Designing Optimal Community Solar Solutions for Low-Income Households in Multifamily Affordable Housing

Background

Solar PV generation in the U.S. has been on a rather dramatic upward trend. However, this growth has still not translated into significant access or benefits for low-income (LI) families. Solar adopters tend to be English-speaking white, with higher education levels, working in business and finance-related occupations, and live in higher-value homes.[i] The median solar adopter annual income in 2021 was approx. $110,000—almost double the median annual income for all households nationwide (and almost five times larger than the *current* federal poverty level for a three-person household).[ii,iii]

The multifamily (MF) housing market, especially its affordable housing (MFAH) sector, has long been grossly underserved by clean energy and energy efficiency programs nationally. Almost a third of U.S. housing is in MF properties, MF buildings provide housing for over 19 million LI households nationally, and the MF housing sector supports 17.5 million jobs and generates over $3.4 trillion in economic activity.[iv,v,vi] MF and MFAH properties effectively constitute a huge, missed opportunity in terms of energy savings, fossil fuel reductions, energy management opportunities, and benefits for LI families and disadvantaged communities (DACs).

Solar PV and storage solutions can provide meaningful benefits to the LI renters of MFAH. However, numerous challenges impede this potential. This paper will discuss these challenges and provide recommendations to states seeking to scale solar in LI populations.

Opportunities and Challenges: Solar for MFAH

Advancing Equity in Alignment with the Federal Justice40 Initiative: MFAH properties are typically older and energy inefficient, which can place a higher energy burden on their LI residents. High energy cost burdens make it difficult for the LI families to keep up with rent and utility payments *and* pay for other living costs. Utility costs are the largest variable operating expense for MFAH.[vii] Reducing operating expenses in MFAH helps maintain affordability, freeing up capital that can be used to address maintenance repair needs and/or offer other necessary services.

Certain characteristics of the MF/AH market segment can be difficult for program administrators and service providers, if they lack the expertise or neglect to coordinate with specialists. MF/AH properties can have individual residential electric meters on residential utility rates and/or house meters on commercial rates (which typically imply the kWh rates are very low, but there is a demand charge that can make up 50% or more of the utility bill). They can have tenant-paid utilities or owner-paid utilities. The tenant may have utility allowance as part of their rent subsidy, which may or may not be adjusted. The owner must spend the funds for green upgrades, but the tenants end up saving money on their utility bills (referred to as the "split-incentive"). Subsidized properties are heavily regulated and performing any green upgrades requires a slew of approvals and processes that can be daunting to most.

Solar for MFAH: While onsite solar projects for MF/AH can be feasible, especially with the new funding from the Inflation Reduction Act (IRA), the financial and technical viability of these projects varies greatly depending on the policy and regulatory framework in a given region. The situation is particularly challenging with individually metered properties, i.e., where tenants pay their own bills. Most states do not offer virtual net metering (VNM), which would allow an install of a large solar system for the entire MFAH property and 'virtually' allocate the solar production to the tenants. Lack of VNM means each tenant needs their own solar system, making it almost impossible to financially justify such an installation because of the increased costs and loss of volume efficiencies.

It is easier to achieve cost savings at the community solar (CS) scale, but currently, there is a great deal of unrealized potential in this space. For starters, only 19 states and D.C. have codified CS programs.[viii] Within that pool, the ability for a MF/AH property to gain access to the limited CS allowed is almost nonexistent. Some policymakers are endeavoring to increase LI customer participation, but often in ways that can inadvertently undermine their own goals.[ix] For example, many States require their CS projects to have a certain percentage of LI customers. While such policies are well-intentioned, they are financially a drain for all involved and result in higher costs for all. Project-level carveouts are counter-productive because the LI subscriber requirement increases the project risk for investors (due to lower FICO scores of the LI families), which in turn increases the cost of money for the developer and thus leads to lower discounts for all subscribers. Also, chasing LI subscribers is costly to the project and increases project costs. So instead of helping LI residents, current policies tend to do a disservice to all residents.

Recommendations

Ironically, a 100% LI CS project catering to MFAH is cheaper to build than any other because the funds are raised from impact investors such as Banks with CRA credit needs and because it qualifies for bonus tax credits from IRA. So, ICAST advocates for 100% LI CS programs rather than project- or program-level carveouts, because it will attract developers with expertise in LI programs and open the door for new financing products directed at 100% LI projects. To achieve the best results for these programs, ICAST recommends the following:

1. **Lean on Subject Matter Experts with Field Experience for Program Design Assistance.** State agencies and program administrators should proactively, consistently engage subject matter experts to gain their insights on the barriers to engaging MFAH populations with CS. They should request specific examples with timelines and process flows, as this information will improve internal processes and communication as well as the guidance that is subsequently released to service providers.
2. **Enable Whole-Property CS Subscriptions**: ICAST has been advocating for subscribing the entire MFAH property to address challenges associated with (1) income verification, especially with subsidized MFAH, as the property owners must collect income data for as part of their subsidy requirements and so, will have that information readily available; and (2) subscriber acquisition and retention, which is traditionally very burdensome and expensive when it comes to LI populations, especially renters (note that MFAH households relocate approximately every two years). Whole-property subscriptions keep the benefits of the solar with the property and eliminate the need to conduct LI certifications each year for each tenant. This significantly reduces administrative costs and thus, benefits the LI customers with even more discount on their utility costs (which is the end goal for all of us).
3. **Require Meaningful Coordination:** To assist in program delivery, states should require implementers to coordinate with existing successful programs that serve their target markets, as well as those programs' networks (solar and storage developers, housing providers and associations, investors, property owners, utilities, and community organizations, etc.). Further, programs should be coordinated with the various funding opportunities coming online through the IRA and Bipartisan Infrastructure Law (BIL). This will drive deeper benefits for households and stretch the impact of the solar because (a) properties can be primed to benefit from solar through additional upgrades such as weatherization, beneficial electrification, health and safety, and more. The following are some IRA and BIL funding sources that can be leveraged for MF/AH properties:

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

For additional insights, readers can review ICAST's Resource Guide: *Project SunLight: Increasing Access to Solar for LI Households in MFAH* (find it here: https://bit.ly/3IP0vZO). ICAST developed this Guide with funding from DOE, to help legislators, regulators, utilities, investors, program implementers, and other stakeholders better understand the barriers and how to overcome them to deliver solar PV at scale to LI tenants of MFAH. The Guide includes best practices, lessons learned, case studies, key processes, resources, and tools. Readers can also explore ICAST's suite of MFAH program design guidance here: https://bit.ly/ICAST_MF.

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