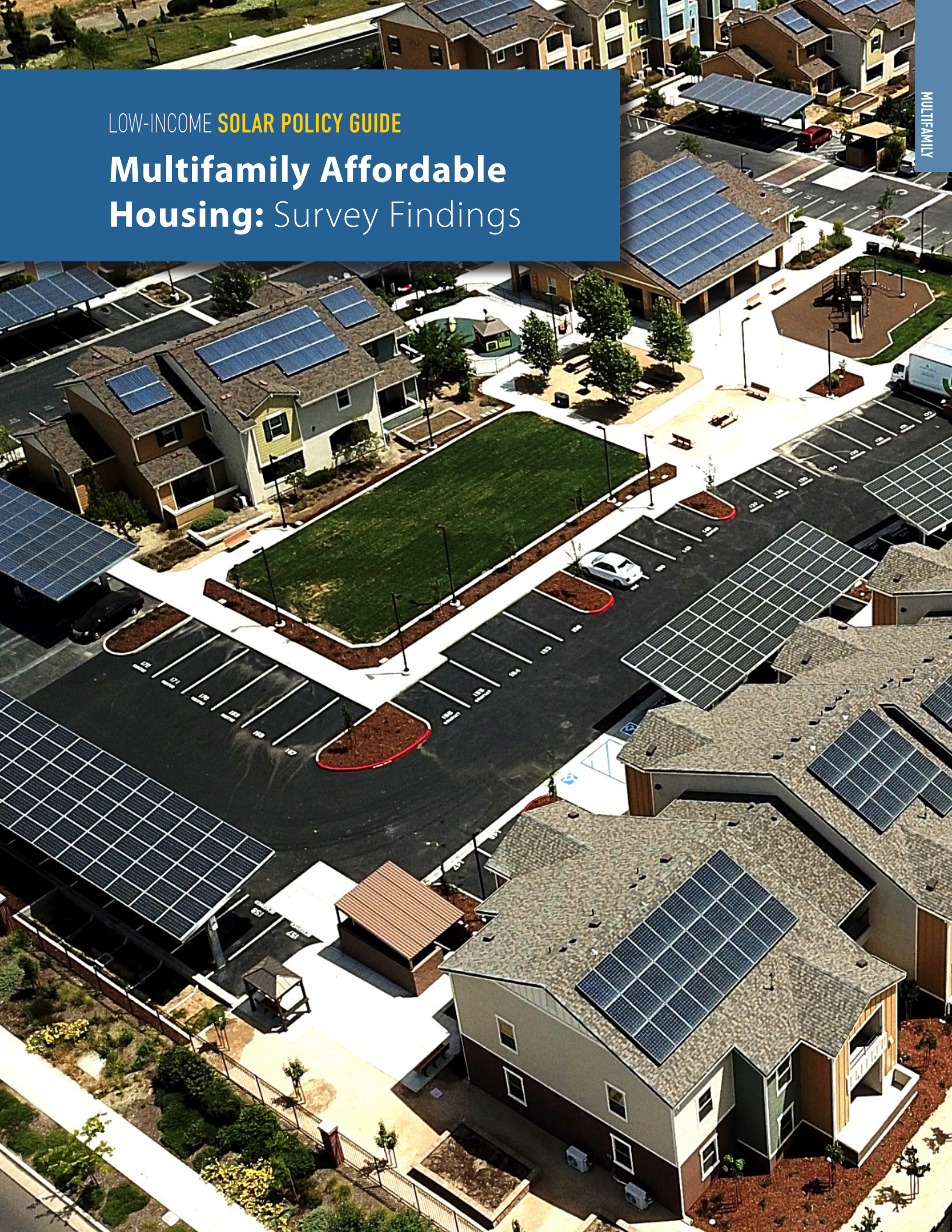


LOW-INCOME **SOLAR POLICY GUIDE**

Multifamily Affordable Housing: Survey Findings

MULTIFAMILY



Multifamily Affordable Housing Survey Findings

Author

Melanie Santiago-Mosier, Managing Director, Access & Equity, Vote Solar

Contributors

Mari Hernandez, Assistant Director, Regulatory Program, Interstate Renewable Energy Council
Shamir Chauhan, Director of Multifamily and Commercial Development, GRID Alternatives

Acknowledgements

The preparers of this report appreciate the insights, feedback, and assistance of many individuals and organizations as we worked on the survey and this report. Special thanks to Valerie Strauss, Director of Policy and Regulatory Affairs, Association for Energy Affordability
Chris Jedd, Senior Development Manager, Denver Housing Authority
Dana Harmon, Executive Director, Texas Energy Poverty Research Institute
Rachel Stone, Assistant Executive Director, Guadalupe Neighborhood Development Corporation

Many thanks to Mari Hernandez, IREC, Sarah Bucci, GRID Alternatives, and Kirsten Rumsey, GRID Alternatives for your essential contributions in editing this paper.

I. Introduction

In recent years, solar technology has become more accessible to middle-income families due to declining equipment costs, innovative financing models, and other factors. A recent study by the Lawrence Berkeley National Laboratory found a gradual decline in the incomes of solar adopters over time.¹ However, in 2018, only 15% of solar adopters were considered low-income households.² The fact is, barriers to solar access remain for low-income families, communities of color, Tribal Nations, and other under-resourced communities, in spite of declining costs and new financing options. The growth of solar in the United States provides a tremendous opportunity to address some important challenges faced by under-resourced communities: high energy burdens, unemployment, and pollution. Solar can bring long-term financial relief to families struggling with high and unpredictable energy costs; provide living-wage jobs in an industry where the workforce has increased 167% in the last decade;³ and be a source of clean, local energy sited in communities that have been disproportionately impacted by pollution from traditional power generation.

As the nation's energy system incorporates more renewable energy and solar becomes a mainstream energy source, a key question facing the solar industry, policy makers, advocates, and regulators is how to make sure that all customers have access to solar technology and the benefits that come with it, not just those that can afford the significant upfront expense that solar can entail. The potential impact is huge. According to a [2018 NREL report](#), 43% of the U.S. population is at or below 80% of their area median income (the U.S. Department of Housing and Urban Development definition of low-income), representing almost 50 million low-income households in the U.S.⁴ 42% of all residential rooftop solar potential is on buildings occupied by LMI households.⁵ What's more, NREL found:

Though deployment of rooftop solar historically has been concentrated on single-family owner-occupied buildings, nearly 60% of potential for LMI buildings exists on renter-occupied and multi-family buildings.⁶

¹ Lawrence Berkeley National Laboratory, Income Trends among U.S. Residential Rooftop Solar Adopters (2020), at <https://emp.lbl.gov/publications/income-trends-among-us-residential>.

² *Id.* For the purposes of this document, we define "low-income" as at or below 80% of Area Median Income, adjusted for family size and revised every five years.

³ The Solar Foundation, National Solar Jobs Census 2019, at <https://www.thesolarfoundation.org/national/>.

⁴ National Renewable Energy Laboratory, Rooftop Solar Technical Potential for Low-to-Moderate Income Households in the U.S. (2018), at <https://www.nrel.gov/docs/fy18osti/70901.pdf>.

⁵ *Id.*

⁶ *Id.*

More than 50 million households nationwide live in multi-unit buildings or homes with shared roofs.⁷ A meaningful effort to deploy solar for the benefit of low-income families living in multifamily housing must include considerations about how to effectively serve this type of property. Reasons to develop policies and programs to facilitate solar deployment for multifamily affordable housing include:

- **Equitable Participation:** Expanding programs and policies to explicitly include multifamily affordable housing will more directly benefit these customers and enable them to earn their own “return on investment” in public programs. Solar programs that enable solar access for multifamily affordable housing will ensure that more families are part of the transition to clean energy.
- **Economic Benefits:** Installing solar for multifamily affordable housing offers residents and building owners the opportunity to save money on their energy costs. These savings can provide other corollary economic benefits for residents, including the potential to reduce their energy burden (i.e., the amount of income they spend on energy costs, as compared with other household expenses).
- **Access to Jobs and Vocational Training:** The solar industry is one of the fastest growing employers in the country. With the right policy or program design, deploying solar for multifamily affordable housing properties can incorporate opportunities for job training and increase access to living wage jobs or training to facilitate pathways to economic prosperity for the community.
- **Environmental Justice:** Low-income communities bear the brunt of pollution and climate change. Solar deployment to serve multifamily affordable housing can help reduce the need for generation from polluting sources (and help mitigate the impacts of climate change) and can result in cleaner air and water in the county, state or region.
- **Enhanced Resilience:** Pairing solar with battery storage solutions may preserve electricity for residents of multifamily affordable housing during severe weather events.
- **Improved Resident Satisfaction:** To the extent solar provides tangible and clear benefits to the residents (or to the property), enabling solar for multifamily affordable housing may give residents more reasons to stay. Increasing resident satisfaction in this way may lead to fewer resident turnovers and an enhanced sense of resident pride.

Deploying solar and other distributed clean energy resources to serve families living in multifamily affordable housing can be particularly complex, and thoughtful approaches are needed to ensure this unique market segment has equitable access to solar energy. Despite the critical importance of deploying solar on multifamily affordable housing, and the opportunity it

⁷ MultifamilyBiz.com, The Multifamily Footprint in the U.S. in 2013, at <https://www.multifamilybiz.com/blogs/264/the-multifamily-footprint-in-the-united-states-in-...>

presents to expand clean energy access and bring benefits to traditionally underserved customers, there is a lack of resources, tools, and information to help accomplish this goal. To fill this gap and overcome identified barriers to access, in the fall of 2019 Vote Solar, IREC, and GRID Alternatives sought to develop a deeper understanding of where the gaps lie. The organizations conducted a survey of affordable housing providers, energy program administrators, social services providers, policy makers, solar providers, and housing advocates working to deploy solar for multifamily affordable housing buildings and their residents.

a. Summary of Major Findings

In general, our survey revealed optimism about the potential for solar to benefit residents and owners of multifamily affordable housing, with many survey participants indicating that their interest in solar is related to potential financial benefits, equitable access to solar, benefits for the environment, and health outcomes. A majority of survey participants also indicated that their organizations have pursued solar for multifamily housing.

Yet despite the interest, optimism, and even the pursuit of solar options for multifamily affordable housing, the vast majority of survey respondents reported encountering challenges. A large majority of survey participants indicated that their challenges related to financial issues such as the upfront funding, the difficulty fitting solar into existing financial structures, and lack of financing support. Survey participants also reported that public policy is a source of challenge, such as the lack of mechanisms to bring the benefits of solar directly to residents, a lack of net metering or virtual net metering, challenges with rent and utility structures, the inability to take advantage of community solar, and a lack of other supportive policies. A number of other challenges were identified by survey respondents, as well.

However, in addition to identifying challenges, the survey participants also shared ideas for how to solve or mitigate them. The majority of respondents identified the need for mechanisms to share solar's benefits directly with tenants, and the need for public policy changes to accelerate the adoption of solar on multifamily affordable housing. Aligning solar programs with other complementary programs such as energy efficiency, weatherization, and roof replacement, as well as aligning financial models for solar with other financial models used in the multifamily affordable housing industry also garnered positive responses. Education for residents and building owners, as well as other stakeholders, was also identified as a necessary intervention.

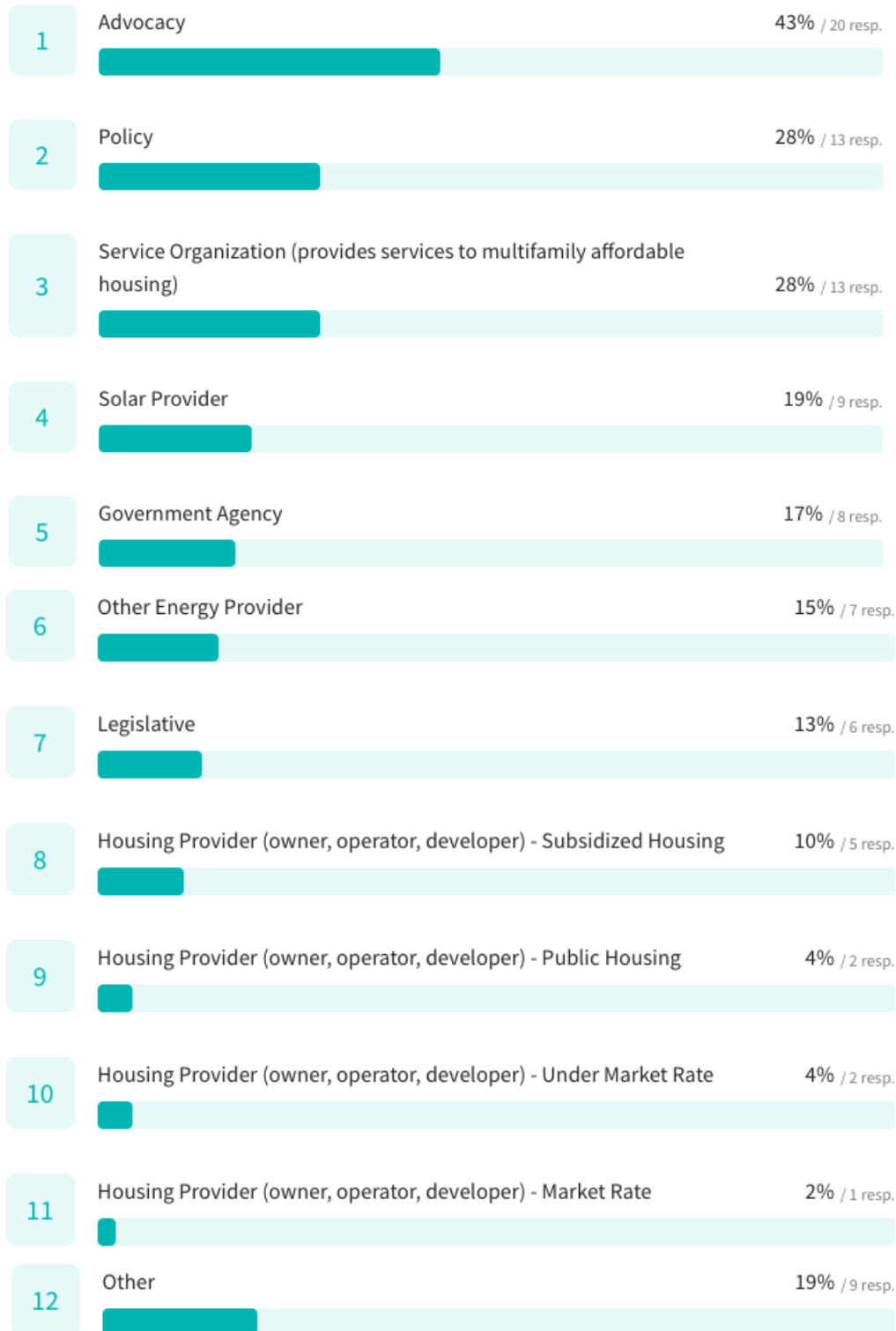
While this survey yielded very useful information, it is clear that more work needs to be done in this arena. More study is needed to gather details on all of the challenges that arise with regard to solar for multifamily affordable housing. And certainly, more study is needed to develop solutions. With so much potential for the benefits of solar to reach residents, it is critical to break down barriers and find pathways toward a more equitable solar future.

II. Solar for Multifamily Affordable Housing Survey Details

a. Participants

We sent our survey out far and wide, hoping for responses from a variety of individuals and organizations, and we were pleased with the rate of response. We obtained 50 responses from organizations ranging from advocacy and policy, to housing providers, to solar providers and more. Most of the types of organizations represented among the survey respondents are represented in the graph on the following page.

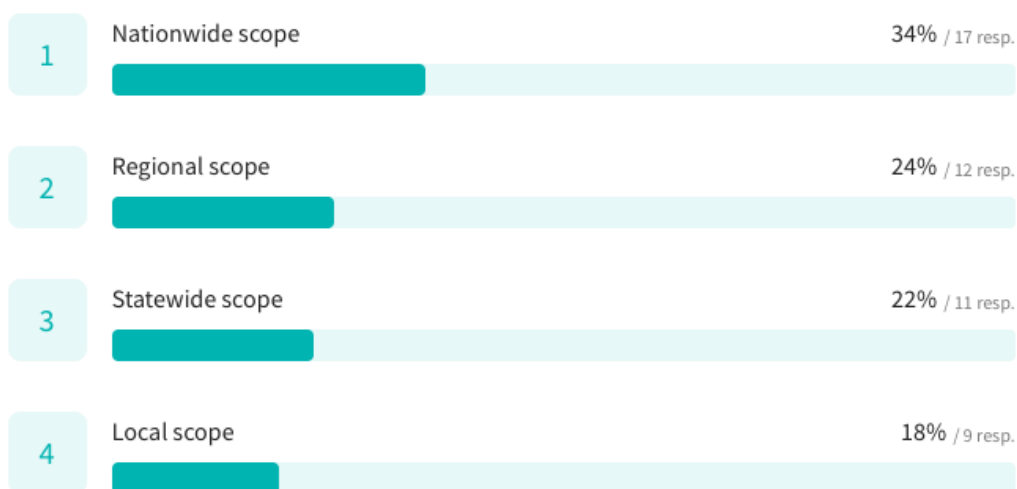
What kind of organization do you work for?



In addition to the types of organizations listed above, some respondents opted to clarify the nature of their organizations even further. For example one respondent indicated they are a research institute. Several respondents indicated they are consultants that do energy work, often in conjunction with multifamily affordable housing. A variety of respondents indicated they provide energy-related assistance, such as weatherization.

Our survey respondents vary in terms of the location or region on which they focus. A general breakdown of responses to the question of locational focus follows.

What location or region, if any, does your organization focus on?



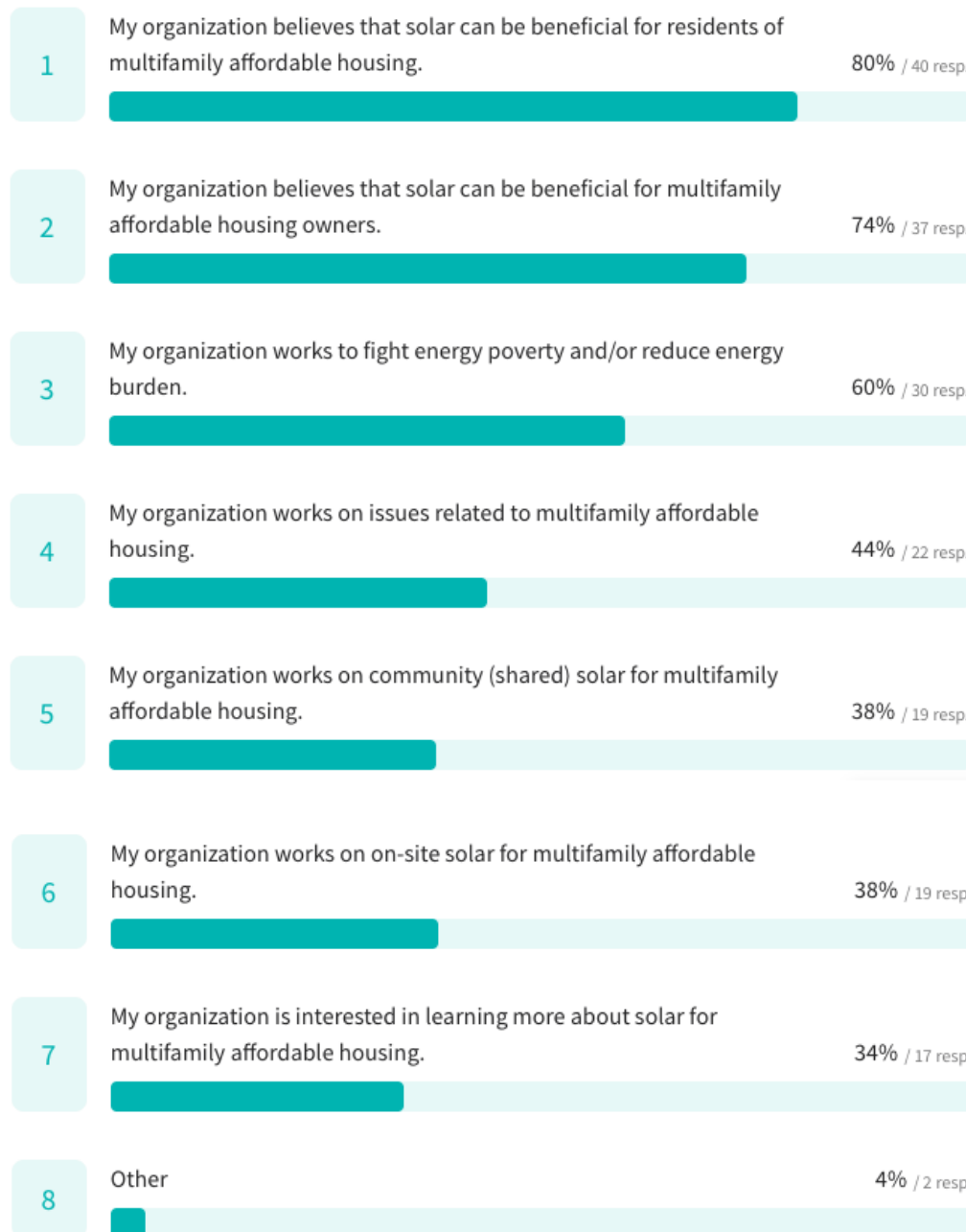
When asked more specifically about the locations on which they focus, our survey respondents replied with locations that span the country, from California to the Northeast, Puerto Rico, and everywhere in-between. We were pleased to see the geographic diversity of respondents.

b. Attitudes Toward Solar

We asked respondents to indicate their organizations' attitudes toward solar, and we received a variety of responses as shown below. In general, respondents are optimistic about the potential for solar to benefit residents and owners of multifamily affordable housing. A majority of respondents belong to organizations that fight energy poverty or work to reduce energy burden. Fewer respondents work on issues related to multifamily affordable housing, and a minority of respondents work on solar for multifamily affordable housing. Just over one-third of respondents indicated their organizations are interested in learning more about solar for multifamily affordable housing, which, given the high optimism expressed overall, may

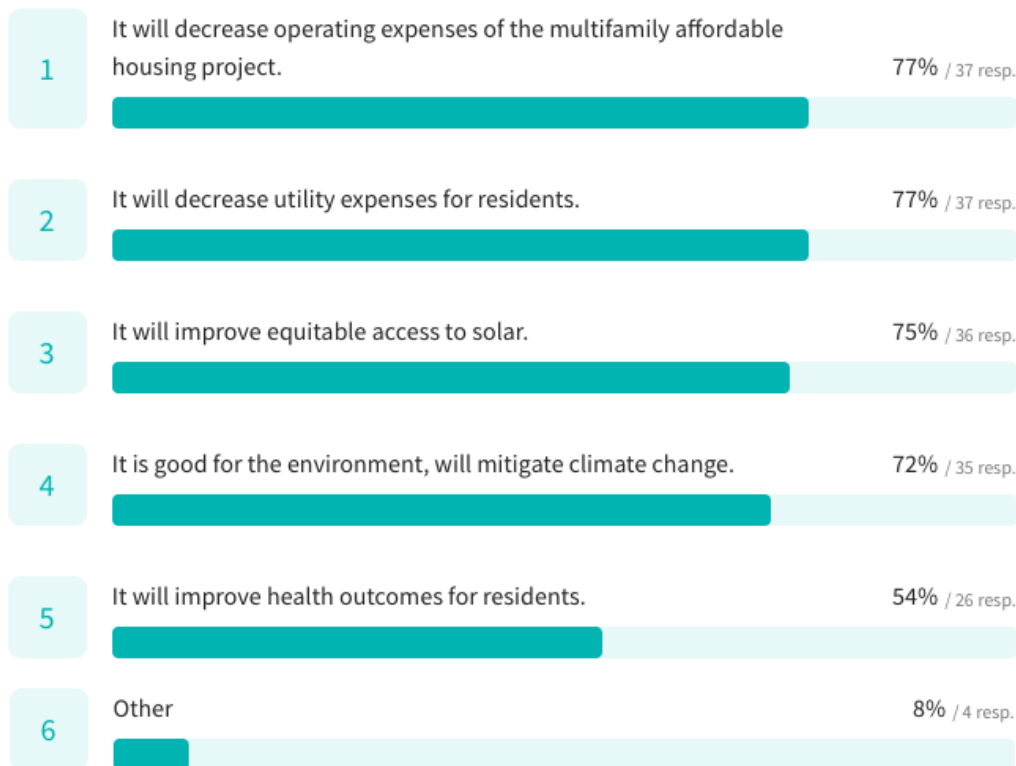
indicate some existing level of familiarity with solar for multifamily affordable housing among respondents.

Which of these statements describe your organization?



In general, most respondents indicated that their interest in solar for multifamily affordable housing is related to potential benefits, as shown below.

If your organization is interested in solar for multifamily affordable housing, it is because:



A few respondents who indicated “other” in response to the question about their interest in solar had some interesting detail to add. Two respondents indicated that it would be a good business decision to find opportunities to expand the solar market. Another respondent indicated that solar for multifamily affordable housing should be structured to deliver net financial benefits to tenants, but also indicated that there are many risks and barriers. To this point, an additional respondent indicated that their organization had begun to investigate solar for multifamily affordable housing with an initial intent to benefit tenants; but upon finding that margins are slim and utility allowances complicate the process of providing tenant benefits, the respondent’s organization shifted focus, to that of providing benefits to the housing organization. A fourth respondent stated that solar can be part of the solution of solving energy poverty by reducing the costs of energy and developing local resources to adapt to changing climate and energy needs for the most vulnerable. An additional respondent said of solar for multifamily affordable housing:

It is a good way to engage consumers. Engagement is key, and there is an extraordinary array of better services that can be provided. Solar can get

their attention. Once consumers pay attention, they can decide (if given choices) what makes the best sense for their household.

c. Experience with Solar for Multifamily Affordable Housing

A majority of survey respondents indicated their organizations have pursued solar for multifamily affordable housing.

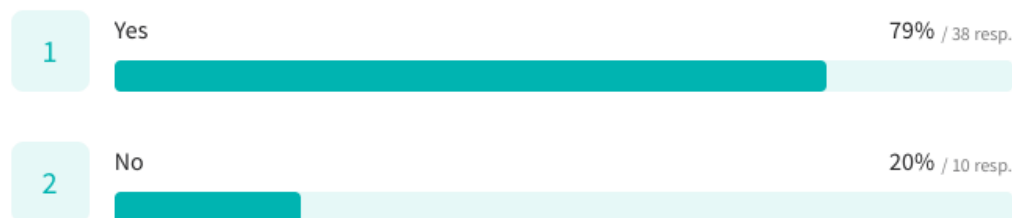
Has your organization pursued solar for multifamily affordable housing?



d. Challenges

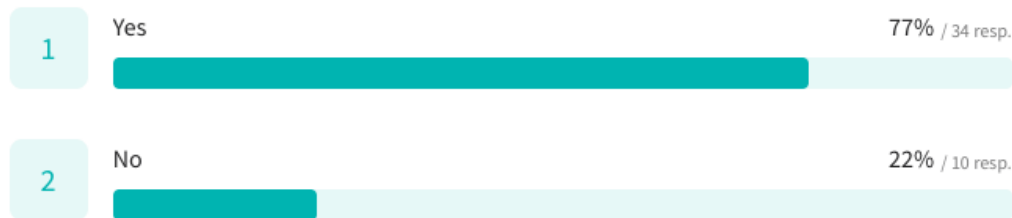
A large majority of respondents indicated they had identified or encountered challenges related to pursuing solar for multifamily affordable housing, either on-site or via a community (shared) solar array.

Has your organization identified or encountered challenges related to pursuing solar for multifamily affordable housing, either on-site or via a community (shared) solar array?



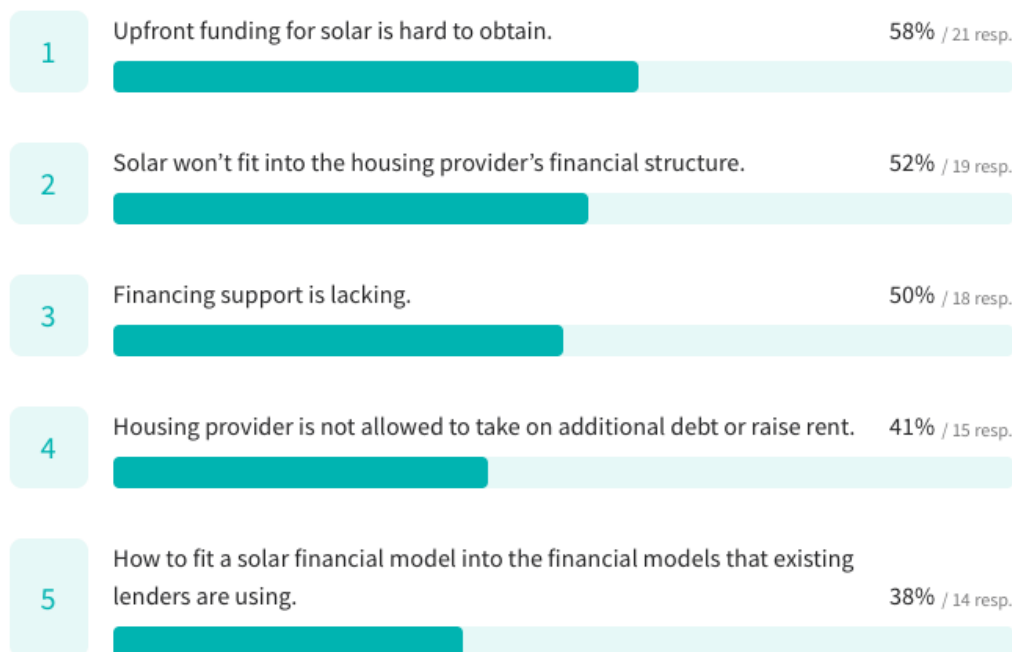
A similarly large majority of respondents indicated that the challenges they had encountered involved financial challenges.

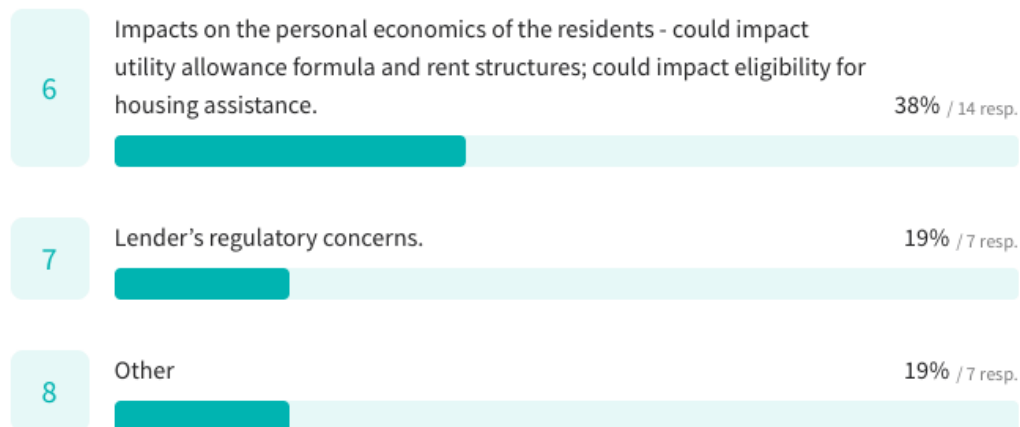
If your organization has identified or encountered challenges, are any of them financial challenges?



From there, the survey respondents indicated a variety of different types of financial challenges they have encountered.

If your organization has identified or encountered financial challenges, please select the type of financial challenge you have identified or encountered.

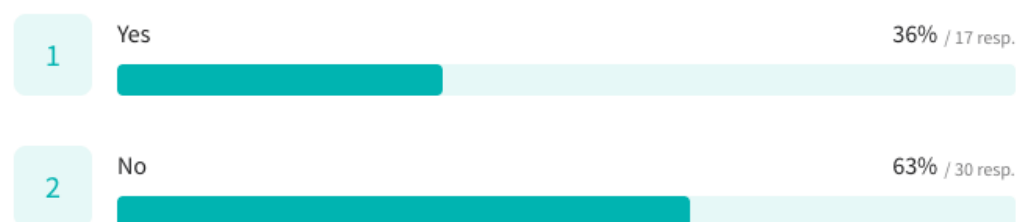




One respondent noted a particular set of financial challenges, indicating the need to obtain a parent guaranty, while finding that the savings available from solar relative to other energy projects was unattractive. Another respondent noted that solar for multifamily affordable housing can face uncertain net metering rules; while there are set rules for single family solar arrays or community solar arrays, this type of array may be in between.

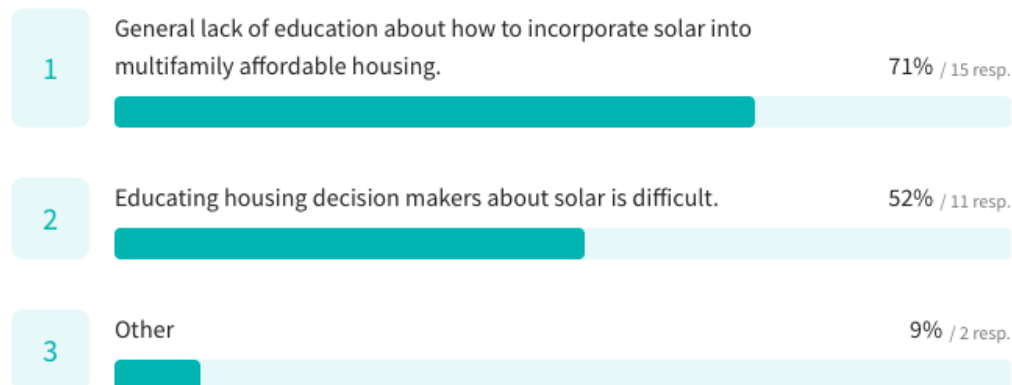
Interestingly, a majority of respondents indicated that educational challenges are not among the challenges they have encountered.

If your organization has identified or encountered challenges, are any of them related to education?



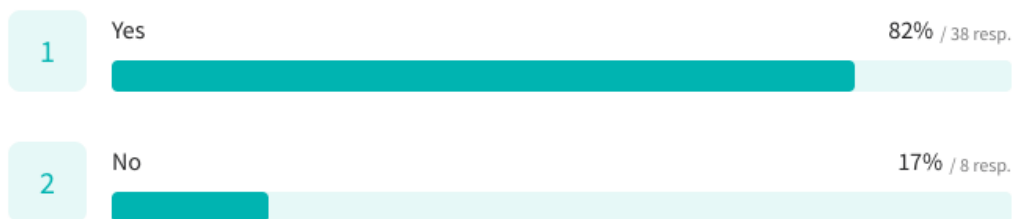
Of the respondents who did face challenges relating to education, most indicated that there is a general lack of education about how to incorporate solar into multifamily affordable housing. A slight majority of respondents indicated that it is difficult to educate housing decision makers about solar. One respondent noted that educating investors on their return on investment for AH projects is difficult. Another person noted that educating housing regulators about solar has been a challenge.

If your organization has identified educational challenges, please select the type of educational challenge you have identified or encountered.



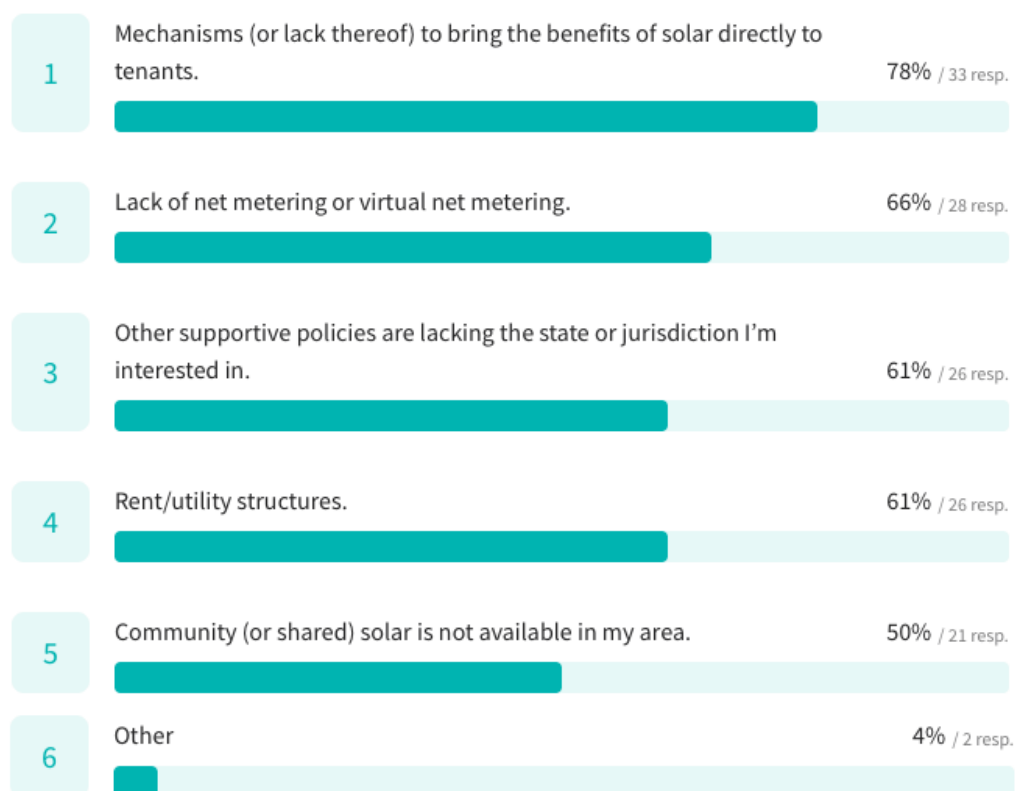
A large majority of survey responses indicate that public policy is a source of challenge.

If your organization has identified or encountered challenges, are any of them related to public policy?



Respondents cited a variety of public policy challenges related to solar for multifamily affordable housing.

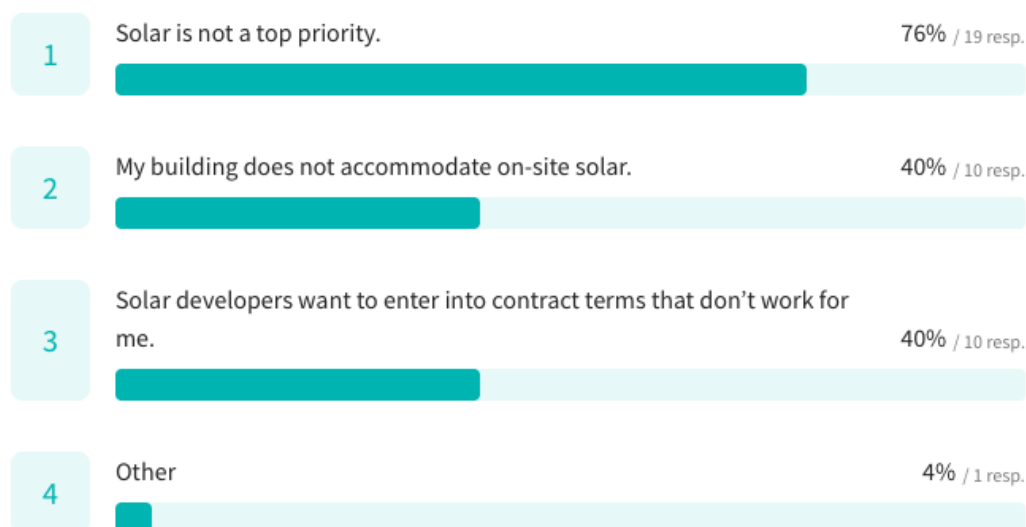
If your organization has identified public policy challenges, please select the type of challenge you have identified or encountered.



In addition to policy challenges related to those listed, one survey respondent noted, “When policy is available, it tend[s] to put community organizations and private companies in equal competition, taking the opportunity away from allowing community organizations to participate.”

When asked if there are other reasons that solar for multifamily affordable housing might be challenging, respondents indicated the following. Additionally, one respondent indicated a lack of grants and programs as a challenging factor.

Are there other reasons that solar for multifamily affordable housing might be challenging, such as:



An open-ended survey question that asked, **“Are there any other reasons that solar for multifamily affordable housing might be challenging?”** yielded some additional, valuable information. First, several respondents emphasized that a lack of funding or a lack of incentives makes it challenging to overcome the upfront capital costs. Some respondents noted that financing structures for solar do not align with financing structures for affordable housing, which can be challenging for financing partners and other decision makers. A few respondents noted staff of multifamily affordable housing buildings lack training on installation and maintenance, and they may be skeptical of solar.

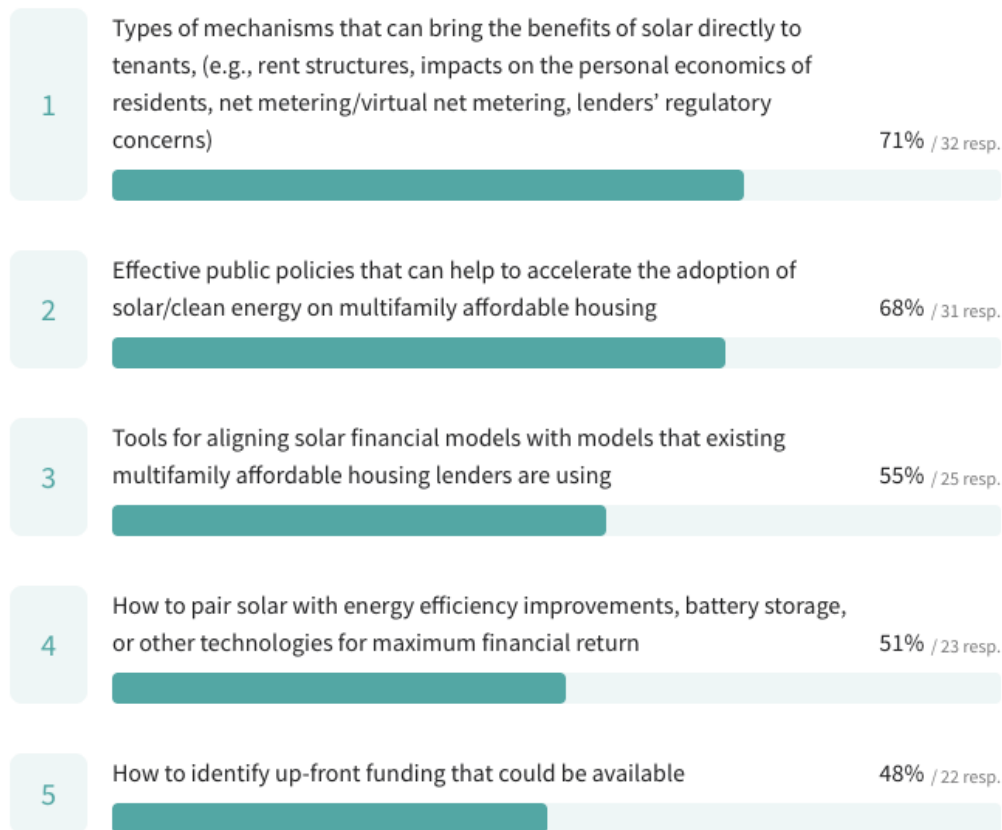
Several respondents emphasized the amount of effort, and duration of effort, it can take to complete a solar installation for a multifamily affordable housing property; for the amount and length of work, the savings outcomes can be lower than anticipated. That work can involve months of achieving alignment among stakeholders such as financing partners, investors, legal approvers, and government agencies.

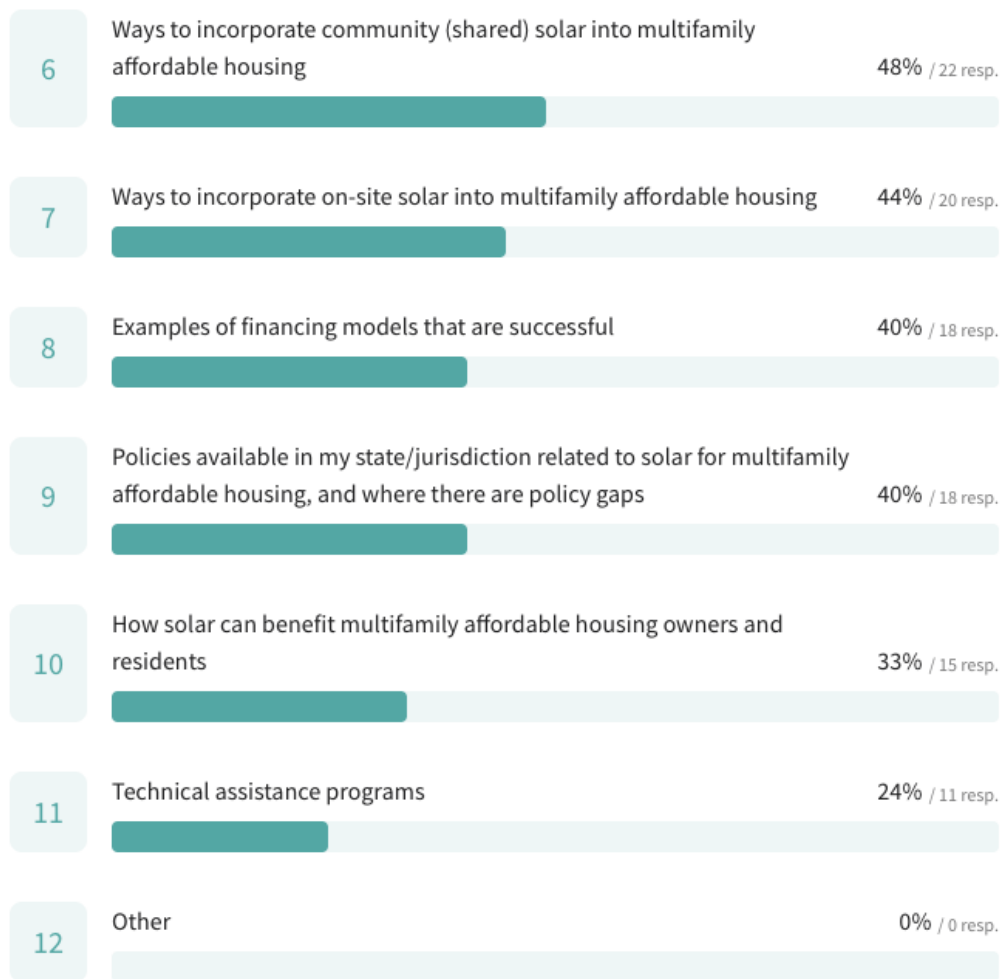
Several respondents identified government agencies as a challenge. Any agency will have its own rules, which may not align with each other. One respondent noted public housing authority “red tape,” and another pointed to various agencies with rules about using weatherization funds for solar that seem to be unnecessarily burdensome.

e. Possible Solutions

The survey respondents were asked to identify assistance, tools, and information that would help them pursue their goals for solar for multifamily affordable housing. A large majority of participants identified mechanisms to deliver solar's benefits directly to tenants as a top priority. A similarly large majority identified the need for effective public policies. In alignment with comments above, many respondents identified the need to align solar financing models with existing financing models for multifamily affordable housing. And a majority of participants selected tools for pairing solar with other, complementary measures like energy efficiency and battery storage, as a measure that would be helpful.

What type of assistance, tools, or information would help your organization to pursue its goals related to solar for multifamily affordable housing?





When asked for other ideas for tools, information, or assistance that would help responding organizations meet their solar goals for multifamily affordable housing, several respondents replied.

Do you have other ideas for information, tools, or assistance that would help your organization achieve its goals for solar for multifamily affordable housing?

A few participants emphasized the need for education for, and transparency and accountability to residents. Residents should be informed about solar's benefits, and they can be effective ambassadors for their neighbors. Making it easy to sign tenants up for solar is key. Similarly, funding for education for staff is important to build in-house capacity to work on getting solar installed and maintaining it. Education for investors and other financial stakeholders was pointed out as a potential beneficial area. Additionally, partnerships with other organizations with the same goals were noted as beneficial as well.

One participant discussed the need for better clarity with regard to various steps that need to be taken to deploy solar on multifamily housing, including any approvals required (HUD, lender, investor, etc.) as well as the policies and processes that can enable cost effective & timely installation. Another respondent requested a coherent, clear policy for how solar benefits are treated, noting that treatment of solar benefits may vary across agencies and programs such as HUD, USDA, and state agencies that administer the Low-Income Housing Tax Credit.

One survey respondent noted that virtual net metering has been effective in California, while another participant requested a link to roof replacement programs. One participant suggested technical assistance for the Weatherization Assistance Program as they work to incorporate solar into that program. Other policy suggestions include expanding energy efficiency incentives to include solar, updating building codes and requiring building electrification, and utility program innovations.

III. Conclusion

This survey yielded valuable information about the challenges involved in deploying solar for multifamily affordable housing and some of the ways to address them. Participants identified financial, educational, and policy challenges, offering insights into their on-the-ground experiences. To address those barriers, the participants pointed to the importance of effective public policy, education and rate structures or other financing mechanisms.

While this survey is a good starting point, more work is needed. Further study should be done to gather details on all of the challenges that arise with regard to solar for multifamily affordable housing. And certainly, more study is needed to develop solutions, building upon the ideas our survey participants shared. With so much potential for the benefits of solar to reach millions of residents of multifamily affordable housing, it is critical to break down barriers and find pathways toward a more equitable solar future.