Community Participation, Experience, and Perceptions of the Solar Over Louisville Solarize Program, 2022-2023

A Technical Report Prepared for Louisville Metro Government
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Executive Summary

This research examined perceptions of solar within the Louisville community as well as the experience of participants and key stakeholders in the first year of Solar Over Louisville (SOL), Louisville Metro Government's solarize campaign. A total of 92 households participated in the first year of the SOL program – the 2022 cohort – including 85 households receiving a discount on the installation of residential solar panels and seven Low-to-Moderate Income (LMI) households receiving a fully funded installation supported by Community Development Block Grant funds.

This research sought to understand the experiences in and impacts of the first year of the SOL program using a mixed-methods approach. Based upon interviews with 20 individuals (15 household participants and 5 stakeholders), and 42 surveys conducted in neighborhoods surrounding grant-funded SOL installations, we explored the experiences and impact of the 2022 cohort of SOL installations. Key study findings that are further explained the "Discussions and Outcomes" section include:

Louisville's Social and Economic Context for Solar Adoption

- There is a widespread interest in residential solar in Louisville that cuts across demographic characteristics, reaching across racial identity, educational level, and neighborhood.
- Across our research participants, economic and environmental impacts are the primary motivations for interest in and adoption of residential solar.
- Many research participants indicated specific concerns about climate change.
- Personal connections strongly influence interest in solar and frame potential outreach.
- More education is needed on the role of residential solar panels in relation to the electricity grid.
- A chilling factor on solar adoption has been the impact of predatory solar companies on the willingness of individuals to discuss or explore solar adoption. An understanding of this context is critical for interacting with residents and homeowners around SOL and for showing the legitimacy of the program and chosen installers.

Experiences within the SOL Program

- Homeowners largely felt that they could trust the SOL program because of its foundation in the municipal government and connection to community groups.
- Participants expressed positive experiences with the installer.
- There are indications of some possible limits in the reach of the SOL program. Interviews indicate potential divisions in participation based up on race and a need for expanded outreach to reach more BIPOC homeowners interested in solar adoption.

Impacts of Participation in SOL Program on Homeowners

- Nearly all interviewed homeowners experienced reductions in their electricity bills. This included those with smaller solar installations and, indeed, some homeowners with low savings amounts indicated the biggest impact of these savings on their household budget.
- There appears to be a real and critically positive impact on LMI households of cost savings and the potential affirmation of the SOL program's impact within the city's anti-displacement work.
- Most individuals who have adopted solar are passionate about the technology and are generally willing and happy to share their experiences.

Section 1: Project Overview

Project Background and Research Questions

This research examined perceptions of solar within the Louisville community as well as the experience of participants and key stakeholders in the first year of Solar Over Louisville, Louisville Metro Government's solarize campaign.

In 2022, Louisville Metro Government (LMG) launched Solar Over Louisville (SOL), in an effort to increase the amount of rooftop solar in our community (Louisville Metro Government 2022). Through this program, LMG selected Solar Energy Solutions as the installer and negotiated a reduced rate for participating homeowners. By signing up through SOL, a qualifying property owner could receive a discount of 12-19% on their total installation cost, substantially reducing the upfront price. A total of 85 households within the five eligible Kentucky counties and three Indiana counties participated in the SOL program in 2022 to receive reduced installation costs (hereafter referred to as "bulk discount installations").

In addition, seven Low-to-Moderate-Income (LMI) households participated in the 2022 round of the SOL program through an innovative approach resulting from internal LMG collaboration. LMG allocated $79,000 in fiscal year 2022 and an additional $100,000 in FY 2023 of Community Development Block Grant funds to pay for solar installations for LMI households (hereafter referred to as "grant-funded installations"). In the 2022 round of SOL participants, five households were installed with panels from the FY2022 funds, and an additional two households received panels from FY2023 funds as part of the first year of the program (including some installations just after the new year). These installations sought, in part, to fulfill LMG's anti-displacement housing policies and goals. LMG staff coordinating the SOL program worked with the Office of Housing and Community Development's Home Repair Program staff to identify LMI residents who had received a new roof through that program in the last two years. These households had already been income verified through the home repair program and the locations were evaluated for solar potential. Good candidates were passed on to the solar installer, with LMG staff simultaneously reaching out to each resident by email or phone to explain the program and their possible eligibility. Ultimately, seven LMI households were identified and received fully subsidized residential solar on their home. The selected homes are in the Russell (3), Park Duvalle, Shawnee, Chickasaw, and Greater Cane Run neighborhoods of Louisville.

International research has shown that the visibility of solar technologies can increase intentions within communities to adopt such technologies but that limited knowledge about energy transitions can decrease such intentions (Parkins et al 2018). Both the presence of solar within a neighborhood and information from neighbors about such technologies can be positive influences on interest in the technology (Rai, Reeves, and Margolis 2016). Thus, solar offers a critical way to move between conversations of behavior, knowledge, and visibility. While extensive research exists on residential solar adoption prediction via behavioral studies emphasizing quantitative analysis of factors, this study pairs such data with qualitative information gathered from more extensive, ethnographic interviews with homeowners, providing local insights that might help LMG shape future programs and funding proposals.

In order to understand more about the experiences and impacts of the first year of the SOL program, we conducted five interviews with key stakeholders in the program, 15 interviews with participating

homeowners, and surveys with neighbors around the grant-funded installations (find more information on methods in the following sections). In this report we detail the findings from the homeowner interviews and surveys, with specific attention to data speaking to the following research questions.

Guiding research questions for interviews with SOL participants:

- How do homeowners think about their own participation in, and the wider adoption of, residential solar following participation in the SOL program?
- What are household goals and rationales for participation in the program?
- How do household energy costs post-installation compare with previous bills?

Guiding research questions for surveys conducted with neighbors around grant-funded installations:

- How does the visibility of residential solar shape perceptions of and interest in green technologies within LMI neighborhoods?
- What is the impact on the behaviors or perceptions of occupants of nearby homes (homeowners and renters) related to residential green technologies following the installation of solar panels by proximate neighbors?
- How will the experience of solar installation within a neighborhood impact views on wider green technologies as access to other technologies expands within LMI neighborhoods? Might it influence reception to subsequent installation of private or public green technologies or programs?

Guiding questions for longer term research that extend beyond the scope of this project and report:

- How do long-term reduced residential basic utility costs support LMI homeowners to stay in their homes?
- What baseline information will allow for long-term tracking of individual participants versus wider housing trends?
- What other green technologies are used or sought by participating homeowners following solar installation?

Research Context: Participation by LMI Households

Louisville faces significant challenges from both persistently unequal access to affordable housing and from the uneven distribution of urban environmental pressures and resource costs. Housing and environmental justice are critical pieces of urban health equity, as they frame the possibilities of households achieving an emplaced, livable, and just life within the city. Scholars are increasingly exploring the intersections of these domains through research into residential energy insecurity (cf. Bednar, Reames, and Keoleian 2017).

Part of the impetus for our research was to explore how local government support for residential "green" technologies like solar photovoltaic systems can be implemented as part of larger anti-displacement strategies supporting homeowners at risk of involuntary displacement from neighborhood gentrification and redevelopment (Louisville Metro Government 2022a). Green residential technologies and attendant rhetorics of urban sustainability can be part of experiences of displacement (Checker 2020). As redevelopments increasingly include technologies like rooftop solar that reduce environmental impacts as a draw to new, wealthier residents, such technologies can be linked to processes of gentrification. Residents at risk of displacement may therefore come to experience urban sustainability goals that seem to encourage higher-income, density-focused redevelopment in cities as pressures fueling their displacement (Tretter 2015).

Green technologies, though, also offer the potential to immediately improve livability and increase homeowners' ability to afford to keep their homes in the face of rising utility costs and higher tax rates. Existing public programs identify support for utility costs as central to improving housing stability. For example, the Low-Income Home Energy Assistance Program (LIHEAP) and utility payment assistance funded through federal COVID-19 relief programs provide direct and immediate but short-term assistance to low-income families struggling to pay their utility bills (U.S Department of Treasury 2020). Longer term housing stability could be improved for LMI homeowners through programs that assist with the financial burdens and upfront costs of installing solar technologies, as these technologies have the potential to ameliorate both immediate and future pressures of rising electricity costs (U.S. Energy Information Administration 2022). However, the high cost of installation has meant a widespread inequality in access to residential solar adoption in the U.S. based on socio-economic status, race, and educational attainment (O'Shaughnessy et al. 2021; Ray 2021; Reames 2020), and a correlation between exclusion from solar and negative health factors (Lukanov and Kreiger 2019).

While some of our research questions related to the participation of LMI households in the SOL program would require a longitudinal study across a longer period, this research offers a foundation for understanding how residential solar can support existing homeowners who may be threatened by displacement.

Research Context: Regional Solarize Campaigns

To provide context for SOL, we situate it here briefly in relation to some regional solarize programs.

Louisville: SOL is a Louisville Metro Government campaign, in partnership with Kentucky Solar Energy Society (KYSES) and the Louisville Sustainability Council (LSC). SOL encourages homeowners to install solar panels at a discounted price through a bulk purchase agreement; in 2022, Solar Energy Solutions was the selected installer. Homeowners in Louisville/Jefferson County as well as Oldham, Spencer, Shelby, and Bullitt counties in Kentucky and Harrison, Floyd, and Clark counties in Indiana are eligible to apply, along with smaller non-residential properties (Louisville Metro Government ND). In its first year, SOL was the third largest solarize program in the country (Louisville Sustainability Council ND). Louisville is striving to achieve 100% clean energy by 2040 (Louisville Metro Government 2022b).

Lexington: Solarize Lexington is a Lexington-Fayette Urban County Government campaign run in partnership with KYSES and begun in 2023 (LFUCG ND). In the first year, the discounted rate for participating property owners was estimated to be up to 20% off the typical price (Griggs 2023; Souto 2023) and Solar Energy Solutions was selected as the installer (LFUCG ND). In their first year, Solarize Lexington received over 500 interest forms in the program's first four months (Richardson 2023), and, as of July 2023, 38 of the 58 homes with installations were LMI households supported with grant funding (Hamburg Journal 2023).

Frankfort: Solarize Frankfort is a campaign of the City of Frankfort in collaboration with KYSES, Apogee-Climate & Energy Transitions, Franklin County Cooperative Extension Office, and Kentucky State University Land Grant Program. Solarize Frankfort incentivizes homeowners to install solar panels on their homes by provided a discount of up to 15% from their selected installers, Pure Power Solar and Wilderness Trace Solar, and is open to homeowners in Anderson, Franklin, Henry, Owen, Scott, Shelby, and Woodford counties (City of Frankfort ND). The first installation took place in the summer of 2023, with the homeowner projected to save $63 per month on their electricity bill and to receive 95% of their yearly electricity needs from their panels (Bryson 2023). The City of Frankfort's goal is to reach 100% renewable energy by 2030 (Franklin County Government 2023).

Bloomington: Solarize Bloomington worked in partnership with Solar Indiana Renewable Energy Network, or SIREN, from 2017-2022 (SIREN ND). Within this program, property owners were able to install solar panels for a discounted price through a group purchase arrangement, including residents of Bloomington and in Brown, Greene, Lawrence, Morgan, Orange, and Owen counties (Atkinson 2019). The city partnered with Indiana Solar for All to provided grants to eight homeowners with fixed/limited incomes in 2018, and 12 in 2019, to cover the costs of their installation (City of Bloomington 2019). In 2022, the city of Bloomington received a gold badge from the national SolSmart program for increasing the amount of solar energy across the city (City of Bloomington 2022).

Indiana: Solarize Indiana is a statewide group of volunteers, founded in 2017, to support and encourage homeowners and businesses to adopt solar (Solarize Indiana ND). The group helps individuals understand the costs and benefits of solar and organizes local solarize programs that provide bulk discounts. In their first year of work, the group expanded rooftop solar in the state by 20% (ibid.). Local groups within Solarize Indiana include Solarize Bloomington, Solarize Columbus, Solarize Evansville, and Solarize East Central Indiana. Since 2022, however, solarize programs across Indiana have been significantly impacted by state-level changes to net metering (SIREN ND; SUN ND).

Research Methods, Process & Limitations

With IRB approval from the University of Louisville (Project #22.0784), we utilized two forms of data collection: door-to-door surveys and semi-structured interviews.

Door-to-door surveys were conducted between February 23, 2023, and May 23, 2023, focused on the households and neighborhoods surrounding the grant-funded installations. Teams of students and faculty spent a total of 54 person hours in the neighborhoods of six of the seven 2022 grant-funded installations. This included 16 separate data collection outings, with visits to each of the five neighborhoods of focus at least three times. Researchers knocked on a total of 357 doors and collected a total of 42 completed surveys from neighbors around the grant-funded installation households. Activities in these neighborhoods were tracked using Microsoft Excel, noting the address, date, time, and results of each canvassing effort. This was a lower response rate than anticipated, but it highlights the difficulty of door-to-door canvassing due to weather, scheduling limitations, and, on this topic, perceptions of potential respondents mistaking researchers as door-to-door salespersons for solar.

Interviews were conducted with a total of 20 individuals: five stakeholders related to the SOL program and 15 homeowners who participated in the 2022 round of SOL installations. Of the 15 homeowner interviewees, five interviewees had received grant-funded installations (five of the seven total funded by Block grant funds in this year) and ten were part of the bulk discount program. All seven grant-funded recipients were invited by email and/or phone for interviews. Six individuals responded to the outreach and five were able to be scheduled and completed during this research. For the bulk discount interviewees, we contacted all 15 individuals who had indicated to Metro a willingness to be contacted by the program, and of these, we received initial interest from 11 individuals and were able to schedule and complete interviews with ten of those individuals.

Stakeholder interviews were conducted with five individuals selected intentionally for their knowledge of the 2022 SOL program, including two LMG staff member, one employee from the installer (Solar Energy Solution), and two individuals from KYSES who consult on SOL and/or other local solarize campaigns. A sixth interviewee was sought from the Louisville Sustainability Council but did not respond to requests. The contextual findings from these stakeholder interviews are not included in this report.

Interviews were conducted digitally via Microsoft Teams between March 1, 2023, and July 5, 2023. Interviews were semi-structured, with open-ended questions encouraging interviewee descriptions and narratives. Resulting interviews were between 30 minutes and two hours in length and were conducted by faculty with the support of student researchers. Fieldnotes were written by each researcher present at an interview during and following the interview. Interviews were video recorded and transcribed by MS Teams, cleaned and corrected by hand by the research team, and then coded using an iterative method of thematic identification for emergent codes. Based upon the preferences of the interviewees, three of the interviews with SOL participants were conducted via phone and responses were noted via typed notes created by the researcher, instead of recorded and transcribed.

Section 2: Survey Results

A total of 42 completed surveys were collected. In the following tables and figures, responses from these surveys are organized by question. Total number of surveys (n) varies within each question due to provided responses. Results are reported as descriptive and frequencies only, due to small sample size.

Table 1: Survey respondent demographics

Question: Do you own or rent your home? (n=42)	
Homeowners (n)	27
Homeowners (%)	64.29%
Average time in residence (years)	15.2
Renters (n)	15
Renters (%)	35.71%
Average time in residence (years)	6.3

Table 2: Interest in solar, separated by homeowners and renters

Question: Have you considered solar? (n=28)		
	Yes, interested in solar	No, not interested in solar
Homeowners (n)	13	11
Homeowners (%)	54.17%	45.83%
Renters (n)	3	1
Renters (%)	75%	25%

Figure 1: Interest in solar separated by homeowners and renters, by percentage

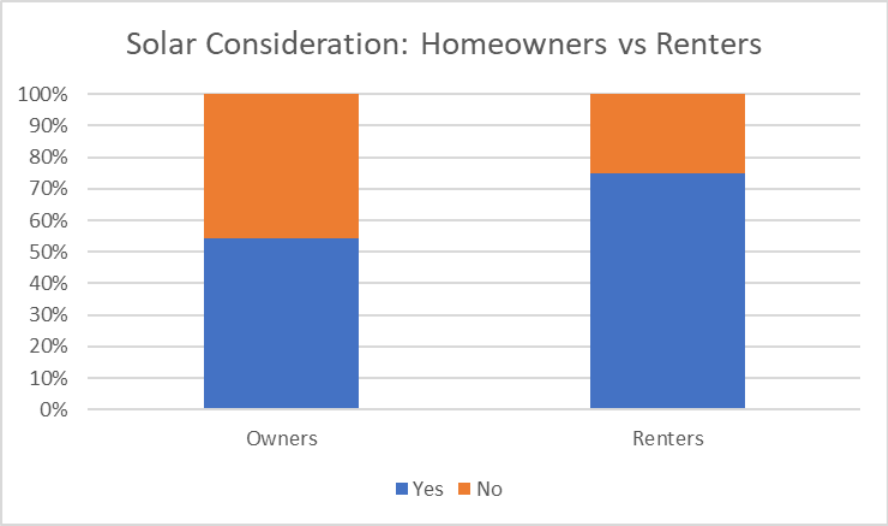


Table 3: Follow-up question for respondents both who answered “yes” to both having seen solar panels on their neighbor's home and having considered solar for their own home

Question: Did you consider solar *before* or *after* seeing solar on your neighbor’s roof? (n=12)	
Before	10
After	2

Table 4: Climate change concern

Question: How concerned are you about climate change? (n=41)	
Very concerned	16
Somewhat concerned	16
Not concerned	3
Not at all concerned	6

Figure 2: Climate change concern, by percentage of responses

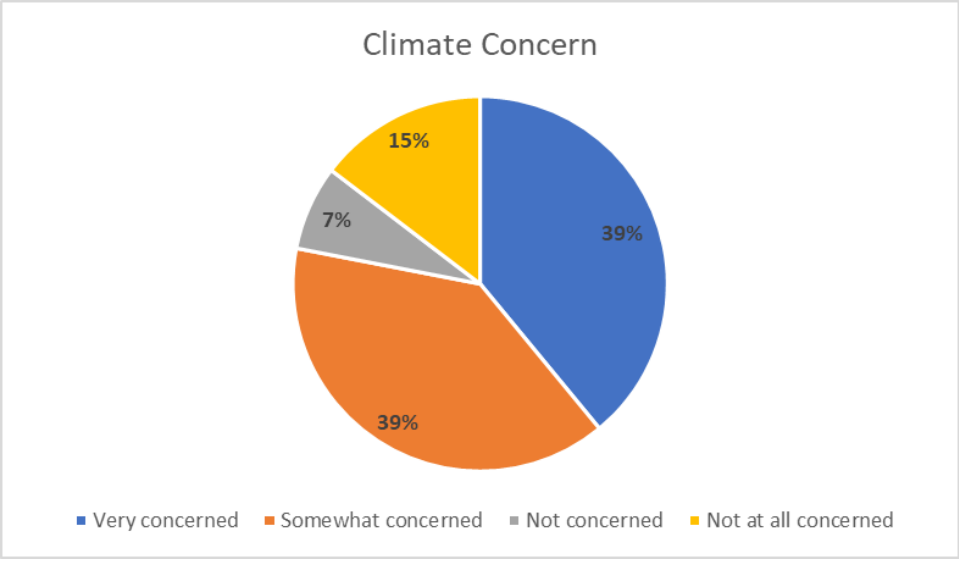


Table 5: Solar consideration separated by those who indicated concern about climate change versus those who are not concerned about climate change, with climate concern collapsed from four categories (see Table 4) to two categories

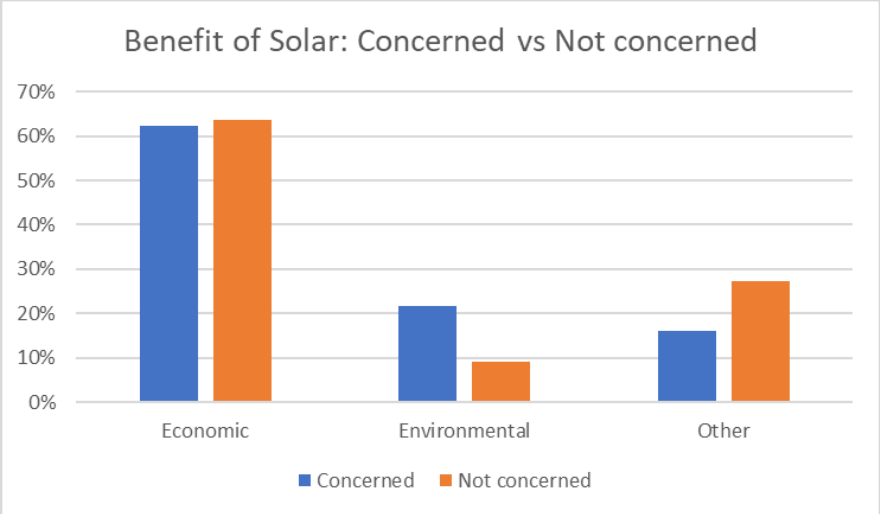
Question: Have you considered solar? (n=28)		
	Yes	No
Concerned (n)	14	7
Concerned (%)	66.67%	33.33%
Not concerned (n)	2	5
Not concerned (%)	28.57%	71.43%

Table 6: Perceived benefits of solar separated by those who indicated climate change concern versus those who are not concerned about climate change

Question: What are the benefits of solar? (n=48) *			
	Economic	Environmental	Other
Concerned (n)	23	8	6
Concerned (%)	71.88%	25%	18.75%
Not concerned (n)	7	1	3
Not concerned (%)	77.78%	11.11%	33.33%

**Note: Respondents could indicate more than one benefit, and responses were coded as economic, environmental, both, or other.*

Figure 3: Perceived benefits of solar separated by those who indicated climate change concern versus those who are not concerned about climate change, by percentage of responses (n=48) *



**Note: Respondents could indicate more than one benefit, and responses were coded as economic, environmental, both, or other.*

Section 3: Interview Results

Interviews were conducted with 15 homeowners who participated in the 2022 cycle of the SOL program. Of these, five interviewees had received grant-funded installations (five of the seven total funded by Block grant funds in this year) and ten were part of the bulk discount program (10 of the total 85 discount installations in this year).

In this section of the report, we discuss a subset of the data from these 15 interviews, highlighting interviewee demographics and exploring topics of particular relevance to the management, process, and impact of the SOL program to these homeowners. This includes discussions of: how individuals learned about the SOL program; primary goals and motivations for participating; concerns or hesitations about the program; previous interest in and knowledge of solar; reasons why interviewees trusted the SOL program; experiences with the panel installation process; impacts on electricity bills and other household impacts; and contact with neighbors and others about their solar panels post-installation.

As is common with processing qualitative data gathered from semi-structured interviews, we have identified main themes or categories in the responses as a way to help readers interpret the data but have retained the variation within the categories. We describe individual variation in response and include quotes from individual interviewees to illustrate the findings.

Demographics of interviewees

Figure 4: Geographic distribution of interviewees by neighborhood of residence

Figure 5: Household income of interviewees reported for 2021

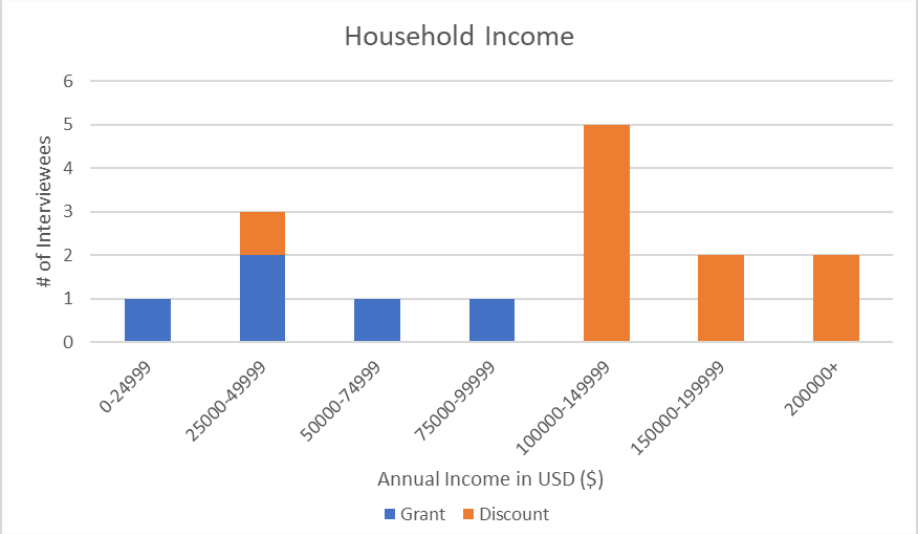


Figure 6: Race of interviewees

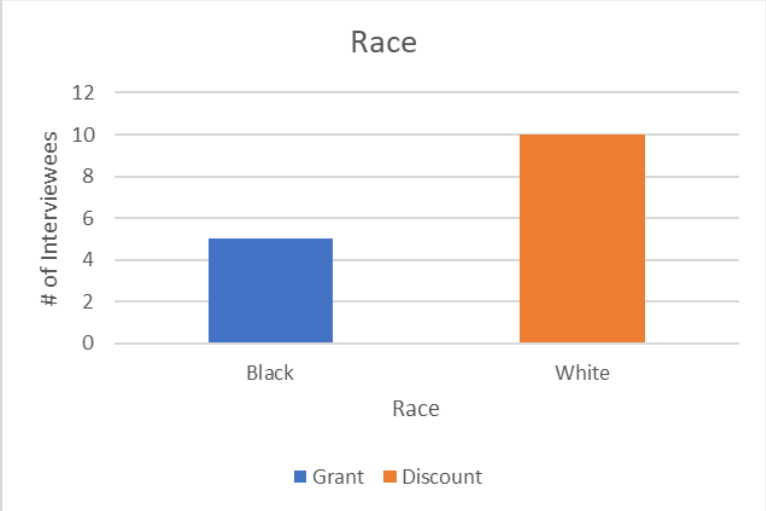


Figure 7: Education level of interviewees

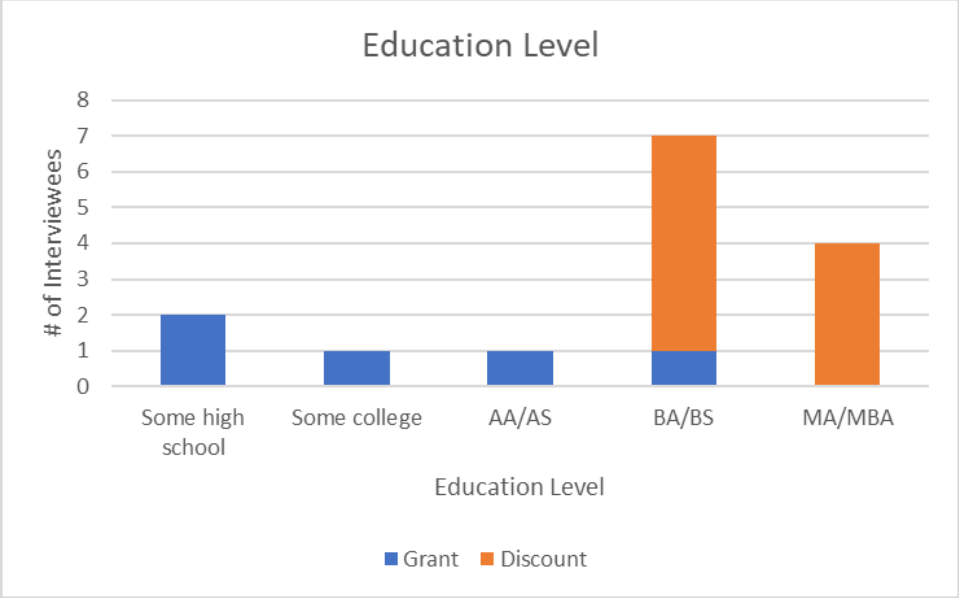
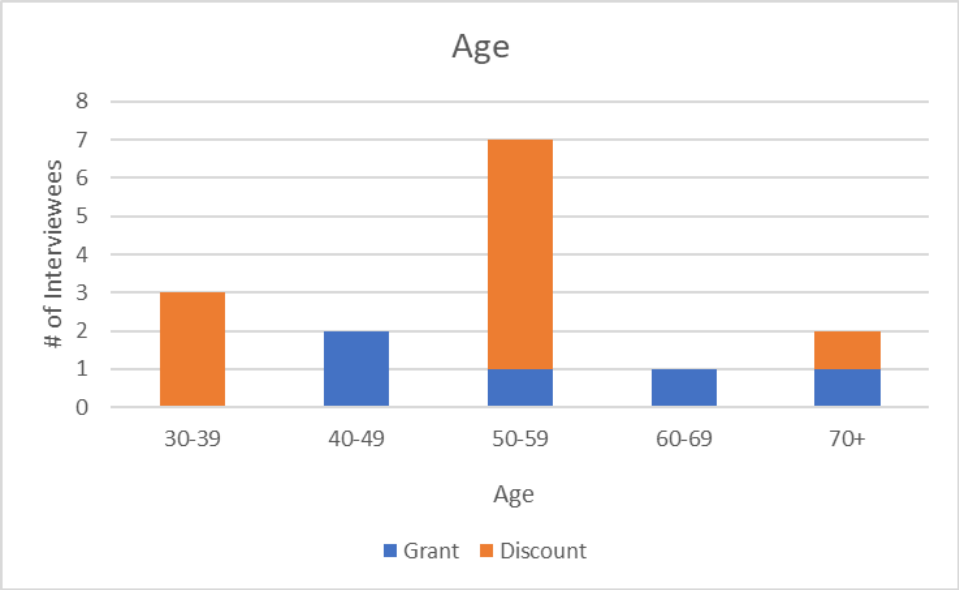


Figure 8: Age in years of interviewees



How interviewees learned about the SOL program

Interviewees learned about the SOL program in a variety of different ways. Importantly, all grant-funded installations were recruited and approved through a process distinct from those for bulk discount households. Participants in the bulk discount portion of the SOL program needed to initiate their interest by contacting LMG staff. In contrast, grant-funded participants were all initially contacted by LMG staff to indicate their potential fit with the program due to their recent participation in LMG-funded programs to install a new roof on their home. While everyone who received grant-funded solar panels was contacted individually by city staff, some of these individuals had already heard about the program through other means and noted those in their interview instead (e.g. at a community meeting) or could not remember how they had initially heard about it.

The ways people learned about the program included:

- Four people found out about the program through social media or the news, including TV news programs and emails from news organizations.
- Three people learned about the SOL program when they were contacted by Louisville Metro, including through phone calls, emails, individual contact, or general outreach.
- Three people heard about the program through personal contact with friends, family, coworkers, or others. One person explained, “I had a girlfriend text me to say that the program was getting ready to expire and that if I were interested in solar, now would be a good time to do it, so I checked into it. I had not heard about it other than her, so I didn't see it on social media or in the news or anything” (AA07).
- Two people could not remember where exactly they heard about the program.
- Two people were told about the program through the installer, Solar Energy Solutions.
- One person heard about the program through other outreach, specifically via an email from a neighborhood association or other local group.
- One person found out about the SOL program through a community meeting.

Primary motivations to participate

The two main motivations to participate in the program were cost savings and environmental impacts. These responses were also fairly consistent across the group: only two interviewees did not include either of these motivations. Six further motivations for participating in the program were provided by interviewees. All but two people gave multiple motivations for participating in the SOL program.

The primary motivations to participate in the SOL program include:

- Twelve people disclosed that cost savings were a primary motivation to participate in the SOL program. This includes reduced costs of installation, tax incentives, and lowering and managing monthly bills. One interviewee stated, “Well, I wanted solar forever, but I just figured the price was out of my reach and... You know, I just, thought I'd never be able to afford it until like the kids were moved out” (AA07).
- Nine people stated that environmental impacts were a primary motivation to participate. While some people had general environmental concerns and hopes, others voiced specific impacts that they sought, such as reducing the use of fossil fuels or improving air quality.
- Four people said that their trust, interest, and/or support of the SOL program motivated their participation. This includes people that wanted to support a good program, trusted the city

vetting of the program, and liked the education and connection from the program. One participant said that they “wanted to support a program that sounded like a good program” (AA08).

- Three people stated that their previous interest in solar motivated them to participate.
- Two people stated that the timing had an impact in their motivation. This included the ability to afford solar panels and the alignment of the program with life situations. As one of these interviewees explained, “I've been interested in solar panels for years and thought that I had a good situation for them but wasn't sure. And it was a matter of, you know, I'm 70. If not now, how long are we really going to wait here?” (AA03).
- One person stated that they participated in the program due to their critiques of LG&E.
- One person disclosed that the increase of their home value was a primary motivation for participating in the program.
- One person said that the new technology motivated them to participate.

Main goals for participating

Like the primary motivations for participating, interviewees stated that their main goals for participating in the SOL program were cost savings and lowering environmental impacts. The question about interviewee’s goals was asked directly after asking about motivation, which led to similar but more direct answers about what individuals sought to achieve by participating in the SOL program. One person did not answer this question. Not including this individual, everyone else (14 of 15) stated that cost savings and/or environmental impacts were one of their main goals for participating.

The goals that interviewees stated include:

- Eight people stated that cost savings were one of their main goals for participating in the program. One interviewee explained their goal by saying, “Biggest thing I was looking forward to was the reduction in my utility costs, and so on that part it worked out” (A04).
- Eight people disclosed that lowering environmental impacts were one of their goals for participating. One person noted the influence of local environmental concerns on their goals by explaining, “I guess I have friends in California and other states where solar is heavily incentivized, and Kentucky just seems to be really focused on coal” (AA05).
- Two people said that their trust, interest, and/or support of the SOL program were one of their main goals for participating.
- One person stated that one of their main goals for participating in the program was their critique of LG&E.
- One person said that ethical reasons were one of their goals for participating in the program, saying, “It’s just the right thing to do” (AA07).

Concerns and hesitations about the SOL program & residential solar

Concerns voiced by homeowners fell into three categories: pre-installation concerns, post-installation concerns, and general concerns.

Pre-Installation concerns largely included worries, hesitations, and questions that homeowners had as they were deciding whether to participate in SOL and/or were identifying if they wanted to install solar panels on their home. Pre-installation concerns included:

- Five homeowners (one third of interviewees) voiced no pre-installation concerns. Four of those individuals stated that they had no concerns, and one indicated only a post-installation worry. As one of the grant-funded interviewees explained: “I mostly had questions and, you know, I just wanted to know more information about it. So, I didn't really have any hesitations.” (A02).
- Four homeowners voiced concerns about the cost of the panels (all were from within the ten bulk discount interviewees, as to be expected). Some of these were concerns about the total cost, others about the possibilities of future cost savings, and some regarding the return on investment or pay-back period for initial installation cost through accumulated savings.
- Two interviewees voiced concerns related to the unknowns of the program or the experiences of residential solar. These were mostly future-focused questions, regarding the things that individuals felt unable to foresee about their decision and which caused them worry when making the decision. Some of these concerns were difficult to express specifically, as they were about the many elements that went into making a significant cost and home improvement decision like this one. As one bulk discount interviewee explained, “I would say more generally, when you're making a decision to do something like this, there's always the question of the unknown: what have I not thought of?” (AA09). This sentiment echoed many of the explanations given by homeowners later in the interviews about why they ultimately trusted and decided to participate in SOL—namely that the program helped them navigate the many unknowns of purchasing solar and made them feel comfortable not needing to navigate this process on their own. More on this topic appears in our discussion of trust in the SOL program.
- Two interviewees had initial concerns about the approval of panel installations by their governing Homeowner’s Associations (HOAs). Both individuals indicated that there were no HOA bylaws specifically preventing solar panel installations; both were approved by their HOAs.
- Two interviewees had concerns about purchasing batteries for storing their produced electricity at home. Neither purchased batteries ultimately; in fact, none of the interviewees had purchased batteries but several expressed interest in doing so in the future.
- Two individuals voiced concerns about the appearance of the panels on their home. One was concerned they would be on the front of their home. The concern, however, proved unimportant post-installation, as the homeowner explained that the panels are not clearly visible from the street to passersby. The other interviewee thought that the panels might look “busy” on their home but said, once installation was complete, “It looks beautiful” (A05).
- One interviewee indicated that having heard media coverage of other people’s bad experience with solar installers had made them hesitate. Although the interviewee did not provide a name for the problematic installer, their description sounded very much like narratives of local experiences with predatory solar companies. As they stated in the interview, "I did have qualms over hearing another company other people had gone through and they had all sorts of problems with them, so I was a little reluctant to get panels, from what I heard and saw on TV. But they assured me I had nothing to worry about. From that point everything went well." (A04)

- One final category of pre-installation concerns was about the credibility of the SOL program. The one homeowner who voiced this concern had not previously heard of the SOL program and so was hesitant initially about its legitimacy.

Only two interviewees voiced *post-installation concerns*:

- One homeowner had higher electricity bills post-installation. It was unclear the reason for this, but with their interest to address this concern, we shared this situation with LMG to allow for follow-up.
- One other individual felt that the application on their phone was difficult to read and that the interface with information from LG&E was challenging. While many other interviewees noted that they were content with and readily utilized the app, it is important to note that this was not a universal experience and that supporting people to ensure that they understand and can access the app and related materials is a topic to consider for participants post-installation.

One final concern did not fall into a clearly pre- or post-install category. One interviewee noted this *general concern*: their friend had contacted the SOL program in 2023 for an installation and had received a very high-cost estimate, which they felt must be a miscommunication or indicate a problem with the estimate, as it far exceeded their own cost (this was a bulk discount installation). We do not have further information from this person to contextualize this concern or to confirm if the process did in fact go through SOL.

Previous interest and knowledge about residential solar

A majority of interviewees expressed some previous interest in and knowledge of residential solar.

Only two of the 15 individuals indicated having no previous interest in residential solar; they also were the only two interviewees who expressed having no previous knowledge of solar. Of those, one was a grant-funded installation and one a bulk discount installation. For the bulk discount installation, they indicated that the recency of their first home purchase was the reason for a lack of previous interest, as installations were impossible before owning their own home. For the grant-funded installation, the homeowner indicated that they had seen solar panels on homes in their neighborhood previously but did not know what they were.

For the 13 of 15 interviewees with a pre-existing interest in solar, they expressed their interest in multiple ways. Importantly, this group included four of the five grant installations and nine of the ten bulk discount installations, indicated that existing interest cuts across socio-economic levels, as well as across geographic areas, race, and education level. This resonates with our survey findings that many participants were interested in solar installation, including those who were renters. As one of the grant-funded installation interviewees explained, “"I had always thought about having solar panels like if for some... strange... thing of luck, if I won the lottery or something, yeah... I would have done it on my own if I could." (A01). Some individuals indicated multiple reasons for their interest to have developed (from one to five reasons each), and so this category includes a total count of more than 13 instances of previous interest.

Forms or explanations of previous interest in solar included:

- Eight of the 13 people with previous interest in solar explained having a personal connection to an individual or institution with solar panels already installed. These connections varied widely, from detailed interactions with strangers at work to connections to close friends or family, or

discussions with neighbors. Even for individuals who expressed knowing very little about panels previously, their personal connection to someone with solar installed shaped their interest and decision to participate. As one grant-funded installation interviewee explained, "A friend had panels, I spoke with them. She loved it, so I was like, 'OK.'" (A05)

- Six people expressed having conducted research previously about solar, which included watching videos and accessing information online, looking at general costs for installation, or calculating their potential return on investment (ROI), among other forms of seeking information. Some interviewees expressed concerns about the validity of information that they had found previously, though, especially from online sources.
- Five interviewees had previously received quotes for residential installations, including two individuals in the grant-funded category and three in the bulk discount group. Most of these interviewees indicated that the previous quotes had been too high for them to follow-up on, so they were especially glad that the SOL program allowed them access, either through discounts or grant support.
- One person noted that their interest in solar had been shaped by a previous contact by LG&E about purchasing solar not for residential installation but through the utility's consumer solar share program. This had been a negative interaction, as the interviewee implied that they felt it was the utility's duty to invest in alternative energy sources centrally, instead of by asking consumers to opt into a more expensive program.
- One person indicated that they had previously been part of advocacy to retain net metering in Kentucky and that this experience had grown their interest in solar.

These same 13 individuals also indicated some previous knowledge of solar. We categorized individuals as having significant knowledge or some knowledge, defined by the way in which interviewees articulated the amount of knowledge they had before participating in the SOL program. Each interviewee was categorized into only one of these groups.

- Only two individuals voiced that they felt they had significant previous knowledge of residential solar. One of these interviewees explained some of the scope of their research this way: "every waking moment it seemed like I was on the internet, on my phone, just trying to find something about…the longevity of the systems, the reliability of the systems, obviously the cost. And then on the offset side... I pulled historical numbers from LG&E to figure out like what the average increase in cost of electricity was, historically, and put together a spreadsheet…" (AA02). The other interviewee with significant previous knowledge had explained it in conjunction with how they had become interested in solar, including looking into the battery systems, being involved in net metering advocacy, getting quotes for installation, and being in contact with a neighbor about their panels, among other kinds of research. Individuals also brought into their discussions of previous knowledge sets of their own skills, such as financial skills that allowed for them to create complicated spreadsheets to determine Return on Investment (ROI)
- A larger set of individuals, eleven in total, expressed having some previous knowledge of solar. The explanations for this category of knowledge were quite broad, with some individuals describing their knowledge as relatively minimal and some describing it as related to only specific kinds of knowledge, such as through personal contacts, via previous quotes for installations, or about only one element of solar. Some of these individuals expressed concerns about the trustworthiness of their previous sources of information, and some individuals voiced specific gaps in their previous knowledge.

There was significant variation within the category of individuals with some previous knowledge of solar, and we attempted multiple ways to categorize and code this data with more specificity. However, the

significant variation in how people explained and assessed their own knowledge made it difficult to effectively and reliably categorize them in a more fine-grained way and, ultimately, we felt that leaving this category with a broader definition made some important points about the challenges of building knowledge on this topic. Indeed, throughout the interviews – in this question as others – interviewees frequently spoke about the complexity of knowledge and information related to residential solar energy, from the fiscal complexities of calculating a return on investment to the political challenges of variations in net metering laws, the technological details of the panels themselves, the logistical navigation of tax incentives, and the social complications of determining the validity of online information or the reliability of a potential installer in the context of a rise in predatory companies in this field.

The worries specifically attached to being confident in their own knowledge related to solar and solar-installation decision-making come through in how people talked about what they knew and, importantly, about their attraction to the SOL program. The program, many said, gave them a steadier ground to stand upon for making a big decision, providing trustworthy information, a vetted installer, and a set of individuals distinct from the company who could share the process and outcome. Thus, we leave this broader category of "some knowledge" in order to show how knowledge and trust are related, and to emphasize the importance of the SOL program in addressing frustrations that appear inherent within many homeowners' processes of learning about and investing in residential solar panels.

Trust in the Solar Over Louisville Program

Interviewees frequently talked about the SOL program in very positive ways, highlighting how the format of the program and the approach made them comfortable in choosing to install solar now. We asked interviewees what made them trust the SOL program, specifically, and answers to this question covered a variety of topics:

- For nine interviewees, the SOL program's connection to the city and their trust in the city made them comfortable participating. This also included individuals believing the Metro would adequately vet the installer, ensuring they would not need to. As one person explained why they trusted the program, "I guess because we knew the city of Louisville put out an RFP and we just assumed that they did their due diligence and they made sure that they found a trusted partner" (AA01). As another person explained, "I think the big thing was that the city was behind this and as I keep mentioning that they had done research that I wasn't entirely certain I was competent to do." (AA03).
- Three people spoke about having positive experiences with the installer (for 2022 all installations were through Solar Energy Solutions) as a reason for trusting the program. This included feeling listened to and feeling that the company's representatives provided sufficient information in a respectful way. As one interviewee noted, the SES representative "sat down with me even before I said yes. He answered all the questions that I had, and then he was also realistic. .... He told me that it, you know it would help, but it wouldn't be like I was no longer be paying electricity going forward. So, you know, I like the fact that he was honest." (A02). A few individuals began the process not with SOL but with SES and had the program suggested by the installer.
- For three people, the legitimacy of the installer was critical to their trust of the program. This included seeing testimonials from previous customers and seeing that SES had worked with other municipal governments.
- Three individuals highlighted the professionalism of the SOL program as central to their trust. This was seen through good communication practices, a clear website and professional looking

materials, positive impression from interactions, clear information, and a feeling that the information itself was trustworthy.
- For two individuals, seeing testimonies by others built their trust. This includes knowing that other people went through the SOL process or reading client testimonies from the installer.
- For one person, the community basis of the program was central to their trust, and—although they did not mention the group by name—they seemed attracted to the work that the Louisville Sustainability Council did to bring together SOL participants and make connections between them to grow what the interviewee called “a community program of like-minded individuals… to be more involved in thinking about alternative uses of energy” (AA04).
- For one person, knowing people with existing solar installations made them trust the program.
- One person, who received a grant-funded installation, noted that their trust was built because participation seemed low risk to them and that they did not feel taken advantage of in the process.

Installation experience

The overall descriptions of installation processes, which were all completed for the 2022 round by Solar Energy Solutions (SES), was overwhelmingly positive.

- Thirteen of the fifteen interviewees described the installation process as efficient, frequently calling the experiences quick, easy, and simple. As one person described SES, "they were extremely quick and efficient and getting it up. …and follow up was fantastic they, you know, communicated with me as we went through the process to get it inspected …. So yeah, I was extremely happy" (AA02).
- Eight individuals spoke about the professionalism of the installers, highlighting positive interpersonal interactions, good explanations of the technology and process, consistent communication and support through the process, thoroughly cleaning up after the installation, and an overall demeanor of respect and patience. As one person explained, "they showed up when they said they would. They left everything in good shape, and I was very pleased with it. What questions I had along the way, anybody I talked to could answer them... the person I worked with the most closely, he would show up and he was very good at bringing...I guess tech-speak down to an English-speaking level. He answered my questions very clearly and even though I'm sure he had heard the same question hundreds of times, probably, he was very patient in explaining things." (AA03)
- One person noted that a problem that occurred after their panels were installed was fixed quickly and easily.

A few individuals did note frustrations within the process. However, each of the individuals who noted one of these concerns also voiced their overall positive experience with the installation by noting one or more of the positive elements of their installation in the categories above.

- Two people noted having delays or complications in scheduling the inspections of their panels post-installation.
- One person spoke about delays in the ordering process for their panels.
- One interviewee would have liked more communication in the process of the installation, including around a need to reschedule the installation and a desire for more information post-installation on emergency procedures for the panels.

Impacts on electricity bills and other impacts

Every interviewee stated that their solar panels had an impact on their electricity bill. While one person's bills went up post-installation, all the other interviewees stated that their bills went down. Some people also stated that they had changed their behaviors to receive the most benefit out of their solar panels. Impacts included:

- Seven people stated they had significant reduction in their bills. "Significant" was marked by their bill being cut in half or greater or the interviewee voiced that the reduction was significant. This category includes people who received money back from utility on bills. One interviewee that saw a significant reduction said, "Yes, we've had lower bills – not much at first, but a couple of months after that we saw a significant difference – the bill one month was zero! And one month they owed us money! So far, the highest bill we had was like $40. It is paying off!" (A04). Another person stated, "So, I saw some decline in my bills, but not as much as I was hoping for. Now that we've entered into the summer period, most of my bills are just the connection fee and then I'm starting to sell back some kilowatt hours. So, I think in the month of March, I sold back like 57-kilowatt hours over my usage... And I got to brag to all my neighbors that my bill's only like $11.00" (AA04).
- Seven people stated that they had some reduction in their bills. This includes people who did not clarify the reduction on their overall bill in comparison to previous bills or expectations of the solar generation of their panels. One person who saw some reduction said, "Yeah, I think it's auto drafted out of my husband's account and I wanna say he's talked about it going down like $30 to $50.00, which is about what was expected" (AA05). It is also important to note that, for some homeowners, a small reduction in bills had a hugely positive financial impact. One person said, "I had about $20 less than what I usually pay, maybe $30" (A03) and went on to explain that this change allowed them to pay their other bills more regularly.
- Three people stated that they changed their energy use behaviors after the solar panel install. People in this category noted that they work to use electricity when panels are generating. One person noted that they use a space heater instead of gas heating since they feel better about using their electricity.
- One person stated that their bills went up after receiving the solar panels. It was unclear the reason for this, and the interviewee had not yet followed up with the installer, LG&E, or LMG.

Contact with neighbors and others

All interviewees but one stated that they had received interest in and/or had conversations about their solar panels with others. This includes contact with neighbors, family, friends, and work colleagues. There was a range of interest stated by interviewees, from interest during the installation process to communication via social media after the installation process.

The contact post-installation with others includes:

- Ten people received some interest from and had conversations with neighbors, including interest during the installation process. One person stated, "Yes, we've had tons of neighbors come over and ask us about them. We even had one neighbor...which we thought was hilarious because they're in their 80s... (who then) got the solar panels as well" (AA01). Another interviewee said, "Yeah, I think they probably noticed the people doing the install for a couple of days so they

were like what are you doing to your house? But yeah, I've told them about the Solar Over Louisville program" (AA05).

- Six people had proximate solar installations post-homeowner install, including those who are unsure if their solar installation influenced decisions by others.
- Three people had interest from and conversations with family members, friends, or work colleagues.
- Three people noting sharing SOL information with those who were interested.
- Two people stated that they had received significant interest. One grant-funded installation interviewee summed up their experiences with others' interest by saying, "I had so many people asking about it. A guy at the store said '(…) how'd you get that?' I said 'Blessed!' And he said 'Free? I'd like that on my house'" (A03).
- Two people had others ask about cost of panels and savings.
- One person had not received any interest from others.
- One person received interest from and communicated with others via social media.

Section 4: Outcomes and Discussion

Synthesizing findings from surveys and interviews, in this section we identify several key outcomes and highlight their relevance for LMG and the metropolitan area more widely.

Louisville's Social and Economic Context for Solar Adoption

Several findings highlight elements of Louisville's specific local context around solar adoption. While some of these findings connect to wider regional or national trends, their rootedness in the Louisville-area is important for understanding what motivates people here to learn about, choose to adopt, or engage popularly with both residential solar technologies and other forms of alternative energy. Wider research indicates that this local relevance is critical to understand. A review of 173 studies on the adoption of residential solar technologies found no clear accurate predictor of behaviors across studies and, instead, suggests that understanding the key factors shaping perceptions of solar requires knowledge of the geography, economic and technical specifics, and a "deep understanding of…the community under study to determine individual predictors" (Alipour et al. 2020, NP). Here are several key findings about the specific socio-economic context of solar adoption in the Louisville area.

First, and critically, ***there is a widespread interest in residential solar in Louisville that cuts across demographic characteristics***. Of our interviewees, 13 of the 15 had a pre-existing interest in solar before learning of the SOL program. Critically, this includes 4 of the 5 individuals receiving grant-funded installations, indicating that socio-economic status does not define interest. This pre-existing interest also reached across racial identity, educational level, and neighborhood of resident, suggesting that many more Louisvillians likely have an interest as well. Of survey respondents in neighborhoods around grant-funded installations, 57% (16 of 28) expressed an interest in residential solar and, of those who had an interest and had also seen the new panels on their neighbors' home, 83% (10 of 12) were interested in solar before seeing the local panels funded by the SOL program. These findings speak to the importance and potential widespread draw of the SOL program, attesting to the potential for expanding the program in coming years both through additional bulk discount installations and in securing more financial support for expanding grant-funded installations.

Across research participants, ***economic and environmental impacts are the primary motivations for interest in and adoption of residential solar***. While motivations in general were broad, 13 of the 15 interviewees indicated economic and/or environmental impacts as their primary motivations for participating in the SOL program. One surprising element of the economic motivation for solar installation among several interviewees had to do with planning ahead for smaller monthly expenditures during retirement. For these participants, an up-front cost for the panels was a solid trade-off for not only an eventual return on their investment but also the ability to budget more reasonable monthly expenses in the future. This finding is also interesting in relation to the demographics of our interviewees, the biggest group of whom were in their 50s (7 of 15 interviewees), an age at which individual that may be more likely to have higher incomes, less likely to have children at home to support, and might have a higher potential to be actively planning for retirement. Although having not yet made decisions to install residential solar or to participate in SOL, a set of survey participants had considered solar for their own home (n=16). For each of the survey respondents who were considering solar as a possibility in the future, all (100%, or 16 of 16) noted economic reasons as their primary

motivations for interest in residential solar installation, with some of these respondents (31.25%, or 5 of 16) also indicating environmental concerns. It is also noteworthy that each of the 5 respondents who indicated environment-related benefits of solar also indicated that they were *very concerned* about climate change. It is important for interpreting these economic-related questions to distinguish between statements by the interviewees, who were responding to their motivations for participating in the SOL program, and survey participants, who were responding to motivations for considering residential solar in general and not necessarily through participation in the SOL program.

For survey respondents and interviewees, ***many indicated specific concerns about climate change***. When interviewees expressed environmental concerns as motivations for SOL participation, several framed these specifically around intensions to reduce reliance on fossil fuels or diminish their carbon footprint, or out of a concern for the planet that their children or grandchildren will inherit. For survey participants, 32 of the 41 (78%) respondents indicated concern about climate change, split equally (16 of 32) between *very concerned* and *somewhat concerned*. When asked a follow-up question about specific concerns, responses were varied, including their kids' future (1A, 4B), "whacky" (1B) or "crazy weather" (4D), and increased heat (1C, 2B, 2C, 5B). Worsening pollution (2A, 4C, 5A, 6A) was also referenced a number of times, perhaps reflecting projections that chronic exposures to pollution from the proximate Rubbertown industrial area could be exacerbated by the effects of climate change.

Among many forms of interest in solar, notable is ***the impact of personal connections on interest in solar and the potential for expanded outreach around SOL through individuals***. This echoes findings of other studies on social and psychological effects of personal connections on solar adoption globally (cf. Palm 2017; Alipour et al. 2020). Of interviewees, three learned about the SOL program through family, friends, co-workers, or neighbors. Eight of the 13 interviewees with previous interest in solar (prior to the SOL program) discussed this interest in relation to their connections to individuals or institutions with solar panels already installed. In the context of our finding that many individuals were daunted by the multiple forms of needed knowledge, bureaucratic complexity, and financial scale of making a decision to install residential solar, a personal connection to someone with solar allowed many SOL participants to feel more comfortable making that choice. The power of these personal connections might be extended further by providing educational and outreach material, along with support, to SOL participants. This might then allow existing SOL participants to support others who are interested in solar. Our research team has created a pamphlet that we piloted in several Fall 2023 community outreach events with quotes from multiple interviewees about their experience in the SOL program; this is one potential tool for this kind of additional community support and outreach. (See report appendix for pamphlet).

Interviews and surveys suggest that ***more education is needed around the role of residential solar panels in relation to the wider electricity grid***. A small number of the interviewees and survey participants discussed an initial interest in residential solar as a way to achieve energy independence via disconnection from the grid. For interviewees, learning more about the current capacity and expense of in-home batteries, paired with an expanded understanding of the way that residential solar arrays work by remaining connected to the grid, shaped their revised goals for participating in the SOL program. Some indicated an interest in purchasing batteries in the future. Future education and outreach materials might more clearly identify benefits of residential solar as lowering bills, expanding the grid in small and modular ways, and lessening carbon footprints.

A chilling factor on solar adoption, however, is ***the impact of predatory solar companies on the willingness of individuals to discuss or explore solar adoption***. We found in both interview and survey recruitment that many people perceived any cold contact about solar as a likely attempt at a scam. In

addition to shaping research participation and making outreach for this study more challenging, we found in our data many points at which individuals expressed hesitancy or concern around purchasing solar because of the prevalence of predatory solar companies in the region. An understanding of this context is critical for interacting with individuals around SOL and alternative energy outreach, and also for LMG in finding ways to show the legitimacy of SOL as a program and the chosen installers for each year. Making connections to resources such as those created by KYSES around installer legitimacy could be part of SOL's outreach and educational work and can also extend beyond the program's participants.

Experiences within the SOL Program

Based upon our interviews with 15 homeowners in the 2022 round of the SOL program, we identify a few key factors that shaped individual's participation in the program.

As with wider solarize programs (Gillingham and Bollinger 2021), ***homeowners largely felt that they could trust the SOL program because of its foundation in the municipal government and in conjunction with community groups***. Many interviewees discussed their previous hesitancy to purchase solar because of concerns around the selection of a reputable installer, the challenges of the technical complexity of panels, and the frustrations of calculating potential cost savings in the long-term. Many of these concerns were alleviated by the SOL program, and pre-existing trust in LMG extended to the SOL program a starting foundation of trust in participating homeowners. This finding also speaks to the complexity of knowledge around solar and the difficulty for many to feel confident making a decision and finding trustworthy information on this topic. These are factors that LMG will likely need to address in the continuation of the program in future years.

Participants expressed ***positive experiences with the installer.*** In 2022, all SOL participants worked with the company Solar Energy Solutions for their panel installation. Interviewees universally expressed a positive experience with SES and spoke about their work as efficient and helpful. These perceptions seemed strongly linked to interviewees' positive feelings about the SOL program as a whole, suggesting that the selection of a reputable installer with excellent customer service is important.

Although based only on a sample of participants from the program's first year, there are indications of some ***possible limits in the reach of the SOL program.*** Notably, demographics of interviewees indicate racial divisions in participation within the program: while all of our five homeowners with grant-funded installations identified as Black, all ten of our bulk discount interviewees identified as white. As the interviewees were not selected to be representative of the wider participants in the program, we cannot say that these demographics represent all participants. The demographics do suggest, though, that attention to recruitment and outreach – especially for the bulk discount installations – may need to reflect a wider set of news media, social media, and community-based groups in order to reach more BIPOC homeowners interested in solar adoption. With wider inequities in the reach of residential solar across race and class (Sunter, Castellanos, Kammen 2019) and significant energy cost burdens for LMI households that disproportionately impact BIPOC households (Brown et al. 2020).

Impacts of Participation in the SOL Program on Homeowners

Speaking to their experiences in the SOL program, our 15 interviewee homeowners shared several key outcomes related directly to their participation.

Importantly, ***nearly all homeowners experienced reductions in their electricity bills***. While savings varied by size of solar arrays, household energy usage, energy use behaviors, and other factors, 14 of 15 homeowners indicated savings, some noting receiving bills at or near zero. Additional research tracking longer-term costs savings and household budgetary impacts would help solidify the impacts on SOL participants. Importantly, those who experienced savings included homeowners with smaller solar installations and, indeed, some of the homeowners with lower savings amounts indicated the biggest impact of those cost savings on their household budget. The interviewee with the lowest reported income (a grant-funded installation) also reported one of the smallest monthly savings, but also emphasized the significance of the savings to them and the impact it had on being able to pay other essential bills more regularly.

This finding highlights a second point, that there appears to be a real and ***very positive impact on LMI households of cost savings and potential affirmation of the SOL program's impact within the city's anti-displacement work***. While only long-term exploration of the experiences of grant-funded SOL participants will show the potential impact of solar on LMI homeowners' ability to stay in their homes or to mitigate the impacts of gentrification and other socio-economic foundations for displacement, this finding does affirm the basis of the program's logic and the potential for seeing real long-term impacts for individuals and communities.

Based upon interview findings, most individuals who have adopted solar are ***passionate about the technology and are generally willing and happy to share their experiences***. This passion and the interest to share their experiences suggests that the creation of specific materials to give to homeowners with SOL installations might help with sharing program and solar information to neighbors, family, and friends. The possibility of this approach is also reinforced by the impact of personal connections on solar adoption. We include a draft pamphlet that might be part of such a set of information. Yard signs and other types of materials could help further the SOL program and extend community education around solar.

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Solarize Louisville

Solarize Louisville (called Solar Over Louisville for 2022-23) is a program of the Louisville Metro Government, in collaboration with the Louisville Sustainability Council and the Kentucky Solar Energy Society. The program provides homeowners with 15-23% discount from vetted installers on the installation of residential solar photovoltaic systems for residents of Jefferson County and surrounding counties in KY and IN.

Our Research Project

In 2022, with funding from the Gheens Foundation and the Health Equity Innovation Hub at the University of Louisville, our interdisciplinary research team sought to understand the motivations and experiences of homeowners who participated in the first year of the solarize program. In addition to interviewing 15 homeowners from 13 neighborhoods in and around Louisville, we spoke with five critical stakeholders in the process and conducted surveys with neighbors around several of the installation sites.

This brochure includes excerpts from our interviews with homeowners about their motivations to participate in the solarize program, their experiences in the process, and the impacts of a residential photovoltaic system for their household.

We hope that this brochure will help people around Louisville better understand the solarize program through hearing from their neighbors.

(Cover image by U.S. Department of Energy, Image in the public domain)

Our Research Team

Project Members

Our research team includes UofL faculty from four departments in two colleges: PI Dr. David Johnson (School of Public Health and Information Sciences), Dr. Angela Storey (College of Arts & Sciences/A&S, Anthropology), Dr. Lauren Heberle (A&S, Sociology and Center for Environmental Policy & Management), and Dr. Allison Smith (A&S, Biology). Several great students worked with us: Alyssa Burton, Jordan Chatellier, Piper Coleman, Ruby Young, and Eliza Porter.

Contacts

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For information about Solarize Louisville visit: https://louisvilleky.gov/government/sustainability/solarize-louisville

Why Solar in Louisville?

Explore why homeowners across the Metro area chose to participate in Solarize Louisville (Solar Over Louisville)

Motivation to Participate

"The main goal was that I would…leave a **smaller carbon footprint**." - Resident of Shelby Park (AA09)

"**I wanted to be greener.** … I have two of the most fabulous grandchildren in the world, and you just feel like, but what can one old lady do?… I thought that was **a step in the right direction**. As it developed, I did have a good (house) for it and… if I'm not going to do it now, I'm probably not going to do it later either. So, **this was the time**." - Resident of Bellemeade neighborhood (AA03)

"So originally the reason we wanted to get solar panels is because **I was moving into retirement.** … I was thinking about **ways to reduce potential costs in the coming years**…(and) **I like the green aspect of it**. I like the fact that it allows me to control my expenses a bit more as I go into retirement." - Resident of Middletown (AA02)

(Image below by J. Chatellier, image to the right from rawpixel,com, Creative Commons license)

Experience with Solar Process

"I have wanted solar panels for the longest time, but it's a little bit intimidating because, you know it's technology and like there's lots of installers and… are they trustworthy people? I mean, how do you know? …So, **the fact that Metro government had vetted this and found an installer** that they felt confident in and said at least that there was some small discount… the installer came to the house and talked me through it. …**I felt really comfortable that I didn't have to know everything,** that I could rely on this program." - Resident of Highview neighborhood, Louisville (AA10)

"**I wanted solar forever, but I just figured the price was out of my reach**… And then I thought, well, the program with the city, it must be valid. That was the other thing, I would have felt too daunted to try to do that on my own, but just the program offered through the city, I felt like it was an easier way to go." -Resident of Schnitzelburg neighborhood (AA07)

"(The installation) was **super fast**… **my life was not interrupted**." - Resident of Shelby Park neighborhood (AA05)

Household Impacts of Solar

"**It cut (my electricity bill) almost in half**." -Resident of Park Duvalle neighborhood (A05)

"…definitely saw a great improvement on my bill… I got to brag to all my neighbors that **my bill's only like $11.00**." - Resident of Jeffersonville, IN (AA04)

"Yes, we have **saved between $100 and $150 every month**. …we just still have to get energy back from the grid, so not that much, though I think it's covering about 60-65% (of our electricity usage). But **we're trying to make changes ourselves to get it down lower**, like we'll only run the dishwasher during the day when the solar panels are on." - Resident of Meadowview neighborhood (AA01)

"…yes, we've had lower bills – not much at first, but a couple of months after that we saw a significant difference. **The bill one month was zero!** And one month they owed us money! So far, the highest bill we had was like $40. … As it stands, **where I'm looking, it is paying dividends to us!** Hard to argue with that." - Resident of Shawnee neighborhood (A04)

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