized MFAH, because of HUD's 30% threshold (i.e., no more than 30% of the tenant's income should be spent on rent) the LI residents will not be impacted if electrification does increase their utility bills, because their rent will be reduced by the same amount (HUD USER 2014). Thus, there is no impact to their total rent and utility costs.
6. *Programs Should Leverage Strong Partnerships for Guidance, Referrals, and Execution.* New programs being launched should partner with existing local programs if those programs have a history of meeting the desired goals. If no such program exists locally, program administrators should recruit an implementer who has (1) a history of successfully implementing similar programs, and (2) the capacity to expand into your territory. Additional partners should include MFAH owners and managers, local associations, utilities, contractors, financial institutions, other service providers, etc. Existing partnerships can make the program launch easy and quick (within weeks, not months). The right team can assist in the seamless, holistic provision of services.
7. *Program Administrators Should Leverage Their Programs as an Opportunity to Maximize Cost Efficiencies.* Large program implementers and even large MFAH owners and managers buy equipment and services in bulk and get volume discounts from manufacturers and distributors. Programs should be designed to allow for such cost efficiencies by not requiring each individual project to be bid out, but rather, issue a Request for Qualifications for the entire program or for large portions of it.

Case Studies

Project Examples. The following are examples of projects that can be achieved with the kind of coordination and leveraging activities described above.

Santa Fe County Housing Authority (SFCHA) is a Public Housing Authority (PHA) property in New Mexico; 197 households were served across three buildings. The upgrades were completed in 2021. ICAST acted as general contractor for the project and collaborated with its affiliated CDFI, Triple Bottom Line Foundation (TBL Fund), on financing. The properties were more than 40 years old, deteriorating, and inefficient, and the client wanted to implement deep energy efficiency solutions. HUD did not allow debt on PHA properties—it allows EPCs through

mainstream institutions, but the projects were too small to interest such lenders. SFCHA learned about TBL Fund via outreach conducted by ICAST. SFCHA did not have the resources to access the HUD funding necessary to implement the upgrades and decided to work with TBL Fund and ICAST to pursue deep energy efficiency retrofits plus solar. The delivered scope of work included energy efficiency and water conservation such as low-flow devices, furnace replacements, LEDs, and weatherization, as well as 220 kW solar PV installations. The leveraged funds included financing from TBL Fund of $1,022,000 structured through a HUD-guaranteed Self-Energy Performance Contract (funding sources included Community Reinvestment Act funds from Banks, USDA-RD loans, Program-Related Investments from private Foundations, and individual investments from impact investors); $363,108 in utility rebates; and $160,785 from the U.S. DOE's WAP. The project impacts included the following:

- Retrofits yielded aggregated annual utility savings of $185,924 and lifetime utility savings of $4,686,956.
- Retrofits cut approximately 1.4 million lbs. of carbon emissions annually and approximately 26.3 million lbs. over the lifetime of the measures.
- As part of the retrofits, ICAST provided free green construction education and paid onsite training to a large cohort of local at-risk youth.

Madison's Zoe Bayliss House is a 24-unit historic low-income housing property built in 1928 and located near the University of Wisconsin in Madison (Elevate Energy). The property is owned by Madison Community Cooperative (MCC) is a nonprofit housing cooperative that strives to improve the Madison community by providing affordable and inclusive housing. MCC oversees 11 houses and approximately 200 members in Madison, WI. When MCC connected with Elevate Energy, it was a great match for two mission-aligned nonprofits to work together at the intersection of housing and climate action through strategies like equitable building electrification and decarbonization. Elevate replaced the space heating boiler with two variable refrigerant flow (VRF) systems, which are a type of air source heat pump technology typically used in large buildings that provides space heating and cooling. MCC completed a number of other energy-saving measures at the house before electrification, including installing storm windows and replacing their lighting with LEDs. Additionally, MCC had solar panels installed on their roof with Madison Gas and Electric (the local utility), adding renewable energy into their energy source. Retrofits achieved annual reduction of energy by 423,567 kBTUs, a 49% reduction for the building.

- Number of units: 24
- Type of Project Decarbonization combined with EE and Solar work.
- Financed through Blocpower Green Lending product
- $288,000 of Grant Funding provided to MCC through Elevate Energy.

Kavod Senior Life is a non-profit, non-sectarian organization that provides 371 affordable housing units and services to older adults through a broad range of services (Energy Outreach Colorado). There are an additional 26 units dedicated to assisted living services.

Energy Outreach Colorado (EOC) partnered with Kavod Senior Life to help manage and fund boiler upgrades, common area lighting upgrades, and most recently, in-unit lighting upgrades. Recent project impacts based on the lighting upgrades include:

- Number of units retrofitted: 297
- 2741 lighting fixtures replaced.
- Over $10,000 of annual energy savings projected.
- 94,000 annual kWh savings
- The project was funded through combined grants coordinated by EOC.

In addition to energy cost savings, the new lighting will improve the Energy Use Intensity (EUI) of the buildings, an important step towards Kavod achieving its Energize Denver performance requirements. The Energize Denver Ordinance establishes EUI targets for buildings 25,000 square feet and larger which must be met by 2030.

Program Examples. The following are examples of effective Programs, designed specifically for multifamily properties.

Energy Outreach Colorado's (EOC) Multifamily Program in Denver utilizes funding from federal, state, local, utility, and private sources, and serves as a centralized resource that streamlines program delivery including energy efficiency upgrades, energy efficiency rebate facilitation, energy bill payment support, crisis HVAC repair or replacement, behavioral change, low-income advocacy, and more for low-income single-family households, affordable multifamily properties, and low-income-serving non-profit facilities (Friedman et al. 2016). EOC runs two primary tracts for its multifamily projects:

- A weatherization program, funded through federal and state weatherization dollars with applications once a year, that serves affordable multifamily housing properties across the state that have five or more units, are centrally heated, and where 66 percent of the residents are at or below 200 percent of the federal poverty level.
- A utility rebate program, funded through utility DSM funds, which provides grants for prescriptive measures or comprehensive custom measures for MF buildings with two or more units where at least 66 percent of the tenant population falls below 80 percent of the area median income (AMI). Additional funding comes from the city and county of Denver and landlord contributions.

The program utilizes a turnkey approach, with each project starting with a site walk-through and then an energy audit to determine potential energy efficiency measures. From there, EOC oversees a competitive bidding process and local subcontractor selection, manages the project through completion, performs quality assurance, follows the ongoing performance, and engages tenants for behavioral change. Measures can include wall and floor insulation, efficient lighting, appliances (mainly refrigerators), heating system improvements, air sealing and showerheads, and others as determined by each funding source. Looking at the total package of measures, EOC aims to have the payback of each project be 10 years or less.

Rocky Mountain Power (RMP) Multifamily DSM Program in Utah was launched in 2017 and is one of the most successful programs in the U.S. for electrification in MF properties. The program leverages the turnkey service model, offering a single point of contact for the customer, design assistance, energy modeling, construction planning and management, local contractor selection and management, point of sale rebates, and other services—all designed to make the customer engagement hassle-free and easy. RMP worked with policy advocates and other stakeholders to launch this program because its MF clients were a neglected segment. RMP believed the program, if designed right, could grow significantly, as it has: almost 500% since its launch and continues to grow (versus standard low-income MF programs that decline rapidly once the free "low-hanging fruit" measures are installed). This program has incentivized the installation of thousands of heat pump HVAC systems after receiving state approval for fuel-switching from natural gas to electric systems. RMP and all MF customers have access to real-time status updates on the program and individual projects via an online reporting system. This program is now gearing up for another large scale-up by partnering with the various IRA programs expected to hit Utah and braiding those incentives with the RMP program rebates and owner contributions. A few noteworthy program metrics from 2023:

- Average per unit kWh savings continues to increase, from 1,158 kWh in 2020, 1,678 kWh in 2021, 1,852 kWh in 2022, and 2,515 kWh in 2023.
- With 145 MF projects in 2023, the program helped increase efficiency, health, safety, comfort, value, and net operating income for 9,987 MF units.
- ICAST completed heat pump installations in 61 projects in 2023. Through this effort, 4,902 heat pumps were installed, including both HVAC and domestic hot water end-uses.
- Overall, LI customers received 57% of the Program budget and provided 45% of the energy savings achieved (11,306,907 KWh).

Conclusion

All of this new IRA and BIL program funding fall under the auspice of the Justice40 initiative, which will require an entirely new level of coordination between market actors and community-based organizations to ensure the benefits of these funds reach disadvantaged communities. This is a particular challenge to some existing programs because of how some of these programs will flow into markets; for example, much of the EPA grant funding will be required to administered by nonprofits which will have to coordinate with current companies running/participating in utility DSM programs. Similarly, the Federal WAP expanded by BIL needs not only be administered by subgrantees (nonprofits, typically community action agencies), but also requires that they perform the audits/inspections themselves, creating challenges for successful market actors to utilize a turnkey approach. The aims of program administrators and implementers should be to coordinate existing, successful methods of leveraging funds, and use them as a starting point to develop advanced practices that can accommodate the IRA and BIL influx. In this way, they can overcome entrenched and unnecessary barriers to serving MF and MFAH while ensuring programs achieve their individual goals, and capture the various federal funding opportunities before they are off the table.

References

ACEEE (American Council for an Energy-Efficient Economy). 2021. “An Overview of Affordable Multifamily Programs: Best Practices and Context for Utilities” www.aceee.org/sites/default/files/pdfs/affordable_multifamily_programs_final_9-14-21.pdf

Analysis of ACS 2020 data from the LEAD tool. Data available at www.energy.gov/scep/slsc/lead-tool

Better Buildings U.S. Department of Energy. 2023. " National Housing Trust Stabilizes Utility Costs by Installing Solar Systems | Better Buildings Initiative.” betterbuildingssolutioncenter.energy.gov/implementation-models/national-housing-trust-stabilizes-utility-costs-installing-solar-systems

DOE (U.S. Department of Energy). “Weatherization Assistance Program.” Accessed July 2024. www.energy.gov/scep/wap/weatherization-assistance-program.

Elevate Energy. 2023. “Case Study: Building Electrification at Madison’s Zoe Bayliss House.” January 27, 2023. https://www.elevatenp.org/publications/case-study-building-electrification-at-madisons-zoe-bayliss-house/

Energy Outreach Colorado. “Kavod Senior Life.” Accessed June 2024. https://www.energyoutreach.org/kavod-senior-life/

Friedman, J., C. Taylor, A. Fournier, E. Fowler, C. Brinker. 2016. *Multifamily Energy Efficiency Retrofits: Barriers and Opportunities for Deep Energy Savings.* Boston, MA. NEEP. neep.org/sites/default/files/resources/REEO_MF_Report.pdf

ICAST (International Center for Appropriate and Sustainable Technology). “ICAST IRA BIL Multifamily Program Design.” Lp.icastusa.org, lp.icastusa.org/ira-bil-multifamily-program-design/. Accessed July 2024.

(HUD) U.S. Department of Housing and Urban Development. “GRRP Participant Resources.” www.hud.gov/grrp/participantresources. Accessed July 2024.

HUD USER. 2014. “Rental Burdens: Rethinking Affordability Measures.” *Huduser.gov*, September 2014. www.huduser.gov/portal/pdredge/pdr_edge_featd_article_092214.html

The White House. "Justice40: A Whole-of-government Initiative." www.whitehouse.gov/environmentaljustice/justice40/#:~:text=What%20is%20the%20Justice40%20Initiative%3F%20For%20the%20first,that%20are%20marginalized%2C%20underserved%2C%20and%20overburdened%20by%20pollution.

The White House. 2023. *Justice 40 Covered Programs List.* The White House. www.whitehouse.gov/wp-content/uploads/2023/11/Justice40-Initiative-Covered-Programs-List_v2.0_11.23_FINAL.pdf

United States Census Bureau. " Explore Census Data.” Accessed January 2024. data.census.gov/table/ACSDP1Y2022.DP04?q=dp04.