Applied Public Policy Research

APPRISE

Institute for Study and Evaluation

Illinois Solar For All

Phase II Evaluation

Final Second Interim Report

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Executive Summary

This report presents findings from the Phase II, Second Interim Evaluation of the Illinois Solar for All (ILSFA) Program. The ILSFA Program was mandated by the state's Public Act 99-0906, colloquially known as the Future Energy Jobs Act (FEJA), which was enacted on December 7, 2016 and went into effect on June 1, 2017. The ILSFA Program provides more generous Renewable Energy Credit (REC) contracts than those offered through the Illinois Adjustable Block Program (ABP)[1] to overcome barriers to participation in the solar market faced by the low-income community.

Evaluation

The Illinois Power Agency (IPA) contracted with APPRISE, and its subcontractor Aeffect, Inc., to conduct an evaluation of the ILSFA Program. This evaluation report presents results from the second part of the Phase II Evaluation which was conducted from January 2020 through May 2020. Future evaluation research will include more detailed review of program implementation, barriers, accomplishments, and results as the program implementation progresses.

Illinois Solar for All Program Design and Implementation

FEJA required the development of the ILSFA Program to bring photovoltaics to low-income communities in Illinois. The objectives of the program are to maximize the development of new photovoltaic generating facilities, create a long-term, low-income solar marketplace throughout the State, integrate with existing energy efficiency initiatives, and minimize administrative costs.

FEJA mandated the ILSFA Program to include four sub-programs and indicated the funding percentages from the Renewable Energy Resources Fund (RERF) for each of them.

1. *Low-Income Distributed Generation (DG)*: This sub-program provides funding for photovoltaic projects located on individual homes and multi-family buildings, as well as for ground-mounted systems. Benefits to participants are achieved through net metering or reduction of energy costs.

2. *Low-Income Community Solar (CS)*: These projects provide the opportunity for participants to subscribe to a share of a CS system and receive credits on their utility bill for the energy produced by their share of the system. The projects must identify partnerships with community stakeholders where the project will be located.

3. *Incentives for Non-Profits and Public Facilities (NP/PF)*: Non-profits and public facilities may receive incentives for on-site photovoltaic generation. These projects must serve the energy loads of non-profit or public sector customers, be installed on facilities within low-income or environmental justice (EJ) communities within the State of Illinois,

[1]The Adjustable Block Program (ABP) supports the development of new photovoltaic distributed generation systems and new photovoltaic community generation projects in Illinois through the purchase of Renewable Energy Credits. The ABP is not targeted to low-income households and Environmental Justice communities like the ILSFA Program is.

and either have a sufficient connection to and input from the low-income or EJ community or be a qualified critical service provider, defined as a non-profit or public sector entity that offers essential services to low-income or EJ communities.

4. *Low-Income Community Solar Pilot Projects*: This sub-program is based on a competitive procurement approach for CS projects, based only on the price for 15 years of delivery of all Renewable Energy Credits (RECs).

Some of the key characteristics of the ILSFA Program are as follows.

- An emphasis on EJ communities and a requirement that 25 percent of the incentives for the first three ILSFA sub-programs are allocated within those communities.
- Requirements for community partnerships.
- Requirements for job training opportunities and hiring job trainees.
- Extensive consumer protections to ensure that participants receive the benefits of the ILSFA Program.

The IPA was directed to develop a Long-Term Plan with a proposed approach to the design, implementation, and evaluation of the ILSFA Program. The Long-Term Plan was filed at the Illinois Commerce Commission (ICC) for review and approval on December 4, 2017 and was approved by the ICC on April 3, 2018. In 2019, the IPA undertook the Long-Term Plan update process. The ICC approved the Revised Long-Term Plan with some changes on February 18, 2020 and the Revised Long-Term Plan was published on April 20, 2020.

ILSFA Changes in the Revised Long-Term Plan

The Revised Long-Term Plan made many changes to the ILSFA Program with respect to program funding allocations, customer costs and benefits, all four sub-programs, job training and employment, REC payments, contracts and collateral, customer information, Approved Vendors, technical requirements, project application and selection, environmental justice self-designation, quality assurance, and Grassroots Education. These changes address barriers identified by stakeholders during the initial ILSFA Program implementation.

Key programmatic changes are summarized below.

- Up-Front Costs: The Original Plan stipulated that participants in the DG and CS sub-programs should not be charged upfront costs. The Revised Plan clarified that owners of multi-family buildings with more than five units and Non-Profit/Public Facilities may be charged upfront costs.

- DG Improvements: The Revised Plan noted that the IPA will continue to work with the Environmental Law and Policy Center, the Natural Resources Defense Council, Vote Solar, and other interested parties to develop improvements to address challenges to participation in the DG sub-program.

- Connecting Income-Qualified Customers with Approved Vendors: The Revised Plan stated that the IPA and the Program Administrator will explore implementing a process to connect interested income-qualified customers with ILSFA Approved Vendors (AVs) in a competitively neutral fashion.

- Income Verification: The Revised Plan stated that the subscriber may request income verification directly through the Program Administrator.

- Non-Profit and Public Facilities Value from Tax Credit: The Revised Plan added that AVs who can utilize the Federal ITC will be required to show that additional value is being passed on to the project host.

- Batch Project Submission: The Revised Plan stated that AV's that have had a contract approved by the ICC will now be permitted to submit projects on a rolling basis rather than having to submit in batches of 50 kW.

Changes to Project Selection

The Revised Long-Term Plan included changes to the ILSFA project selection process. These changes were refined through a stakeholder feedback process. The revised protocols were designed to address the following issues.

- Lack of Size Diversity in Selected Projects: The change awards higher points for the smallest projects under 100 kW.

- Lack of Balance by Utility Territory for Selected Projects: The change rebalances at one point in the selection process.

- No Minority or Women-Owned Business Enterprise AVs with Selected Projects: The change proposed to award points to contractors working with Minority or Women-Owned Business Enterprise (MWBE) subcontractors and allow minority-run non-profits to be classified as MWBEs. While a proposal was presented to stakeholders, the classification of non-profits as MWBEs was not included in the final protocol.

ILSFA Resources

The ILSFA Program is funded through three sources.

- The Renewable Energy Resources Fund (RERF): This fund was created as a special fund in the State Treasury and is administered by the IPA for the procurement of renewable energy resources. The fund was created with Alternative Compliance Payments remitted by Alternative Retail Electric Suppliers (ARES) to comply with the State's Renewable Portfolio Standard established by the Public Utilities Act.

- Utility Funding: A portion of the funds collected by the utilities under their Renewable Portfolio Standard (RPS) tariffs. Utility funding does not support the Low-Income CS Pilot Projects sub-program.

- Additional Utility Funding: Additional funds from the utilities' renewable resources budgets were potentially available for program funding, however the triggering "funding shortfall" conditions have not been met.

Revised funding available provided in the Revised Long-Term Plan is summarized in the table below.

Table ES-1
Updated ILSFA Funding Summary

Plan	Program Year	Funding Source	DG	CS	NP/PF	CS Pilot
Original	2018-2019	RERF	$4,500,000	$7,500,000	$3,000,000	$20,000,000 from RERF
		Utility	$3,000,000	$5,000,000	$2,000,000	
		Total	$7,500,000	$12,500,000	$5,000,000	
Revised	2020-2021	RERF	$4,950,000	$8,250,000	$3,300,000	$17,500,000 from RERF
		Utility	$3,417,985	$5,696,642	$2,278,657	
		Total	$8,367,985	$13,946,642	$5,578,657	
	2021-2022	RERF	$4,950,000	$8,250,000	$3,300,000	
		Utility	$3,384,018	$5,640,031	$2,256,012	
		Total	$8,334,018	$13,890,031	$5,556,012	

Implementation Statistics

Elevate Energy, the Program Administrator, provided AV data, project data, and participant data. Analyses in this report were based on vendor registrations, project applications, and submitted participant income verification as of April 2020.

Key findings with respect to the AVs were as follows.

- Approved Vendors: As of April 2020, there were 45 AVs.
- Minority or Women-Owned Business AVs: Four of the 45 AVs were MWBEs.
- AV Participation: Twenty-six different AVs submitted projects and 14 different AVs had selected projects.

Project-level statistics relating to each sub-program are summarized below.

- NP/PF Projects: There were seven projects selected in the first program year and 24 in the second program year. Several were submitted and selected following the second year submission window during the rolling submission period.
- CS Projects: There were four projects selected in each of the two program years. The volume of submitted projects significantly exceeded the funding available for the sub-program.
- DG Projects: There were ten projects selected in the second program year, nine for single-family homes and one for a multi-family project.

Project-level statistics relating to EJ communities, low-income communities, and MWBE representation are summarized below.

- Urbanity of Project Locations: Twenty-seven selected projects were characterized as being in urban locations, 11 in suburban locations, and 11 in rural locations.
- Minority Composition of Project Locations: The census tracts that had selected projects were comprised of an average of 63 percent minorities (non-white), compared to an average of 30 percent minorities in census tracts that did not have selected projects.

- EJ Communities: Thirty-Five of the 49 selected projects were in EJ communities.
- Low-Income Census Tracts: Forty-six of the 49 selected projects were in low-income Census Tracts.
- MWBE Projects: None of the selected projects were submitted by MWBEs.

Project-level statistics relating to project size and REC value are summarized below.

- Project Size: The mean size for the NP/PF projects was 134 AC kW, the mean size for CS projects was 1,009 AC kW, and the mean size for the DG projects was 206 AC kW. However the large mean was driven by the one large multi-family project size (200 AC kW), compared to the other small single family projects (ranging in size from four to 10 kW).
- REC Value: The NP/PF projects averaged about $300,000, the CS projects averaged about $2.96 million, and the DG projects averaged $410,000 in REC value.[2]
- Urbanity of REC Value: Ten percent of the REC value was in urban areas, 23 percent was in suburban areas, and 67 percent was in rural areas.
- REC Value in EJ Communities and Low-Income Census Tracts: While 72 percent of the REC value for NP/PF projects was in EJ communities, 52 percent of the REC value for CS projects, and three percent of the REC value for DG projects was in EJ communities (the EJ goal was not met because funding remains in the budget and additional projects will be funded in future program years). Almost all of the REC value was in low-income Census Tracts.

Distributed Generation participant findings are summarized below.

- DG Participant Poverty Level: There was a wide range of income for the participating households. They ranged from 17 percent of the poverty level to 319 percent and from four percent of AMI to 65 percent of AMI. Households at the lowest income levels will experience the greatest impacts on energy burden and affordability.[3]
- DG Participant Savings: Customer first year projected savings ranged from $355 to $747 and averaged 56 percent of energy value.
- DG Impact: The projects reduced energy burden from one percentage point for the higher income households to over 36 percentage points for the lowest income household, with an average reduction of 5.8 percentage points. The average first year projected savings was $540.

Approved Vendor Feedback

APPRISE conducted telephone interviews with 20 of ILSFA's 32 AVs (approved as of December 2019). These interviews assessed vendors' initial experiences with the ILSFA Program.

[2]The DG average REC value is skewed by the one large multi-family project.

[3]Income eligibility for the ILSFA is 80 percent of area median income. The ILSFA eligibility level for a one-person household in Cook County is $44,250. This corresponds to 367 percent of the 2017 poverty guidelines for a one-person households. https://aspe.hhs.gov/2017-poverty-guidelines

This section provides information on the AVs' views and opinions. Statements that were made by the AVs and that are reported on in this section may include suggestions that are inconsistent with the statutory requirements of the ILSFA and/or the ICC approved program design. Additionally, recommendations in this section are those made by the AVs, and may not represent the opinions of APPRISE or the IPA.

Key findings are summarized below.

- *Project Submission Challenges:* The most common challenges were the unclear application, the interconnection agreement, and the project submission timeline.

- *DG Project Development:* Eight of the 20 interviewed AVs had attempted to develop DG projects, and seven of these AVs faced barriers while doing so. Two AVs encountered financial issues and two AVs struggled to find income-eligible customers with suitable roofs.

- *ABP Submission:* 14 of the 20 interviewed AVs had submitted projects to the ABP. Only five of those 14 AVs submitted ILSFA-eligible projects to the ABP, either because they submitted projects to both programs to increase their chances of funding or they were not aware of the ILSFA Program or ILSFA Program eligibility of the project.

- *Project Implementation Assistance:* Six of the ten AVs with selected projects reported that they requested help with project implementation from Elevate Energy. Five of these six AVs reported that Elevate had been somewhat or very helpful.

- *Job Trainees Recruitment:* Ten AVs reported that they had looked for solar job trainees in preparation for ILSFA Program work, while the other ten AVs reported that job trainee hiring will be the responsibility of their sub-entities (installation subcontractors, Aggregator Designees, or new project owners). Ten AVs felt that it has been/would be very easy to find staff who are qualified to perform the work needed for the ILSFA Program, while five AVs felt that it had been/would be somewhat or very difficult.
    - *Roles and Salary:* Fourteen of the 20 AVs reported that job trainees would primarily fill installation/construction roles. Other, less common responsibilities for job trainees included sales, project design and management, operations and maintenance, and customer relations.

    - *Location:* Eight AVs have hired or plan to hire trainees who live within or close to the communities where their ILSFA projects will be sited, while three AVs believe that trainees will need to travel to the worksite given the location of their projects and the nearest available job training programs.

    - *Continued Employment:* Seven AVs said they would work with hired job trainees on all future (ILSFA or non-ILSFA) work, four AVs said that the trainees' continued employment would depend on their performance, and one AV said that they train and employ a new set of trainees for each project.

- *Solar Panels:* Nine AVs have used or plan to use panels that were produced internationally, and two AVs were committed to using domestically-produced panels. The AVs that purchased or planned to purchase foreign-made panels estimated that they would incur anywhere from a 15 to 50 percent increase in costs if they purchased domestically-produced panels.

- *Program Awareness and Marketing:* 13 AVs noticed an increase in awareness of the ILSFA Program since its initial implementation. Seven AVs reported that customers have been aware of the ILSFA Program prior to any contact from AVs or their sub-entities.

- *Factors Impacting Success:* Seven of the 20 AVs reported that barriers had caused them to cancel projects. These barriers included unsuitable roofs, participant ineligibility, and high interconnection costs.

  Thirteen of the 20 AVs felt that the ILSFA guidelines and procedures were useful, clear, and comprehensive. Six AVs reported that the guidelines were not clear and comprehensive, stating that the materials provided for the AVs were confusing, complex, and dense.

- *Recommendations:* AVs provided many recommendations about various aspects of the ILSFA Program.
  - *Job Training Recommendations:* Four AVs recommended additional topics for job training including sales and system design, additional on-site installation training, and instruction on ILSFA-specific information. One AV recommended that job training programs expand to more areas of the state. Seven AVs recommended that the ILSFA make changes to the job training requirements to ensure that AVs can find job trainees and satisfy the requirements.

  - *Recommendations for Elevate Energy:* Three AVs recommended improvements to the AV portal. One of these AVs reported that they experienced the same issues with the portal in both program years and that they did not notice any improvements to the portal between program years. Two AVs recommended that Elevate provide more opportunities for AVs to connect with each other. Other recommendations included developing the capacity to respond to AV inquiries more quickly and efficiently, providing a more comprehensive resource that describes the steps necessary to develop a project, and providing a summary of changes when updated documents are released.

  - *Project Scoring/Selection Recommendations:* Two AVs would like non-profit entities to qualify for the MWBE point in project selection and another AV recommended points for companies that are committed to working with MWBEs.[4] Other recommendations related to ensuring that more projects are selected in/around Cook

[4]Project selection points for the use of MWBE sub-contractors have been implemented for the 2020-2021 program year. Points for non-profits that meet MWBE standards will be considered for the next program year.

County, rewarding AVs that build community partnerships and recruit subscribers before project submission, and revising the EJ community guidelines.

- *Program Funding Recommendations:* Two AVs recommended re-allocating funding from the DG sub-program to the CS sub-program, and one AV recommended re-allocating funding from the DG sub-program to the NP/PF sub-program.[5] Other recommendations included increasing funding for the ILSFA more generally; making all funding for the ILSFA available at once; allocating money spent on the Program Administrator, Job Training Programs, and Grassroots Educators to AVs so that they can complete job training and Grassroots Education activities themselves; and establishing a mitigation fund for NP/PF projects.[6]

- *Project Submission Recommendations:* AVs recommended that the ILSFA not require site assessments until projects are selected [7]; lengthen the project submission windows[8] and reduce the volume of paperwork that AVs must complete; only require AVs to sign the attestation that they will follow all laws, rules, and regulations once; hold more frequent project submission windows; provide more information about how the information on the submission application is used; and allow AVs to submit single projects without having to meet the minimum batch requirement.[9]

- *Financing Recommendations:* AVs recommended that the ILSFA allow more flexible financing options for the NP/PF sub-program, explore alternative solutions to the Collateral Requirements, and develop requirements for participant savings and upfront cost requirements based on analysis of each individual project.[10]

- *Recommendations for Communication with Vendors:* AVs recommended that the ILSFA hold an annual meeting or regularly scheduled conference call with representatives from the IPA, Elevate Energy, and the AV; provide complete and transparent information regarding the opportunities and funding available to AVs; and commit to working with AVs to answer all their questions and make changes to the program when things are not working.[11]

- *Grassroots Education Recommendations:* AVs recommended that Grassroots Educators reach out to AVs to better understand what types of customers AVs are looking for, that the Grassroots Education initiative is expanded so that it reaches every community in Chicago, and that Educators target large property owners who are renting to low-income households for multi-family DG participation.

[5]The Future Energy Jobs Act (FEJA) mandated the four sub-programs and indicated the funding percentages for the Renewable Energy Resources Fund that must be allocated to each of the four sub-programs. The ICC order that approved the Revised Long-Term Plan specifically barred a reallocation of the funding that was reserved for the DG sub-program.
[6] FEJA does not provide funding for this purpose.
[7] This may result in the selection of ineligible projects.
[8] AVs can prepare applications before the beginning of the submission window.
[9] This change has been made in the Revised Long-Term Plan.
[10]There are already higher points for higher savings above the minimum required level. Additional analysis of individual projects would require a change to the Long-Term Plan.
[11]The Revised Long-Term Plan included many changes to the ILSFA Program based on stakeholder feedback.

- *Recommendations for Partnerships with Financial Institutions and Utilities:* Three AVs recommended that the IPA work with utilities and local governments to develop a process that assists AVs with interconnection. One AV recommended that the ILSFA designate dedicated financial institutions and investors to make it easier for AVs to secure financing for their clients and projects.

- *Recommendations for Reaching Targeted Communities:* AVs recommended that the ILSFA Program do a better job of reaching out to minority and low-income communities and allocate funds for selecting projects in non-EJC/LI communities off the waitlist to achieve a diversity of projects across the state.

- *Other Recommendations:* AVs recommended that the ILSFA Program continue to use Elevate Energy as their Program Administrator, increase transparency about the CS Pilot Program or eradicate it and reallocate the funds to the three main sub-programs [12], change the income eligibility requirements for DG projects to match the requirements for CS projects, reassess the AV registration process to make it easier for businesses and organizations from minority and low-income communities to participate in the ILSFA, have the IPA or Elevate Energy handle the income verification process [13], and update the ILSFA website.[14]

Stakeholder Outreach Design and Feedback

Stakeholder outreach is an important component of the ILSFA Program. This section provides information on stakeholders' views and opinions that were expressed during 11 interviews with nonparticipating stakeholders and three interviews with participating stakeholders in the first quarter of 2020.

This section provides information on the stakeholders' views and opinions. As these statements were made by stakeholders who they may not have a complete understanding of all details of the ILSFA Program design and requirements, some of the statements in this section may be inconsistent with the statutory requirements of the ILSFA and/or the ICC-approved ILSFA Program design. Additionally, recommendations in this section are those made by the stakeholders, and may not represent the opinions of APPRISE or the IPA.

Nonparticipating Stakeholder Interviews

Five nonparticipating stakeholder interviews were conducted with Low-Income Energy Efficiency (LI EE) Providers, and six with individuals employed by solar energy providers, companies, and non-profit organizations. The LI EE Providers who were interviewed were Community Action Agencies (CAAs) that deliver the Illinois Home Weatherization

[12]The Future Energy Jobs Act (FEJA) mandated the four sub-programs and indicated the funding percentages for the Renewable Energy Resources Fund that must be allocated to each of the four sub-programs.
[13]The Revised Long-Term Plan includes the development of an option for the Program Administrator to perform the income verification.
[14]Updates to the ILSFA website are in process.

Assistance Program (IHWAP) and private contractors that deliver low-income energy efficiency services for the utilities and as subcontractors to the CAAs.

Awareness of the ILSFA Program was limited among the five LI EE providers and among the nonparticipating stakeholders who were not involved in the solar industry. Except for one LI EE provider and one other nonparticipating stakeholder, they were not aware that there had been opportunities to provide feedback on the ILSFA Program. Most of these nonparticipating stakeholders felt the program could have done more to solicit additional feedback on the ILSFA Program.

None of the LI EE providers interviewed said they had referred participants to ILSFA Program. Most said that they would be unwilling to provide such referrals because their ILSFA Program knowledge was too limited. A few also expressed concern about making referrals to any program unless they knew there was a good contractor service/support structure in place to assist their participants. They recommended that the ILSFA Program could coordinate with LI EE programs by providing education about the ILSFA, coordinating services with the LI EE programs or the Illinois Department of Commerce and Economic Opportunity (DCEO), and providing referrals and education. All of the LI EE providers indicated that they do coordinate with other programs or services.

When asked whether LI EE providers could screen homes for ILSFA participation, all LI EE providers indicated that they could expand home inspections for this purpose. While they had some concerns, they felt the barriers could be overcome through planning, development of new protocols, Building Performance Institute (BPI) training for contractors, a contractor selection process, and/or contractor certification.

Several nonparticipating stakeholders felt that it was important for the ILSFA Program to educate homeowners about solar energy, its benefits, and where it can be installed. This education, they said, was necessary to ensure qualified home owners are informed and have information to guide their decision-making. Other nonparticipating stakeholder suggestions centered on the fact that the ILSFA Program needs to invest in more relationship-building. Nonparticipating stakeholders indicated that the ILSFA Program needs to increase personal contact with relevant, targeted audiences.

Participating Stakeholder Interviews

The three participating stakeholders who were interviewed during this round of the evaluation had participated in the ILSFA Working Group in the past.

Stakeholders were mixed in their assessment of whether the ILSFA Program had provided a sufficient amount of outreach to encourage participation in the program's development. Two of the three felt the program could do more to solicit additional feedback including greater involvement with the Illinois Solar Energy Association and outreach to the Adjustable Block

Program vendors.[15] They felt the program needed more feedback from installers and from community members such as Chambers of Commerce, County Boards, and Mayors.

All three participating stakeholders indicated that the ILSFA Program responded to stakeholder feedback appropriately. Though one felt his ideas were not heard and he did not have an impact on the design.

Other participating stakeholder comments relating to improving the interconnection process, changing the project selection process so that non-EJC projects could be selected, providing Grassroots Education in Spanish, and ensuring that the ILSFA Program does not become too complex.

Grassroots Education Participant Feedback

APPRISE conducted in-depth telephone interviews with 16 Grassroots Education session participants. This section provides a summary of findings and recommendations from these interviews.

Participant and Event Background

- Reason for Attendance: Participants were most likely to report that they attended the event because they were interested in learning about solar energy, to learn about reducing their energy bills, or because the event was part of a regular Head Start meeting.

- ILSFA Interest: Most were interested in rooftop solar or community solar opportunities.

- Difficulty Paying Electric Bill: Only three of the 16 said it was very or somewhat difficult to pay their electric bill, but another six said it would be much harder to pay if they were not on budget billing or did not receive energy assistance.

GE Event Participation and Feedback

- Event Information Source: Participants learned about the GE event from the Head Start Program, Habitat for Humanity, their church, or the GE.

- Presenter Rating: Most of the participants reported that the Educator did a good job of presenting the information.

ILSFA Program Awareness and Understanding

- ILSFA Awareness: All 16 respondents were unaware of ILSFA prior to attending the GE event.

- ILSFA Understanding: Only two of the 16 participants felt that they understood the steps necessary to sign up for an ILSFA CS project and only three participants felt they understood the steps necessary to get an ILSFA DG project installed on their roof. Even

[15]The Illinois Solar Energy Association is part of the Solar for All Working Group.

those who stated that they did understand the steps, could not provide more detail than that they would need to call the Grassroots Educator or an AV to get started.

- ILSFA Questions: Participants had many questions remaining about the program including opportunities for renters, need to repair their roof, income-eligibility, and how to participate.

ILSFA Participation and Satisfaction

- DG Interest: Eight of the 16 respondents said that they are now interested in having solar panels installed on their roof, but only one had plans to install a project. Most who did not stated it was because they were concerned about the cost or they don't own their home.

- CS Interest: Four of the 16 respondents said that they are now interested in subscribing to a CS project, but none had plans to do so. Most who said they did not have plans did not know how to participate, were concerned about the costs, said there were no vendors in the area, or said it was because they did not own their home.

- Understanding of How to Participate: Only six of the 16 respondents felt that they had a good understanding of how to participate in the ILSFA Program, and these respondents said they would call the GE or an AV.

Program Administrator Assessment

This section assesses Elevate's role in administering the ILSFA Program.

- Outreach: The previous ILSFA Program evaluation report noted that Elevate's outreach did not reach many potentially important stakeholder groups.[16] This evaluation included a specific focus on income-qualified energy efficiency providers and found that these organizations had little or no knowledge about the ILSFA Program. While Elevate reports that they plan for more outreach and coordination with other low-income programs and organizations, they have not yet taken the level of action needed to significantly expand these connections. Elevate should prioritize outreach to additional groups over the next quarter.

- Call Center: Elevate Energy has a call center to field questions about the ILSFA Program and provide guidance and information. Elevate's call center metrics report does a very good job of providing information on the volume and type of calls handled.

- Program Materials: Elevate developed many guidelines and materials for the ILSFA Program before and shortly after the ILSFA Program launch. Users of these materials, including stakeholders, AVs, and GEs, noted that the materials are complicated, unclear,

[16] Elevate relied on the ILSFA Working Group which serves as an umbrella organization of stakeholders including many key community organizations.

and difficult to navigate.[17] Elevate has worked to improve many of these documents. They posted a step-by-step list for the AVs to develop projects, as has previously been requested, in July 2020.

- ILSFA Website: Elevate Energy created the ILSFA website and works to ensure that all ILSFA Program information is on the website and up-to-date. Initial response to the website acknowledged the vast amount of information that is available, and the usefulness of that information. However, there is agreement that the website is not well-organized and information can be difficult to locate.

  Elevate has implemented several recommendations to improve the organization and readability of information on the ILSFA website. However, significant additional improvement to the website organization and information could make the program more accessible to the public, potential participants, and vendors.

- Approved Vendor Portal: Elevate Energy maintains a portal that includes information on AVs, projects, participants, and Grassroots Education. They had a short window to design and implement the portal before the program went live, and some of the details and internal checks in the system were still being improved at that time.

  The AVs reported many challenges with the portal and Elevate's vendor managers spent a great deal of time supporting AVs in using the portal and responding to their questions and problems. Elevate described several improvements they have made to the portal since its initial introduction and additional improvements in 2020.

  Elevate appears to be doing more advance planning to provide for a smoother transition to Part Two Submission. They should continue to advance and test these modules so that the system is working well prior to the start of Part Two Submission.

- Grassroots Education: Elevate Energy is responsible for coordinating the distribution of funding for Grassroots Education by Community-Based Organizations (CBOs) and overseeing the Grassroots Educators' (GE) work. Elevate recently worked with the IPA to develop and release a second GE RFP.

  Interviews with GE participants found that the educators were rated highly and provide information on the ILSFA Program to households who were previously unaware of the program. However, several findings point to the need for more focused information that clearly presents the benefits and eligibility guidelines for the ILSFA Program.

- Energy Efficiency: Elevate has developed a resource guide for AVs and trained their team on the ILSFA Program. Elevate should take more action to coordinate the ILSFA Program with income-qualified energy efficiency programs in Illinois, both to provide leads for the

[17] These documents were created in collaboration with the IPA. The IPA has been cautious and thorough in editing these documents and that has contributed to the complexity of the materials.

ILSFA Program and to ensure that ILSFA participants undertake beneficial energy efficiency actions prior to ILSFA Program participation.

- Vendor Administration and Support: Elevate Energy has responsibilities for administering and supporting the vendor registration and project submission process. Interviews with Elevate staff and AVs show that Elevate has provided extensive support to the AVs. AVs spoke favorably about their experience with Elevate and the tremendous assistance that Elevate provided.

  While Elevate has provided excellent support to AVs in the registration and project submission process, they have not taken an active role in providing more proactive assistance to AVs in needed areas including provision of information on the interconnection process[18], support for MWBEs, and assistance overcoming DG barriers.

- Environmental Justice Communities: Elevate was responsible for working with the IPA to develop the EJ community determination process and the self-designation process. They developed a rigorous and well-documented process for determining the EJ communities, and the map and list of EJ communities is provided on the ILSFA website.

  Elevate continues to work with the IPA and community groups to score incoming EJ self-designation applications. They have also developed a systematic process for this scoring and meet with the scoring group on a regular basis to score EJ self-designation applications as they come in.

- Reporting: Elevate is responsible for providing quarterly reports to the IPA and the ICC on the status of the program, including number of applications received, number of applications approved, number of projects completed, REC payments, payments for Grassroots Education efforts, status of Grassroots Education, and technical assistance provided. Elevate submitted the first report to the IPA on February, 28, 2020, and it was approved in May 2020. This report could be streamlined to provide program statistics in a more accessible manner.

  Elevate has developed comprehensive and useful reports on call center metrics, technical assistance, newsletters, and use of the ILSFA website.

- Quality Assurance: Elevate is responsible for developing a process for quality assurance, including photos of projects under construction and on-site inspection of a random sample of installations. Projects have not yet reached the stage when quality control will be undertaken. However, Elevate has developed an Onsite Inspection Checklist and contracted with a subcontractor to conduct the inspections. The Onsite Inspection Checklist is a comprehensive form that will systematically collect important information on the quality of the installation and the AV's work.

[18]While the interconnection process is the utility responsibility, Elevate should take actions to help AVs address any barriers to ILSFA participation.

Best Practices from Low-to-Moderate Income Solar Programs

This report included a review of Low-to-Moderate Income (LMI) solar programs implemented around the country. Many of the best practices that were reviewed have already been incorporated into the ILSFA Program design. The following recommendations for the ILSFA Program are made based upon the best practices review.

1. Marketing/Partnerships: The ILSFA Program has not placed enough emphasis on partnerships with trusted organizations and should increase these relationships in ongoing implementation. This refinement should not require any changes to the law or Long-Term Plan.

2. Targeted Households: The ILSFA Program could recommend that solar installers target households that participate in other LMI programs and those with high electricity usage. They could also facilitate more coordination between utility income-qualified energy efficiency programs and the Illinois Home Weatherization Assistance Program. This would not require a change to the law or the Long-Term Plan.

3. Job Training and Job Creation: The ILSFA Program does not have requirements for the whether the jobs that are created can be just for the ILSFA installation or must continue. Those requirements could strengthen the job training and creation portion of the ILSFA Program, but may require changes to the enabling legislation.

4. Alternatives to Credit Ratings: The ILSFA Program does not require use of alternative credit assessments (e.g., an assessment other than a credit score). If credit assessments are conducted for community solar subscribers, distributed generation leases, or power purchase agreements, Approved Vendors who use credit scores to qualify participants should be required to offer alternative qualification options. This requirement would necessitate a change to the Long-Term Plan.[19]

5. System Ownership and Federal Tax Credit: The ILSFA priced RECs for non-profits and public facilities with the assumption that they would not take the tax credit. If the project did take the tax credit, this could create a large benefit for the developer if there is no requirement to pass that value on to the customer. For this reason, the ILSFA increased the minimum savings requirement for that situation from 50 percent to 65 percent.

   Programs that take advantage of all available subsidies and tax credits can provide the greatest benefits for LMI participants. Requiring ownership of projects by entities that can take advantage of the Federal Tax Credit because they have the necessary tax liability may require a change to the law and to the Long-Term plan.

6. Community Solar Subscriptions: Project-level recommendations to improve community solar LMI subscription levels include waiting lists and flexible anchor tenants (that stay

[19] For example, this could require community solar projects to allow use of assessments other than the credit score to determine if the potential subscriber had sufficient credit worthiness.

within ILSFA anchor participation requirements but can take on additional share for a period of time if needed to cover for individual subscribers that dropped out). These are recommendations that can be made to projects without changes in the law or Long-Term Plan, as these changes are only recommendations for how the AVs can implement the program.

7. Energy Efficiency Requirements: LMI Solar programs should require energy efficiency work to be completed prior to solar installations as energy efficiency is more cost-effective and reduces the total amount of energy consumed. The ILSFA Program could provide stronger requirements for energy efficiency, but this may require changes to the Long-Term Plan and/or the legislation.

Key Findings and Recommendations

This section presents key findings and recommendations from the research presented in this report.

Key Findings

The key findings from the Phase II, Second Interim Evaluation are summarized below.

- Revised Long-Term Plan: Many revisions addressed issues that had been faced in the ILSFA Program. Key programmatic changes should resolve some of the concerns that AVs expressed in the first two program years relating to up-front costs for multi-family building owners and non-profits and public facilities, DG participation challenges, income verification, and the batch project submission.

- Revised Project Selection: These proposed revisions to the guidelines will address project size diversity, balance by utility territory, and lack of MWBE projects.

- AV Participation: The ILSFA Program has achieved good participation by solar vendors.

- DG Projects: After no eligible DG projects in the first program year, there were ten projects selected in the second program year, nine for single-family homes and one for a multi-family project.

- Project Diversity and FEJA Goals: The second program year resulted in more diverse projects and the ILSFA Program is meeting the important program goals regarding EJ communities and low-income communities.

- DG Participant Savings and Energy Burden Impact: Customer first year projected savings averaged $540 and 56 percent of the energy value. The projects were projected to reduce energy burden by an average of 5.8 percentage points.

- Job Trainees: It is too early in the implementation process to assess the impact of the ILSFA Program's job training requirements. Most of the AVs plan to have job trainees fill installation/construction roles. Some of the AVs reported that they plan to continue to

work with the job trainees following completion of the ILSFA project and some said it depended on performance.

- Elevate Energy Assessment: Elevate implemented the complex ILSFA Program in a short time period; developed numerous materials, the website, and portal; recruited and supported numerous solar vendors; and selected projects in all sub-programs. They focused on core responsibilities and ensured that program requirements were met. To achieve greater program success, they need to take proactive steps and actions to address challenges and achieve greater impacts.

- Best Practices for Low-to-Moderate Income (LMI) Solar Programs: This report included a review of LMI solar programs implemented around the country. Many of the best practices that were reviewed have already been incorporated into the ILSFA Program design, but the next section includes a few recommendations based upon findings from the review.

ILSFA Program Design Recommendations

Recommendations relating to the ILSFA Program design are summarized below.

- ILSFA Program Materials: Prioritize development of a step-by-step list for the AVs to develop projects, as has previously been requested. (Note: This was posted in July 2020.)

- ILSFA Website: Work with a professional website designer to re-organize the website to make the program more accessible to the public, potential participants, and vendors.

- ILSFA Portal: Continue to advance and test Part Two Submission modules so that the system is working well prior to the start of Part Two Submission.

- Job Training and Job Creation: The ILSFA Program does not have requirements for whether the jobs can be just for the ILSFA installation or must continue. Those requirements could strengthen the job training and creation portion of the ILSFA Program, but may require changes to the enabling legislation.

- Alternatives to Credit Ratings: The ILSFA Program does not require use of alternative credit assessments (e.g., an assessment other than a credit score). If credit assessments are conducted for community solar subscribers, distributed generation leases, or power purchase agreements, Approved Vendors who use credit scores to qualify participants should be required to offer alternative qualification options. This requirement would necessitate a change to the Long-Term Plan.

- Energy Efficiency Requirements: LMI Solar programs should require energy efficiency work to be completed prior to solar installations as energy efficiency is more cost-effective and reduces the total amount of energy consumed. The ILSFA could provide stronger requirements for energy efficiency, but this would require changes to the Long-Term Plan.

Program Implementation Recommendations

Recommendations relating to the ILSFA Program implementation are summarized below.

- Outreach: Prioritize outreach to low-income organizations and energy efficiency program implementers.

- Grassroots Education: Provide more guidance and support to GEs to ensure that the presentations clearly furnish information on the benefits of ILSFA Program participation and the eligibility guidelines for the program.

- Energy Efficiency: Work to coordinate the ILSFA Program with income-qualified energy efficiency programs in Illinois, both to provide leads for the ILSFA Program and to ensure that ILSFA participants undertake beneficial energy efficiency actions prior to ILSFA Program participation.

- Approved Vendor Support: Reach out to AVs to provide additional needed support in addition to project submission assistance. Key areas where support is needed are in the interconnection process, MWBE participation, and assistance overcoming DG barriers.

I. Introduction

This report presents the findings from the second part of the Phase II Evaluation of the Illinois Solar for All (ILSFA) Program. The ILSFA Program was mandated by the state's Public Act 99-0906, colloquially known as the Future Energy Jobs Act (FEJA), which was enacted on December 7, 2016 and went into effect on June 1, 2017. The ILSFA Program provides more generous Renewable Energy Credit (REC) contracts than those offered through the Illinois Adjustable Block Program (ABP) to overcome barriers faced by the low-income community to participation in the solar market.[20]

The Illinois Power Agency (IPA) contracted with APPRISE, and its subcontractor Aeffect, Inc., to conduct an evaluation of the ILSFA Program. This evaluation report presents results from the second part of the Phase II Evaluation, which was conducted from January 2020 through May 2020. Future evaluation research will include more detailed review of program implementation, barriers, accomplishments, and results as the program implementation progresses.

A. ILSFA Program Overview

FEJA required the development of the ILSFA Program to bring photovoltaics to low-income communities in Illinois. The objectives of the program are to maximize the development of new photovoltaic generating facilities, create a long-term, low-income solar marketplace throughout the State, integrate with existing energy efficiency initiatives, and minimize administrative costs.

FEJA mandated the creation of the ILSFA Program to include four sub-programs and indicated the funding percentages from the IPA Renewable Energy Resources Fund (RERF) for each of the four sub-programs.

1. *Low-Income Distributed Generation (DG)*: This sub-program provides funding for photovoltaic projects located on individual homes and multi-family buildings (or as ground-mounted systems). Benefits to participants are achieved through net metering or reduction of energy costs.

2. *Low-Income Community Solar (CS)*: These projects provide the opportunity for participants to subscribe to a share of a CS system and receive credits on their utility bill for the energy produced by their share of the system. The projects must identify partnerships with community stakeholders where the project will be located.

3. *Incentives for Non-Profits and Public Facilities (NP/PF)*: Non-Profits and Public Facilities may receive incentives for on-site photovoltaic generation. These projects must serve the energy loads of NP/PF customers, be installed on facilities within low-income or environmental justice (EJ) communities within IL, and either have a sufficient connection to and input from the low-income or EJ community or be a qualified critical

[20]The Adjustable Block Program (ABP) supports the development of new photovoltaic distributed generation systems and new photovoltaic community generation projects in Illinois through the purchase of Renewable Energy Credits. The ABP is not targeted to low-income households and Environmental Justice communities like the ILSFA Program is.

service provider, defined as a non-profit or public sector entity that offers essential services to low-income or EJ communities.

4. *Low-Income Community Solar Pilot Projects*: This sub-program is based on a competitive procurement approach for CS projects, based only on the price for 15 years of delivery of all RECs. Payments will be made over the first ten years of the contract for the first round procurement and for 15 years for the second procurement.

Some of the key characteristics of the ILSFA Program are as follows.

- An emphasis on EJ communities and a requirement that 25 percent of the incentives for the first three ILSFA sub-programs are allocated within those communities.
- Requirements for community partnerships.
- Requirements for job training opportunities and hiring job trainees.
- Extensive consumer protections to ensure that consumers receive the benefits of the ILSFA Program.

B. ILSFA Evaluation

FEJA requires an independent evaluation of the ILSFA Program with objective criteria developed through a public stakeholder process. FEJA calls for an evaluation at least every two years. The evaluation is required to review the program and the third-party program administrator.

The Phase I Evaluation provided initial feedback and recommendations to the IPA for use in updating the Long-Term Renewable Resources Procurement Plan (Long-Term Plan) in Fall 2019 (to be implemented, following approval by the Illinois Commerce Commission (ICC), beginning in early 2020). This research focused on the stakeholder outreach process, development of program materials and guidelines, initial Approved Vendor (AV) registration, initial project application, and the development of Grassroots Education. The final Phase I Evaluation report was published on the ILSFA website in October 2019.

The first part of the Phase II Evaluation included a more detailed assessment of the ILSFA Program's implementation and results, including metrics required by FEJA and additional priorities identified in the Long-Term Plan. The Phase II First Interim Evaluation report was published on the ILSFA website in April 2020.

This second part of the Phase II Evaluation continues the review of program design changes and implementation. Key components of the Phase II Evaluation addressed in this report are as follows.

- Key metrics required by FEJA, including installations, capacity, costs, jobs created, and non-energy impacts.
- Jobs and job opportunities.
- Additional performance metrics including incentive dollars awarded, AV satisfaction, and Grassroots Education impacts.
- An overall program administrator assessment.

Because the ILSFA Program was only recently implemented, data for many important metrics are not yet available, and will be presented in later rounds of the evaluation.

C. Report Overview

Eight sections follow this introduction.

- Section II – Illinois Solar for All Design and Implementation: Provides a review of the design of the ILSFA Program and the implementation experience.

- Section III – ILSFA Implementation Statistics: Provides statistics on AVs, submitted and selected projects, and DG participants.

- Section IV – Approved Vendor Feedback: Provides findings and recommendations on the AV experience based on in-depth telephone interviews with 20 of the AVs.

- Section V – Stakeholder Outreach Design and Feedback: Provides findings from interviews with three ILSFA Program stakeholders who participated in the stakeholder feedback process, and 11 ILSFA Program stakeholders who did not participate in the process, including five income-qualified energy efficiency providers who did not participate in the stakeholder feedback process.

- Section VI – Grassroots Education Participant Feedback: Provides findings from in-depth telephone interviews with 16 participants who attended events organized by ILSFA's Grassroots Educators between October and November 2019.

- Section VII - Program Administrator Assessment: Provides an assessment of Elevate Energy's performance to date. Findings in this section are based upon review of publicly available material on the ILSFA website, additional program information and data provided by Elevate, interviews with the IPA and Elevate, interviews with AVs, and interviews with participating and nonparticipating stakeholders.

- Section VIII – Best Practices Review: Provides a review of Low-to-Moderate (LMI) Income Solar Programs that have been implemented around the country, an assessment of best practices, and recommendations for how best practices can be incorporated into the ILSFA Program.

- Section IX – Findings and Recommendations: This section provides findings and recommendations based on all of the research presented in this report.

APPRISE prepared this report under contract to the IPA. The IPA and Elevate Energy facilitated this research by furnishing data and information to APPRISE. Any errors or omissions in this report are the responsibility of APPRISE. Further, the statements, findings, conclusions, and recommendations are solely those of analysts from APPRISE and do not necessarily reflect the views of the IPA.

II. Illinois Solar for All Design and Implementation

This section provides background on the design and implementation of the ILSFA Program.

A. Future Energy Jobs Act

FEJA mandated the creation of the ILSFA Program to include four sub-programs and indicated the funding percentages from the IPA Renewable Energy Resources Fund for each of the four sub-programs.

- Low-Income Distributed Generation
- Low-Income Community Solar
- Non-Profits and Public Facilities
- Low-Income Community Solar Pilot Projects

Other specific requirements of FEJA were as follows.

Economic Benefits

- Tangible economic benefits must flow directly to program participants except in multi-family housing where the low-income customer does not pay directly for energy.
- Low-Income CS Pilot projects must provide economic benefits for members of the community where the project is located and include a partnership with at least one Community Based Organization (CBO).

Community Partnerships

- Priority should be given to projects that demonstrate meaningful involvement of low-income community members.
- CS developers must identify partnerships with community stakeholders.
- The IPA should ensure collaboration with community agencies and allocate up to five percent of the funds available under the ILSFA Program to community-based groups to assist in Grassroots Education.

Environmental Justice

- At least 25 percent of the incentives for DG, CS, and NP/PF projects must be allocated within EJ communities.

Income Eligibility

- Low-income households are persons and families whose income does not exceed 80 percent of the area median income, adjusted for family size and revised every five years.

Job Training

- Projects must include job training opportunities if available and should coordinate with job training programs.

Administration
- CS Pilot Projects must be competitively bid by the IPA.
- The IPA should select a third-party program administrator through a competitively bid process.

Incentives
- The IPA (or a utility) will purchase RECs from generation for the first 15 years of operation as an upfront payment per installed kilowatt of nameplate capacity, paid when the device is interconnected at the distribution system level of the utility and is energized.

Evaluation
- The IPA should select an independent evaluator to review and report on the ILSFA Program and the performance of the third-party administrator at least every two years. The evaluation should be based on objective criteria developed through a public stakeholder process. The report should include the following metrics.
  - Total installed capacity in kilowatts.
  - Average cost per kilowatt of installed capacity.
  - Number of jobs or job opportunities created.
  - Economic, social, and environmental benefits created.
  - Total administrative costs expended by the IPA and the program administrator to implement and evaluate the program.

The IPA was directed to develop a Long-Term Plan with a proposed approach to the design, implementation, and evaluation of the ILSFA Program. FEJA specified that the following would be included in this Long-Term Plan.
- Program terms, conditions, and requirements.
- Prices to be paid for RECs.
- The level of energy and economic benefits to be accrued by low-income customers.
- A definition of EJ community that is compatible with other agencies' definitions.

B. Long-Term Renewable Resources Procurement Plan

The IPA published a Draft Long-Term Plan on September 29, 2017 and stakeholders were provided with 45 days to provide written comments. The IPA answered questions, provided presentations on the Long-Term Plan, received public comments, and revised the Long-Term Plan. The Long-Term Plan was filed at the ICC for review and approval on December 4, 2017 and was approved by the Illinois Commerce Commission (ICC) on April 3, 2018.

The Long-Term Plan provided more detail on the requirements for the ILSFA Program.
- Economic Benefits: Economic benefits for participants will be accrued through net metering or avoided consumption from the energy the system produces. The IPA developed the following requirements to ensure that benefits flow to low-income participants.
  - Eligible low-income residential participants should not pay up-front costs for the DG installation or pay an up-front fee to subscribe to a CS project.
  - Participation should result in immediate, reliable reductions in energy costs for residents or subscribers.

  - Any ongoing annual payments (for financed or leased projects) must be less than 50 percent of the annual first year estimated production and/or utility default service net metering value to be received by the customer.

  - While incentives must flow through to the intended recipients, the incentives will not be customized to each participant's specific economic circumstances. The evaluation will review the impact on participants' energy burden and that information will be used to inform any future modifications to incentive levels. The IPA and the program administrator will educate AVs about utility programs, weatherization assistance programs, and other alternative sources of funding.

- Net Metering: Projects are required to participate in the utility's or ARES' net metering program. This may prevent projects in the service territory of a municipal utility or rural electric cooperative that does not offer net metering from participating.

- Project Viability: Roof repairs or wiring upgrades may be needed to implement the solar installations. The ILSFA Program will not provide funding for those upgrades.

- Capacity Factor: The Long-Term Plan describes the options for the capacity factor used in the ABP to convert kilowatt size of a project to the number of RECs the system would be expected to generate over 15 years.
  - Standard Capacity Factor: For each kW of capacity, approximately 21 RECs would be generated over 15 years for a fixed-mount system and 25 RECs would be generated over 15 years for a tracking system.
  - Alternative Capacity Factor: AVs have the option of proposing an alternative capacity factor based on an analysis using PV Watts or an equivalent tool.

- REC Payments
  - The price will be expressed on a dollar per REC basis.
  - Payments will be based on the 15-year expected REC production of the system.
  - A system must be registered in GATS or M-RETS to verify it will produce RECs.

- Contracts
  - Contracts will be with the IPA if the funding source is the Renewable Energy Resources Fund (RERF) and with the utility if the funding source is the utility.
  - Contracts will be applied to the annual Renewable Portfolio Standard (RPS) goals of the utility to which the project is interconnected, but will not count toward each utility's new photovoltaic targets.
  - RECs from projects in the service territories of municipal utilities, rural electric cooperatives, or Mt. Carmel Public Utility would not be applied to the utility RPS goals if they are procured through contracts with the IPA. Any RECs procured through contracts with a utility would be applied to the RPS goals of the contracting utility.
  - Projects that receive a contract through the ILSFA Program cannot receive one through the ABP.

C. Revised Long-Term Renewable Resources Procurement Plan

In 2019, the IPA undertook the Long-Term Plan update which involved the following steps.

- Workshops were held in June 2019 to discuss the Long-Term Plan update.
- A Request for Comments on the Long-Term Plan workshops was posted in early July 2019.
- Responses to the Request for Comments on the Long-Term Plan workshops were posted in late July 2019.
- The Draft Revised Long-Term Plan was released on August 15, 2019.
- Public hearings on the Draft Revised Long-Term Plan were held in early September.
- Written comments on the Draft Revised Long-Term Plan were accepted until September 30, 2019.
- Comments on the Draft Revised Long-Term Plan were posted in early October 2019.
- The IPA filed the Revised Long-Term Plan with the ICC on October 21, 2019.
- The ICC approved the Revised Long-Term Plan with some changes on February 18, 2020.
- The IPA published the Revised Long-Term Plan on April 20, 2020.
- The IPA is now working with the Program Administrator to implement the program changes contained in the Revised Long-Term Plan (as approved by the ICC).

Key changes made in the Revised Long-Term Plan are summarized below. Additional detail is provided in the Appendix.

ILSFA Resources

Several changes relating to program funding were included in the Revised Long-Term Plan.

- Renewable Energy Resources Funding: The Revised Plan furnished an update on RERF funding as of August 14, 2019 and indicated that the IPA will allocate $16.5 million per program year for the DG, CS, and NP/PF sub-programs.

- Utility Funding: The Revised Plan provides new projections for utility funding.

Customer Costs and Benefits

- Up-Front Costs: The Revised Plan stated that owners of multi-family buildings with more than five units and Non-Profit/Public Facilities may be charged upfront costs.

Distributed Generation Projects

- DG Program Improvements: The Revised Plan noted that the IPA will continue to work with the Environmental Law and Policy Center, the Natural Resources Defense Council, Vote Solar, and other interested parties to develop improvements to address challenges to participation in the DG sub-program.

- Connecting Income Qualified Customers with AVs: The Revised Plan stated that the IPA and the Program Administrator will explore implementing a process to connect interested income-qualified customers with ILSFA AVs in a competitively neutral fashion.

Low-Income Community Solar Projects

- Income Verification: The Revised Plan stated that the subscriber may request income verification directly through the Program Administrator.
- Project Selection: The Revised Plan created a prioritization of projects by the type of anchor tenant.

Non-Profit and Public Facility Projects

- Non-Profit and Public Facilities Eligibility: The Revised plan stated that project must demonstrate community engagement and be a critical service provider.

- Non-Profit and Public Facilities Value from Tax Credit: The Revised Plan added that AVs who utilize the Federal ITC will be required to show that additional value is being passed on to the project host (65 percent versus 50 percent for projects not using the ITC).

Customer Protections

- Additional Customer Protections: The Revised Plan stated that contracts must provide a grace period of at least seven days after the customer payment date before late fees are charged and that all contracts must include a full system warranty and an operations and maintenance guarantee.

D. Changes to Project Selection

The Revised Long-Term Plan included changes to the ILSFA project selection process. The revised guidelines were designed to address the following issues.

- Lack of Size Diversity in Submitted and Selected Projects: All submitted projects up to 250 kW were selected in the first program year because most submitted projects were larger. No small projects were submitted in the second program year, so only large projects were selected.

- Lack of Balance by Utility Territory for Selected Projects: Awarding points based on utility territory in the first selection stage resulted in prioritizing the territory with fewer EJ community submissions, but not balancing the total selection of projects by utility within the sub-program. Balancing by utility territory occurred in the third stage, but few funds remained to adequately balance projects at this point.

- Lack of MWBE AVs with Selected Projects: No MWBEs had selected projects in the first two program years.

The ILSFA Program posted a Draft ILSFA Project Selection Protocol Guidance Document on April 21, 2020 to solicit feedback on how to implement the changes. The IPA and Elevate Energy held a webinar on May 1, 2020 to review the proposed changes and request stakeholder feedback. Comments on the document were due by May 8, 2020. The 2020-2021 program year will follow the revised Project Selection Protocol that was posted on June 12, 2020.

Key changes to project selection are summarized below. Additional detail is provided in the Appendix.

DG Projects

- Separate DG Selection For 1-to-4 Unit and 5 or More Unit Buildings: Selection will be done within two sub-categories. Project selection will be considered necessary if the incentive value of 1-to-4 unit projects exceeds 25 percent of the total sub-program budget and/or if the incentive value of 5 or More unit projects exceeds 75 percent of the total sub-program budget.

CS Projects

- Project Size Scoring Scale: The original selection awarded points on a variable scale to balance the number of projects that were greater than or less than 250 kW. The revised awards differing points for projects ≤ 100 kW, 101-500 kW, and 501-1,000 kW.

MWBE Points

The ILSFA considered an expansion of the MWBE points to include AVs who work with women- or minority-owned businesses and eligible non-profits. Proposed changes with respect to this expansion are summarized below. However, these changes were not implemented for Program Year Three.

- AVs who work with WMBEs would receive MWBE points
- Eligible non-profits could receive MWBE points if they meet certain criteria.

E. Resources

The ILSFA Program is funded through three sources.

- The Renewable Energy Resources Fund (RERF): This fund was created as a special fund in the State Treasury and is administered by the IPA for the procurement of renewable energy resources. The RERF was created with Alternative Compliance Payments remitted by ARES to comply with the State's RPS established by the Public Utilities Act.

- Utility Funding: A portion of the funds collected by the utilities under their Renewable Portfolio Standard (RPS) tariffs. The utility funding is not required to be applied in the same percentages as the RERF funds, and will not provide funding for the Low-Income CS Pilot Projects sub-program.

- Additional Utility Funding: Additional funds from the utilities' renewable resources budgets were potentially available for program funding, however, the triggering "funding shortfall" conditions have not been met.

The funding allocations are to support the following.

- REC Payments
- Program Administration
- Grassroots Education
- Evaluation

F. ILSFA Sub-Programs

There are four sub-programs within the Illinois Solar for all Program.

1. *Low-Income Distributed Generation (DG)*: This sub-program provides funding for photovoltaic projects located on individual homes and multi-family buildings. Benefits to participants are achieved through net metering or reduction of energy costs. Residents of master-metered buildings may not receive the direct benefits of the solar installation because they do not pay for their electric bill. In such a case, the building owner/manager must commit to passing along at least 50 percent of the energy savings from net metering to tenants through reduced rents or by other means.

2. *Low-Income Community Solar (CS)*: These projects provide the opportunity for participants to subscribe to a share of a CS system and receive credits on their utility bill for the energy produced by their share of the system. The projects must identify partnerships with community stakeholders where the project will be located. The AV must identify those partnerships in the project application, and provide a description of how the partnership shows that it is responsive to the priorities and concerns of low-income members of the community. Incentives for these projects are for the portion of the project that is subscribed by low-income subscribers.

3. *Incentives for Non-Profits and Public Facilities (NP/PF)*: NP/PF may receive incentives for on-site photovoltaic generation. These projects must serve the energy loads of NP/PF customers, be installed on facilities within low-income or EJ communities within IL, and either have a sufficient connection to and input from the low-income or EJ community or be a qualified critical service provider, defined as a non-profit or public sector entity that offers essential services to low-income or EJ communities. Critical service providers include youth centers, hospitals, schools, homeless shelters, senior centers, community centers, places of worship, or affordable housing providers including public housing sites.

   These entities may not be able to capture the tax benefits that an ABP participant would be able to capture. Therefore, the adjusted incentive level can help overcome the financing barriers that NP/PF may face compared to private entities.

4. *Low-Income Community Solar Pilot Projects*: This sub-program is based on a competitive procurement approach, based only on the price for 15 years of delivery of all RECs.

   The other following criteria established in the Long-Term Plan are minimum criteria for eligibility to participate in the competitive procurement.
   - Projects must result in economic benefits for the members of the community in which the project will be located. This requirement can be met by including partnerships with community stakeholders. Projects must provide a commitment to local hiring, describe the impact on payments to community residents or organizations as part of the development process, or offer subscriptions to community residents and organizations.

- The project must also include a partnership with at least one community-based organization, an existing non-profit organization that provides programs and services within the community where the proposed project will be located.
- The funds may not be distributed solely to a utility.
- At least some funds must include community ownership by the project subscribers.

These contracts will be with the IPA and will use RERF funding.

FEJA also allows stakeholders to propose alternative sub-programs to be approved by the IPA if they more effectively maximize the benefits to low-income customers.

G. Other ILSFA Guidelines

This section provides a brief description of additional ILSFA guidelines and requirements. More details for the DG, CS, and NP/PF sub-programs are provided in the Phase I Evaluation Report.

Income Eligibility

The ILSFA uses income eligibility guidelines from HUD which bases its housing assistance programs on 80 percent of area median income (AMI) adjusted for family size. Because the income guidelines for LIHEAP and IHWAP are lower than these guidelines, all LIHEAP-eligible and IHWAP-eligible (state funded) households are eligible for the ILSFA Program.

Qualified Census Tracts (QCTs) have 50 percent of households with incomes below 60 percent of the Area Median Gross Income or have a poverty rate of 25 percent or more. QCTs are used as a streamlined method for determining eligibility for CS subscribers.

Consumer Protections

The ILSFA Program has developed extensive procedures to ensure that consumers are protected. The IPA felt that it was important to ensure these protections given the experience with ARES taking advantage of low-income customers in IL.

The key financial protections with respect to the DG and CS sub-programs include no upfront customer payments, ongoing costs and fees paid by the participant must not exceed 50 percent of the value of energy generated by the system or by the participant's share of the system, loans must not be secured by the program participant's home or home equity, financing terms must be based on an assessment of the participant's ability to repay the debt, and contracts for loans must offer terms that include forbearance.

AVs must also ensure that marketing materials are accurate and do not contain misleading statements.

Environmental Justice Communities

EJ communities are defined as having a higher risk of exposure to pollution based on environmental and socioeconomic factors. FEJA requires that 25 percent of the funds in the following sub-programs be allocated to projects located in EJ communities.

- Low-Income Distributed Generation

- Non-Profit and Public Facilities
- Low-Income Community Solar Projects

The IPA worked with Elevate Energy to develop a systematic evaluation and scoring system using the EJ Screen tool developed by the US EPA and the CalEnviroScreen tool developed by the California Office of Environmental Health Hazard Assessment as guidance.[21] Communities with scores in the top 25 percent were defined as EJ communities. Communities that were not in the top 25 percent of scores and thus not initially defined as being an EJ community may request consideration to be self-designated.

The EJ community self-designation is an ongoing process with periodic review and approval by the EJ review committee. Elevate Energy worked with the IPA to determine the make-up of the EJ review committee. The committee was designed to have representatives from the administrative team, individuals from the community with environmental justice backgrounds, and a balance of downstate and Chicago area representation. The committee includes two IPA staff members, two Elevate Energy staff members, a representative from the IL EPA, and two representatives from community organizations.

Sixteen EJ self-designation applications were received and assessed between May 2019 and November 2019. Of those 16 applications (four of which were resubmissions), four were approved. These were DePue, Ford Heights, South Peoria, and Winnebago. Three additional EJ self-designation applications were received between January and May 2020 and one in Peoria was approved.

Approved Vendor Requirements and Registration

There are four different types of AVs that can develop projects for the ILSFA Program – Approved Vendors, Aggregator Approved Vendors, Aggregator Designees, and Single Project Approved Vendors. The Original Long-Term Plan required all AV types, except for the Aggregator Designees, to register and maintain their status as an AV in the ABP to participate in ILSFA Program. The Revised Plan requires AV Designees to be officially registered with the ABP and ILSFA Programs.

AVs who participate in the ABP must meet additional requirements to participate in the ILSFA Program, and must register to participate in the program. Requirements include community involvement, job training, hiring job trainees, income verification, marketing, and consumer protections.

Incentives

ILSFA incentives are REC prices that are adjusted from the ABP and are based on system size, building size, and geography. CS Pilot incentives are based on the competitive bid price.

[21] This was based on methodology described in the Long-Term Plan.

Site Suitability Guidelines

The ILSFA Program has site suitability guidelines that identify the site conditions that are considered to be barriers to the installation of rooftop DG and ground-mounted photovoltaic systems.[22] These conditions relate to roofing, structural issues, electrical condition, space and accessibility, health and safety, and ground-mounted systems.

Interconnection Requirements

Illinois utilities have specific requirements for interconnection agreements. The ILSFA requires projects submitted for approval to the ILSFA Program with a nameplate capacity of above 25 AC kW to have a valid, signed interconnection agreement at submission. A limited exception will be made under certain conditions regarding previous agreement and new application outlined in the guidelines.

Project Selection

ILSFA projects are selected from projects submitted in batches by AVs.

1. The initial assessment reviews that the projects meet the requirements for community engagement, participant benefit and protections, job trainees, site eligibility, and interconnection.
2. Projects are sorted by sub-program and then by priority grouping (EJ community, low-income community, and project diversity) for scoring.
3. Projects are scored based upon location in EJ and LI communities, MWBE AVs, participant savings, subscriber ownership for CS, NP or PF ownership for CS, and to provide diversity by utility groups, number of units, system size, and non-profits and public facilities.

Quality Assurance

The ILSFA quality assurance process will include photo documentation of all projects while under construction and on-site inspection of a random sample of installations. The AV will be responsible for remedying any deficiencies that are found, and AVs that have a disproportionately high number of deficient systems may lose eligibility to continue to participate in the ILSFA Program.

H. Implementation

Key dates in the implementation of the ILSFA Program are provided in Table II-4.

Dates for the 2020-2021 Program Year are proposed and are subject to change due to the COVID-19 Pandemic. This Program Year will have two separate project submission windows, one for the DG and NP/PF sub-programs and one for the CS sub-program. Both of these submission periods will last for two weeks, however AVs that have been approved can enter applications for projects prior to the opening of the project submission period and then can submit the applications once the window opens.

[22] ILSFA Site Suitability Guidelines dated 5/7/2019. Available on the ILSFA Program website.

Projects that were submitted in the 2019-2020 program year and were not selected do not need to re-enter the application, but need to attest that the information is still correct or make updates prior to submitting the applications.

Projects that are submitted after the project submission window will be considered on a first-come, first-served basis until May 31, 2021 if there is remaining sub-program funding available.

Table II-1
Key ILSFA Program Implementation Dates

Date	Milestone
12/7/2016	Future Energy Jobs Act Legislation Enacted
6/1/2017	Future Energy Jobs Act Effective Date
9/29/2017	Draft Long-Term Renewable Resources Procurement Plan Published
12/4/2017	Long-Term Renewable Resources Procurement Plan Filed with Illinois Commerce Commission
4/3/2018	Long-Term Renewable Resources Procurement Plan Approved by Illinois Commerce Commission
9/14/2018	ILSFA Program Administrator, Elevate Energy, Selected
11/1/2018	ILSFA Website Launch
1/17/2019	Environmental Justice Communities List Published
2/19/2019	Approved Vendor Registration Launched
5/6/2019	Environmental Justice Community Self-Designation Application Opened
5/15/2019	Approved Vendor Portal Opened for Project Submissions, Standard REC Contract Published
6/13/2019	Low-Income Community Solar Submission Window Closed
6/27/2019	Grassroots Educators Announced
6/28/2019	Low-Income Distributed Generation and Non-Profit / Public Facilities Submission Window Closed
8/7/2019	ILSFA Program Evaluator, APPRISE, Selected
8/15/2019	Draft Revised Long-Term Renewable Resources Procurement Plan Released for Public Comment
8/22/2019	Non-Profit / Public Facilities Projects Selected for 2018/2019
8/29/2019	Low-Income Community Solar Projects Selected for 2018/2019
9/4/2019	2019/2020 Project Submission Window Opened
9/17/2019	2019/2020 Project Submission Window Closed
10/2/2019	Illinois Commerce Commission Approved 2018/2019 Project Selections
10/21/2019	Revised Long-Term Renewable Resources Procurement Plan Filed for Illinois Commerce Commission Approval
11/7/2019	2019/2020 Final Project Selections Announcement
1/30/2020	Second Grassroots Education RFP Released
4/6/2020	Second Grassroots Education Proposals Due
	PROPOSED SCHEDULE FOR 2020-2021 PROGRAM YEAR MAY REQUIRE CHANGES DUE TO COVID-19 PANDEMIC
6/5/2020	EJC Self-Designation Submission Deadline for 2020-2021 DG and NP/PF Sub-Program Submissions

Date	Milestone
6/12/2020	New AV Application Deadline for Submissions
7/6/2020	Project Submission Window Opens for 2020-2021 DG and NP/PF Sub-Programs
7/17/2020	Project Submission Window Closes for 2020-2021 DG and NP/PF Sub-Programs
7/20/2020	Rolling Submission Opens if Sub-Program Funding is Available
7/24/2020	EJC Self-Designation Submission Deadline for 2020-2021 CS Sub-Program Submissions
8/24/2020	Project Submission Window Opens for 2020-2021 CS Sub-Program
9/4/2020	Project Submission Window Closes for 2020-2021 CS Sub-Program
9/9/2020	Selected DG and NP/PF Sub-Programs Projects Announced
10/27/2020	Selected CS Sub-Program Projects Announced

Elevate has developed a document that provides a clear list of steps for project contracting and implementation. The steps are as follows.

1. Project sent to the ICC for approval.
2. The ICC approves project. This is the "Trade Date".
3. The IPA or utility counterparties execute the contract. (Prior to contract execution, vendors contracting with the State of Illinois must provide additional contracting documents.)
4. The AV executes the contract (within seven days of receipt).
5. Five percent collateral is due from the AV in the form of cash or a letter of credit (with 30 days of "Trade Date").
6. System status reports are due from the AV every six months (after "Trade Date") until energization.
7. Energization is completed (within 12 months for DG and within 18 months for CS).
8. AVs complete Part II Submission of final project data. Installed project is reviewed and approved.
9. AV submits invoicing for full payment.
10. First REC delivery (90 days for 5 kW+; 180 days for <5 kW).
11. AV submits the Annual Report (followed by collateral draws, if necessary, for underperformance).

As of July 2020, two projects had completed both construction and had the Part II Project Submissions process approved. An additional three projects had the Part II Project Submission in process.[23] Elevate has worked with AECOM to develop the inspection requirements and AECOM will be conducting site inspections. Elevate has also been working with another subcontractor, Shelton Solutions (an MWBE), that will be conducting income verifications.

Elevate has continued responsibility for ensuring that contract requirements are met and for collecting data from the AVs.

[23] One was approved on 5/29/2020 and one was approved on 6/1/2020.

I. Low-Income Community Solar Pilot Program

Low-Income Community Solar Pilot Projects (CS Pilot) are community-based photovoltaic generation projects that provide benefits to low-income subscribers through net metering and monthly bill credits.

Unlike the other three sub-programs, the incentives for CS Pilot are determined through a competitive bidding process. The procurement for Low-Income Community Solar Pilot Projects is bid on a $/REC basis. Contracts are for 15 years of delivery of all RECs from the project to the IPA once the project is energized. Payments for the first procurement will be made on a quarterly basis for the first ten years of REC delivery. In year ten, a lump sum payment will be made for the final five years of REC delivery. According to the Revised Long-Term Plan, payments for the Second Pilot Projects Procurement (to be held in 2020-2021 or 2021-2022) will be made over the first 15 years of REC deliveries.

The CS Pilot procurement process is conducted by NERA Economic Consulting, the Procurement Administrator selected by the IPA. NERA is responsible for handling the intake of all CS Pilot Project Proposals, evaluating each Proposal, and recommending Proposals for approval by the ICC. Additionally, Bates White, LLC, the Procurement Monitor appointed by the ICC, observes the entire procurement process and reports on the progress and fairness of the proceedings to the ICC.

<u>CS Pilot Requirements</u>

Key requirements for the CS Pilots are summarized below.

- Project Location: Projects must be entirely located in the State of Illinois.

- Interconnection: Projects must be powered by photovoltaics and be interconnected at the distribution system level of an electric utility, a municipal utility, a public utility, or an electric cooperative.

- Timing: Timing requirements are specified as follows.
  - The date of final interconnection cannot have occurred before June 1, 2017.
  - Projects must be energized within 18 months of contract execution (there are clauses for extensions).
  - At least one REC is expected to be delivered within 90 days of energization of the Project.
  - The REC Contract provides for 180 months of REC delivery starting on the first day of the month when the first REC is delivered.

- Funding: The Original Long-Term Plan specified that total funding for the CS Pilots cannot exceed $50 million, and funding per project cannot exceed $20 million. The Revised Plan noted that 25 percent of the RERF is only projected to be $37.5 million of the $50 million cap set for CS Pilot Projects. The first CS Pilot competitive procurement was allocated $20 million and is expected to cover the full 15-year value of the contracts resulting from that process.

- Project Size: CS Pilots may exceed the 2,000 kW limit that otherwise applies for other ILSFA sub-programs. The actual nameplate capacity upon energization must be within the greater of +/- 5 kW or +/- 25 percent of the proposed nameplate capacity.

- Contract Value: The maximum contract value under the REC contract is defined as follows.
  - Purchase Price * Proposed Nameplate Capacity * Standard Capacity Factor * 100% Subscription Rate * 8,760 hours * 15 years
  - The annual contract value is the maximum contract value divided by 15 years.

- Updating the Contract Value: At the end of the first four full quarterly periods after energization, the Seller must provide the IPA a "First Year Report" with information on RECs delivered and subscription rates during those first four quarters. The highest average subscription rate for any of the first four quarterly periods (or 50 percent if greater) will be used to update the maximum contract value and the annual contract value. These values will be used for the remainder of the Contract.

- Ownership: Funds for CS Pilots may not be distributed solely to a utility, and at least some of the funds must include a project partnership that includes community ownership by the project subscribers. If the project is not at least 50 percent owned by subscribers at the time of application, the bidder must provide information on outreach and engagement efforts, marketing materials, and a description of the type of subscribers that are expected.

- Partnerships: Projects must include a partnership with at least one CBO. The initial qualification form must include CBO information including the programs and services offered and the area in which the CBO operates. The form must also include a summary of the partnership agreement, a description of the CBO's role in the project and its development, and a statement of support.

- Community Outreach: The initial qualification must include information on at least two community outreach events, including the date, content of discussion, and number of participants.

- Marketing: All project developers associated with the development, installation, operations, and subscription of the Project must abide by the Community Solar Marketing Guidelines published by the IPA for the ILSFA Program.

- Energy Efficiency: The Seller must provide an Energy Efficiency Resource Guide, generated by the IPA, with information about energy efficiency opportunities to all subscribers and participants.

- Benefits: Projects must provide benefits to low-income subscribers via net metering credits calculated in accordance with the ILSFA Vendor Manual.
  - CS Pilots must result in economic benefits for the members of the community in which the project will be located.

  - Any ongoing first-year payments for participation in the Project by a Subscriber may not exceed 50 percent of the expected first-year net metering value to be received by the Subscriber for the same period.
  - Any ongoing participation payments over the entire term of a subscription agreement may not exceed 50 percent of the expected total net metering value over that same term.
  - If the Project is located in the service territory of a municipal utility or rural cooperative, they must certify that they will offer net metering for community solar comparable to what is required for investor-owned utilities.

- Subscribers: Subscribers must be low-income residential customers or a CBO that provides programs and services within the community where the projects will be located.
  - No single subscriber may constitute more than 40 percent of the Project's nameplate capacity.
  - The portion of the Project subscribed by community-based organizations in aggregate may not exceed 40 percent of the facility's actual nameplate capacity.
  - A list of subscribers, along with address, interest (in kW) in the Project, and percentage of the Project subscribed must be provided on a yearly basis.

- Workforce Development: Bidders are required to provide the following information.
  - A non-discriminatory hiring plan that is expected to result in engaging job trainees or workers residing within the community.
  - A summary of efforts to date to engage job trainees or workers residing within the community.
  - Any commitments made, or that the Bidder intends to make, to provide opportunities to minority business enterprises or women business enterprises.
  - A list of job trainees and workers residing in the community and the hours that each individual worked on the Project.

- Financing: If the project has not already begun operation, the bidder must provide a description of how the project will be financed and letters of intent from lenders or equity partners to cover 30 percent of the financing.

- Tracking and Reporting: Sellers must use PJM GATS or M-RETS for tracking RECs. For all delivery years following the first year report, the Seller must provide a REC Annual Report by July 15 following the end of each delivery year with information related to the developmental progress of the Project or REC deliveries and subscription information during the delivery year that concluded.

Competitive Procurement Process

The first CS Pilot procurement process consisted of two parts. The first part was a response to the program's qualification standards, and the second part was the bid and financial support for the bid.

Bidders were required to submit bid assurance collateral in the form of a Letter of Credit sent directly to the IPA. The required bid assurance collateral was equal to $15,000 times the aggregate size of the Bidder's Projects (AC rating), rounded to the nearest MW.

Bid evaluation first eliminated the bids that failed to meet or exceed the project requirements. Bids were then ranked in order of price per REC. Generally, the lowest-priced Projects were selected. Within two business days of the Bid Date, the Procurement Administrator and Procurement Monitor submitted separate confidential reports that provided the results of the procurement event to the ICC. The ICC decided whether to accept or reject the results of the procurement event within two business days of receiving the confidential reports.

Following approval, the Seller executed the REC Contract with the IPA. Winning Bidders must pay a Supplier Fee per REC that reflects the cost of conducting the procurement event less the total of the Bid Participation Fees. The exact amount of the Supplier Fee per REC was announced no later than two business days before the Bid Date.

If the ICC rejected the results of a procurement event, the Procurement Administrator, the Procurement Monitor, and ICC Staff would meet within ten days of the decision to analyze potential causes for failure to meet the requirements.

CS Pilot Stakeholder Outreach

NERA's team engaged in a variety of outreach activities to make potential vendors aware of ILSFA's Low-Income Community Solar Pilot prior to and during the RFP process. Their work focused on designing a fair and equitable procurement, and ensuring that vendors had the information they needed to participate. NERA took the following actions.

- Provided an opportunity for vendors to comment on the procurement and RFP early in the process.
- Maintained the RFP website with a dedicated project portal.
- Created and streamed bidder webcasts about the opportunity that were recorded and loaded to the website (www.IPA-energyrfp.com).
- Developed and posted announcements to the website.
- Collected contact information for those who registered on the website and electronically sent them information about submission deadlines.
- Made calls to website registrants.
- Worked with Elevate Energy to send an email to existing stakeholders and participants in other ILSFA sub-programs.
- Drafted answers to vendors and posted the content under the FAQ section of the website.

During the RFP development process, the IPA and NERA received comments. Based upon the comments received, IPA and NERA made minor adjustments to the RFP language and requirements. Most notably, they changed language that was used to broaden the definition of "community" and to clarify the meaning of "Community-Based Organization (CBO)". The purpose of these changes was to expand the number of potential participants and help vendors understand RFP requirements with greater specificity.

The original definition of "community" in preliminary program requirements was a ten-mile geographic radius around a solar project. Based on feedback received, however, this requirement was changed to "the area where the partner or CBO is operating." This modification aligned the requirement more closely to each unique community scenario and integrated community partners with whom the vendors would be participating with under the program into the definition.

Program Materials

NERA took the lead in developing the materials on the IPA's website for the Low-Income Community Solar Pilot Program. NERA worked closely with IPA, defining the initial requirements and discussing comments that were received. According to NERA, their effort was collaborative, not only with IPA but also with Elevate Energy. Elevate provided counsel on how to reach participants in the three programs they support and also provided recommendation on how vendor calls could be placed.

According to NERA, there were no major vendor concerns raised about the Low-Income Community Solar Pilot RFP early on. In addition, vendors did not object to the non-refundable $500 bid participation fee that was planned and ultimately employed.

Similarly, NERA reports that there were no significant challenges when it came to the development of program materials and guidelines, however, the program had an aggressive timeline for implementing the procurement.

In the future, NERA recognizes that the program materials could potentially be improved by incorporating language which more clearly addresses questions raised, and continues to evaluate the definition of "community."

RFP Process

Despite the fact that there were no concerns or complaints about the RFP, some vendors did submit questions. Questions sought clarification about whether a government body such as city or municipality would be qualified to participate as a CBO, what vendors needed to submit, and how to interpret specific requirements. All questions, responses, and clarifications were addressed by NERA, approved by the IPA, and posted to either the RFP document or the FAQ section of the website.

CS Pilot Implementation

The CS Pilots were implemented in fall 2019 according to the following schedule.

- 10/23/19: Final RFP Documents Posted
- 10/24/19 – 11/6/19: Part One Submission Window
- 11/20/19 – 12/4/19: Part Two Submission Window
- 12/13/19: Bid Date
- 12/19/19: ICC Decision on Procurement Event Results
- 12/24/19: REC Contracts Fully Executed

Information on the results of the first CS Pilot bidding process were released on December 19, 2019 at the time of Commission approval of the procurement event.

- Average Winning Price ($/REC): $72.02
- Winning Suppliers
  - Community Power Group, LLC
  - BQ Energy Development, LLC

Because there were not at least three successful suppliers, the number of RECs awarded was not made public.

Second CS Pilot Procurement

NERA staff had few suggestions on how to improve future ILSFA Pilot procurements, but did indicate that they would plan to review and discuss potential RFP changes with the IPA prior to future procurements. They stated that they would review all questions asked to make sure the responses were ultimately integrated into next RFP document.

In terms of specific areas to review, NERA indicated that it would be helpful to again review the language used to define "community" in the RFP. They also suggested that there should be a review of whether signed subscriber commitments should be required at this stage of development because if only one subscriber falls out, a lot of effort on the part of a bidder could be lost.

The NERA staff members believed that while the process went smoothly, there may be opportunities to "tweak" the RFP moving forward for greater participant clarity and operational efficiency. This is primarily a function of the fact that it was the first-time the competitive bidding process had been used for the sub-program.

The IPA reported that they will consider changes to the requirements for bidder participation based upon a review (including the opportunity for stakeholder input) of the results of that first procurement, and will hold another procurement for the remaining balance of funds in the CS Pilot sub-program (the total value across both procurements will be approximately $37.5 million) during either the 2020-2021 or 2021-2022 program years.

J. Grassroots Education

The second Grassroots Education RFP was released on January 30, 2020 and was due on April 6, 2020. A total of $500,000 is available for this round of Grassroots Education. Elevate expects to announce selected proposals in mid-June 2020.

Elevate reported that the second RFP was revised in the following ways.

- Outreach Efforts: Elevate wanted to create a clearer format for quantifying outreach efforts. To achieve this, they included a table (in the RFP) that that focused on the type of events proposers will hold, the expected number of events, and the number of attendees. There is also an increased focus on methods for recruiting attendees to the workshops because GEs have reported that it is difficult to recruit attendees for the workshops.

- Budgeting: Elevate increased the focus on proposers' budgets to ensure that they are clear and provide information by category to allow for comparison between proposers. This is a change from long, open-ended prompts that were included in the first GE RFP.

The RFP was also more generally revised to provide more detailed direction for responses and easier evaluation and comparison of proposals. Additional changes found in review of the second GE RFP were as follows.

- Funding: The GE period and funding increased for the second RFP.
  - First GE RFP: Contracts lasted six to nine months and were limited to a maximum of $50,000.
  - Second GE RFP: Contracts will last up to twelve months and have a limit of $100,000.

- Education Campaign Overview
  - First GE RFP: The overview stated that campaigns should "…work to disseminate critical program-related information, including but not limited to solar basics, program requirements, eligibility, consumer protections, and program benefits and opportunities."
  - Second GE RFP: The overview provided additional information. It stated that the campaigns should educate potential participants on critical program information including the following.
    - Awareness and trust in solar energy and the ILSFA Program.
    - Opportunities for low-income households to participate in the ILSFA Program and the value of the program to participants.
    - How communities can access the benefits of solar through economic development, job training and hiring, and environmental impacts.

- Campaign Focus: The second RFP provides an increased emphasis on educating participants on solar basics, program benefits, program requirements, consumer protections, solar-ready properties, finding AVs, or other benefits, opportunities, and requirements related to potential ILSFA participants.

  There is also an increased emphasis on campaigns that help single-family and small multi-family residence owners pursue distributed generation projects and community solar, and address the following challenges.
  - Trust: Building trust in communities that were impacted by alternative retail electric suppliers' marketing.
  - ILSFA Benefits: Explaining the added benefits of the ILSFA Program compared to the non-income qualified solar programs in IL.
  - Information Accessibility: Providing the information in formats that are developed for the specific communities served.

- GE Expectations: The second RFP includes a list of expectations for the GEs that was not included in the first RFP.
  - Review program information and guides to gain program familiarity before the educational onboarding session.
  - Attend a two-day educational onboarding session in Chicago.
  - Attend a one-day mid-cycle meeting in Central Illinois.
  - Attend periodic webinars on program or outreach-related topics.
  - Obtain approval of all adapted or newly-developed outreach materials.
  - Hold monthly 30-minute check-ins with Elevate Energy's Grassroots Education coordinator.
  - Track outreach efforts in a customer database, including meetings and information about community residents interested in follow up on program participation.
  - Use an "exit survey" as a part of presentations to track audience interest and desire for follow-up.
  - Follow up with outreach audience members expressing interest in participating in the ILSFA Program.
  - Promptly respond to inquiries from community residents, directing them to appropriate resources as applicable.
  - Hold an "exit call" at the end of the contract period with Elevate Energy's Grassroots Education coordinator to share insights on what worked and what didn't work in the campaign.
  - Prepare a mid-year and an end-of-campaign report on successes, challenges, and suggestions for improvement for future campaigns.

- Mass Marketing: The second RFP specifically states that the education campaigns should not include mass marketing campaigns such as through TV or radio commercials.

- Approved Vendors: The second RFP specifies that GEs cannot engage in activities with AVs that would constitute a conflict of interest or conduct outreach that prioritizes one AV over any others.

- Subcontractors: The second RFP reduced the allowable subcontractor amount to ten percent of the campaign budget (from 40 percent in the first RFP).

When asked whether the GE design aimed to reach a broader representation across the state, Elevate reported that the goal of Grassroots Education was to reach as many communities as possible given the available budget, and that the first round went well because there was representation in Central and Southern Illinois, as well as in Rockford and Chicago.

Initial GE reporting included some inaccurate data about the number of contacts made. For example, one GE reported attendance at the event as everyone who attended the festival, rather than those who spoke to the GE. Elevate reported that they clarified reporting guidelines to better define how data should be collected for various types of events.

K. Job Training

In the Phase Two, Second Interim Period, ILSFA continued its work on Job Training, but given that AVs were just getting projects underway, hiring was limited. Regardless, Elevate Energy engaged in the following job training-related activities.

- Continued to collaborate with FEJA-approved job training programs. Elevate has reached out to each individually and worked with them to develop a list of events. This included developing a list of classes for their new cohorts and identifying their program requirements. This information is available on the ILSFA website.
- Collaborated with the Illinois Solar Energy Association to plan participation in its upcoming Job Fair.
- Worked with AVs to identify their hiring needs.
- Uploaded AV job postings for job trainees to a variety of websites and job training organizations.
- Made updates to the Job Training content that was posted on the Job Training page.
- Reached out to other job training groups to assess whether they can be added to the list of other qualified job training organizations, which to date has primarily included organizations such as community colleges and the carpenters' union. Elevate has set up the requirements for the training these organizations need to provide. The organizations will share their curriculum with Elevate to determine if they can qualify.

Elevate Energy faced a variety of challenges with respect to job training.

- Availability of Illinois solar industry jobs, given that many vendors already have their own employees, including out-of-state workers coming into the state for work.
- Job training organizations are concentrated in the Chicago area while projects are being built all over the state, so that the location of the job training and the project construction needs do not match up.
- Difficulty getting trained candidates placed in permanent, full-time jobs that have a duration of over two weeks (trainees may be hired for a short-term project and then dismissed).
- AVs who will not agree to hire returning citizens that have graduated from the training program, as the employers are not required to change their hiring practices. Elevate noted that California has a "second chance company" certification for firms willing to hire those that the program is trying to reach. They stated that the employers will need to develop an understanding of historically marginalized populations.
- No funding for required "wrap-around services" that allow the ILSFA Program to support low-income job trainees (e.g. funding for tools, professional attire, transportation to class or job sites, and other materials).
- Need for AVs that are minority-owned, women-owned, disabled, or veteran-owned so they reflect the communities that the program is trying to engage and hire.
- Need for funding to help trainees build other related and expected job skills such as resume writing and development, job interviewing, North American Board of Certified Energy Practitioners (NABCEP) certification prep/test taking, on-the-job training or apprenticeships, etc.

Elevate Energy job training managers felt the FEJA legislation did not have clear enough authority to require AVs to hire individuals who have completed job training for full-time, permanent employment. The legislation reportedly indicates that AVs should hire job trainees for solar "projects" rather than for long-term, permanent employment. The duration of a solar project installation may only run for two weeks, which would mean that the trainees achieve only temporary or episodic employment.

It is apparently difficult to keep trainees engaged in the solar industry when work opportunities are only available for seasonal employment, since roof work can only be done in spring, summer and fall; and perhaps then, only in two week increments at a time. Episodic solar industry employment makes it difficult to attract more qualified candidates who may have some lower level job experience or knowledge of construction because their existing employment may be more secure than that which may arise after job training graduation.

According to Elevate job training staff, an important focus moving forward will be to ensure funding for monitoring and tracking of job training program graduates so that there is a "seamless" process associated with job training. Currently, there is no vehicle for tracking whether job training program graduates achieve employment and for monitoring the quality of the jobs they obtain. Without such metrics, it will be difficult to determine whether job training investments have produced results sought by FEJA.

Elevate staff also had a concern about the size and scope of the current training programs. They reported that after three job training cohorts, approximately 100 Illinoisans will have been readied for solar industry job placement. It is unclear if that number will be sufficient to support solar growth throughout the State, and also whether the individuals will be qualified given that they are not trained for NABCEP certification and do not have significant on-the-job work experience that one might achieve through an apprenticeship.

While Elevate reported that they have not yet received waivers from AVs for the job trainee requirement, they are concerned that they have heard from AVs about unsuccessful attempts to hire job trainees and that they will begin receiving waivers when construction begins after the winter. Elevate noted that because the AVs are not required to provide extra compensation or support to job trainees who must travel from Chicago to outlying areas for the work, the AVs may not go beyond an initial outreach before submitting the waivers.

The evaluation will continue to collect data and information to assess whether the FEJA job training and job creation goals are being met and whether additional requirements and data collection need to be conducted to further these objectives. However, it is important to note that the FEJA job training program is outside of the ILSFA Program control.

III. ILSFA Implementation Statistics

This section provides detailed statistics and analysis on Approved Vendors, submitted and approved projects, and program participants.

A. Approved Vendors

Analyses provided below are based on vendor registration data in the ILSFA Program database as of April 2020.

Table III-1 displays the status of the AVs. Forty-five vendors had been approved (up from 32 approved as of December 2019), one was under review, one was withdrawn, one was rejected (because it was incomplete).

Table III-1
Approved Vendor Registration Status

Status	Vendors	
	#	%
Approved	45	94%
Under Review	1	2%
Withdrawn	1	2%
Rejected	1	2%
Total	**48**	**100%**

Table III-2 displays the number of AVs that were qualified as Minority or Women-Owned Businesses (MWBEs). Approved Vendors are considered to be MWBEs if they are registered with public or non-public third-party certifying bodies approved by ComEd and Ameren Illinois, including but not limited to, the National Minority Supplier Development Council and its regional affiliates, and the Women's Business Enterprise National Council and its regional affiliates.

While in December 2019, four of the 32 Approved Vendors were qualified as MWBEs, in April 2020, five of the 45 AVs were qualified as MWBEs. One additional MWBE vendor was under review.

Table III-2
Approved Vendors Minority or Women-Owned Status

Minority or Women Owned	Vendors									
	Approved		Withdrawn		Rejected		Under Review		Total	
	#	%	#	%	#	%	#	%	#	%
MWBE	5	11%	0	0%	1	100%	0	0%	**6**	**13%**
Not MWBE	39	87%	1	100%	0	0%	0	0%	**40**	**83%**
Unknown/Pending	1	2%	0	0%	0	0%	1	100%	**2**	**4%**
Total	**45**	**100%**	**1**	**100%**	**1**	**100%**	**1**	**100%**	**48**	**100%**

Table III-3 displays the types of projects that the AVs stated they would provide in their registrations. Of the 45 Approved Vendors, 37 stated that they would do NP/PF projects, 29 said they would do CS projects, 24 said they would do 1-to-4 unit DG projects, and 26 said they would do multi-family DG projects. AVs are not held to these statements, and it is not clear how many of the AVs will actually engage in the DG sub-program.

Table III-3
Approved Vendor Project Types

Project Types	Vendors									
	Approved		Withdrawn		Rejected		Under Review		Total	
	#	%	#	%	#	%	#	%	#	%
Non-Profit/Public Facilities	37	82%	1	100%	1	100%	1	100%	**40**	**83%**
Community Solar	29	64%	0	0%	1	100%	1	100%	**31**	**65%**
Distributed Generation: 1-4 Unit	24	53%	1	100%	1	100%	1	100%	**27**	**56%**
Distributed Generation: 5+ Unit	26	58%	1	100%	1	100%	1	100%	**29**	**60%**

Note: Vendors can pursue multiple project types.

Table III-4 displays the utility territories where the AVs stated they would work in their registration applications. While 38 planned to perform work in ComEd's territory, 36 planned to perform work in Ameren's territory, 19 in the territories of municipal utilities, 19 in the territories of rural electric cooperatives, 17 in the Mid-American territory, and nine in the Mt. Carmel territory. As with the sub-programs, these are vendor-reported and require further review and confirmation with AVs.

Table III-4
Approved Vendors by Utility Territories

Utility Territories	Vendors									
	Approved		Withdrawn		Rejected		Under Review		Total	
	#	%	#	%	#	%	#	%	#	%
ComEd	38	84%	1	100%	1	100%	1	100%	**41**	**85%**
Ameren	36	80%	1	100%	1	100%	1	100%	**39**	**81%**
Municipal Utilities	19	42%	1	100%	0	0%	1	100%	**21**	**44%**
Rural Electric Cooperatives	19	42%	1	100%	0	0%	1	100%	**21**	**44%**
Mid-American	17	38%	1	100%	0	0%	1	100%	**19**	**40%**
Mt. Carmel	9	20%	1	100%	0	0%	1	100%	**11**	**23%**

Note: Vendors can work in multiple utility territories.

Table III-5 displays the types of vendors. While 31 of the AVs are in the general AV category, six are Aggregator Designees, and three are Aggregators. There are five Single Project AVs.

Table III-5
Vendor Type

Vendor Type	Vendors									
	Approved		Withdrawn		Rejected		Under Review		Total	
	#	%	#	%	#	%	#	%	#	%
Approved Vendor	31	69%	1	100%	1	100%	0	0%	**33**	**69%**
Single Project Approved Vendor	5	11%	0	0%	0	0%	0	0%	**5**	**10%**
Aggregator Designee	6	13%	0	0%	0	0%	1	100%	**7**	**15%**
Aggregator	3	7%	0	0%	0	0%	0	0%	**3**	**6%**
Total	**45**	**100%**	**1**	**100%**	**1**	**100%**	**1**	**100%**	**48**	**100%**

Note: Two approved Aggregators initially applied to the Program as Approved Vendors.

B. Projects

This section provides information on the project applications and projects that were selected in program years 2018-2019 (October 2019 data) and 2019-2020 (April 2020 data).

Table III-6 displays the number of projects selected, eligible, ineligible, withdrawn, and under review by sub-program for the 2018-2019 and 2019-2020 program years. The table provides the following information.

- Non-Profit / Public Facility Projects: 67 projects were submitted, 31 were eligible, and 31 were selected across the two program years. While seven projects were selected in the first program year, 24 were selected in the second program year. Several of the PY2 projects were submitted and selected following the submission window.

- Low-Income Community Solar Projects: 75 projects were submitted, 56 were eligible, and eight were selected across the two program years, four in each year. The volume of submitted projects significantly exceeded the amount of funding available for the sub-program. The 30 submitted projects totaled $148.8 million in incentive value compared to $12 million in available funding.[24]

- Low-Income Distributed Generation Projects: 12 projects were submitted, ten were eligible, and ten were selected in the second program year. The DG sub-program was not fully subscribed and additional projects were submitted and selected after the initial project selection.

Table III-6
All Submitted Projects, 2018-2020
Eligibility Status

Status	PY1: 2018-2019				PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	DG	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
Selected	7	4	0	**11**	24	4	10	**38**	31	8	10	**49**
Eligible	7	28	0	**35**	24	28	10	**62**	31	56	10	**97**
Ineligible	10	8	0	**18**	4	1	1	**6**	14	9	1	**24**
Withdrawn	11	9	1	**21**	10	1	0	**11**	21	10	1	**32**
Under Review	0	0	0	**0**	1	0	0	**1**	1	0	0	**1**
Total	**28**	**45**	**1**	**74**	**39**	**30**	**11**	**80**	**67**	**75**	**12**	**154**

Note: 19 projects that were not selected in project year one were re-submitted in project year two.

Table III-7 displays the reasons for vendor withdrawal of projects. The most common reasons for withdrawal were issues obtaining documentation and lack of a signed interconnection agreement. Other reasons included waiting for the next program year, organizational challenges, high interconnection costs, and financial constraints.

Table III-7
All Submitted Projects
Reason for Vendor Withdrawal

Reason	PY1: 2018-2019				PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	DG	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
No Signed Interconnection Agreement	4	1	0	**5**	0	0	0	**0**	4	1	0	5
Issues Obtaining Documentation	0	0	0	**0**	5	0	0	**5**	5	0	0	5
High Interconnection Cost	0	2	0	**2**	0	0	0	**0**	0	2	0	2
Organizational Changes at Non-Profit	0	0	0	**0**	2	0	0	**2**	2	0	0	2

[24] This is similar to what was seen in ABP and in the recent NJ community solar application process.

Reason	PY1: 2018-2019				PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	DG	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
Waiting for Next Program Year	0	2	0	**2**	0	0	0	**0**	0	2	0	2
Financial Constraints	1	1	0	**2**	0	0	0	**0**	1	1	0	2
Other	2	0	0	**2**	3	0	0	**3**	5	0	0	5
Reason Not Provided	4	3	1	**8**	0	1	0	**1**	4	4	1	9
Not Withdrawn	17	36	0	**53**	29	29	11	**69**	46	65	11	122
Total	**28**	**45**	**1**	**74**	**39**	**30**	**11**	**80**	**67**	**75**	**12**	**154**

Tables III-8A, III-8B, and III-8C display whether mitigation was required for each sub-program. (Mitigation is required when a proposed project does not meet the ILSFA's site suitability guidelines that were developed to ensure that there are no barriers to the safe installation of photovoltaic systems.) While 11 of 31 selected NP/PF projects required mitigation, two of eight selected CS projects required mitigation, and one of ten selected DG projects required mitigation.

Table III-8A
Non-Profit and Public Facility Projects
Mitigation Required

Mitigation	Non-Profit / Public Facility Participants								
	PY1: 2018-2019			PY2: 2019-2020			PY1 & PY2: 2018-2020		
	Selected	Not Selected	Total PY1	Selected	Not Selected	Total PY2	Selected	Not Selected	Total
Required	1	4	**5**	10	6	**16**	11	10	**21**
Not Required	6	17	**23**	14	9	**23**	20	26	**46**
Total	**7**	**21**	**28**	**24**	**15**	**39**	**31**	**36**	**67**

Note: "Not Selected" includes eligible projects that were not selected and all projects that were ineligible, withdrawn, rejected, or under review as of April 2020.

Table III-8B
Low-Income Community Solar Projects
Mitigation Required

Mitigation	Low-Income Community Solar Participants								
	PY1: 2018-2019			PY2: 2019-2020			PY1 & PY2: 2018-2020		
	Selected	Not Selected	Total PY1	Selected	Not Selected	Total PY2	Selected	Not Selected	Total
Required	1	9	**10**	1	4	**5**	2	13	**15**
Not Required	3	32	**35**	3	21	**24**	6	53	**59**
Missing	0	0	**0**	0	1	**1**	0	1	**1**
Total	**4**	**41**	**45**	**4**	**26**	**30**	**8**	**67**	**75**

Note: "Not Selected" includes eligible projects that were not selected and all projects that were ineligible, withdrawn, or rejected as of April 2020.

Table III-8C
Low-Income Distributed Generation Projects
Mitigation Required

Mitigation	Low-Income Distributed Generation Participants								
	PY1: 2018-2019			PY2: 2019-2020			PY1 & PY2: 2018-2020		
	Selected	Not Selected	Total PY1	Selected	Not Selected	Total PY2	Selected	Not Selected	Total
Required	0	0	**0**	1	0	**1**	1	0	**1**
Not Required	0	1	**1**	9	1	**10**	9	2	**11**
Total	**0**	**1**	**1**	**10**	**1**	**11**	**10**	**2**	**12**

Note: "Not Selected" includes eligible projects that were not selected and all projects that were ineligible, withdrawn, rejected, or under review as of April 2020.

Table III-9 displays the number of projects submitted by AVs in each ILSFA sub-program. The vendors that submitted the most projects were Novel Energy Solutions, Central Road Energy, Community Power Group, Solar Sense, and Promethean Solar. In total, these five AVs submitted 73 projects out of the total of 154 projects that were submitted[25]. Twenty-six different vendors submitted projects, indicating a successful AV participation rate. However, only two vendors, Certasun and SA Energy, submitted DG projects.

[25] Projects that were re-submitted were counted in both Program Years.

Table III-9
All Submitted Projects
Approved Vendors

Vendor	PY1: 2018-2019				PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	DG	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
Novel Energy Solutions	2	11	0	**13**	0	5	0	**5**	2	16	0	**18**
Central Road Energy	8	1	0	**9**	7	1	0	**8**	15	2	0	**17**
Community Power Group	0	9	0	**9**	0	5	0	**5**	0	14	0	**14**
Solar Sense, Inc.	7	2	0	**9**	4	0	0	**4**	11	2	0	**13**
Promethean Solar	0	4	0	**4**	0	7	0	**7**	0	11	0	**11**
Certasun	0	0	0	**0**	0	0	10	**10**	0	0	10	**10**
Groundswell	1	3	0	**4**	5	1	0	**6**	6	4	0	**10**
Advanced Energy Solutions	6	0	0	**6**	2	0	0	**2**	8	0	0	**8**
PSG Energy Group	2	0	0	**2**	4	0	0	**4**	6	0	0	**6**
Tatleaux Illinois Solar	0	0	0	**0**	0	6	0	**6**	0	6	0	**6**
Windfree Wind and Solar	0	0	0	**0**	6	0	0	**6**	6	0	0	**6**
Ameresco	0	5	0	**5**	0	0	0	**0**	0	5	0	**5**
Trajectory Energy Partners	0	4	0	**4**	0	1	0	**1**	0	5	0	**5**
CIC Energy Consulting	0	0	0	**0**	3	0	0	**3**	3	0	0	**3**
Citrine Power	0	2	0	**2**	0	1	0	**1**	0	3	0	**3**
SA Energy	0	1	1	**2**	0	0	1	**1**	0	1	2	**3**
Affordable Comm. Energy	0	0	0	**0**	2	0	0	**2**	2	0	0	**2**
Day and Night Solar	0	0	0	**0**	2	0	0	**2**	2	0	0	**2**
JCD Solar	0	1	0	**1**	0	1	0	**1**	0	2	0	**2**
LiveWire Electrical	2	0	0	**2**	0	0	0	**0**	2	0	0	**2**
WCP Solar	0	1	0	**1**	0	1	0	**1**	0	2	0	**2**
Xolar Renewable Energy	0	0	0	**0**	2	0	0	**2**	2	0	0	**2**
Centralia City School Dist.	0	0	0	**0**	1	0	0	**1**	1	0	0	**1**
Solar Star Urbana East	0	0	0	**0**	0	1	0	**1**	0	1	0	**1**
SunPower Corporation	0	1	0	**1**	0	0	0	**0**	0	1	0	**1**
VLV Development	0	0	0	**0**	1	0	0	**1**	1	0	0	**1**
Total	**28**	**45**	**1**	**74**	**39**	**30**	**11**	**80**	**67**	**75**	**12**	**154**

Below we provide a summary of the number of AVs that submitted various types of projects.

- Fourteen AVs submitted NP/PF projects. Eight AVs submitted one to four of these projects, four AVs submitted five to eight of these projects, one AV submitted 11 NP/PF projects, and one AV submitted 15 NP/PF projects.

- Fifteen AVs submitted CS projects. Nine AVs submitted one to four of these projects, three AVs submitted five to seven of these projects, one AV submitted 9 to 11 CS projects, and two AVs submitted 14 to 16 CS projects.

- Two AVs submitted DG projects. One AV submitted one project and one AV submitted ten projects.

Table III-10 displays the number of selected projects by AV. There were 14 different AVs that had selected projects. Certasun and Solar Sense each had nine selected projects, Central Road Energy had seven selected projects, PSG Energy Group and Windfree Wind and Solar had six selected projects. Nine other vendors had one or two selected projects.

Table III-10
All Selected Projects
Approved Vendors

Vendor	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
Certasun	0	0	**0**	0	0	9	**9**	0	0	9	**9**
Solar Sense, Inc.	3	2	**5**	4	0	0	**4**	7	2	0	**9**
Central Road Energy	0	0	**0**	7	0	0	**7**	7	0	0	**7**
PSG Energy Group	2	0	**2**	4	0	0	**4**	6	0	0	**6**
Windfree Wind and Solar	0	0	**0**	6	0	0	**6**	6	0	0	**6**
Day and Night Solar	0	0	**0**	2	0	0	**2**	2	0	0	**2**
Novel Energy Solutions	2	0	**2**	0	0	0	**0**	2	0	0	**2**
Promethean Solar	0	0	**0**	0	2	0	**2**	0	2	0	**2**
Centralia City School Dist.	0	0	**0**	1	0	0	**1**	1	0	0	**1**
Groundswell, Inc.	0	0	**0**	0	1	0	**1**	0	1	0	**1**
SA Energy LLC	0	0	**0**	0	0	1	**1**	0	0	1	**1**
Solar Star Urbana East	0	0	**0**	0	1	0	**1**	0	1	0	**1**
SunPower Corporation	0	1	**1**	0	0	0	**0**	0	1	0	**1**
Trajectory Energy Partners	0	1	**1**	0	0	0	**0**	0	1	0	**1**
Total	**7**	**4**	**11**	**24**	**4**	**10**	**38**	**31**	**8**	**10**	**49**

Table III-11 displays the number of submitted projects by utility territory. The table shows that 76 projects were submitted in ComEd's territory, 73 projects were submitted in Ameren's territory, and five were submitted in the territory of rural or municipal utilities.

Table III-11
All Submitted Projects
Utility Territory

Utility Territory	PY1: 2018-2019				PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	DG	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
ComEd	3	23	1	**27**	26	12	11	**49**	29	35	12	**76**
Ameren	22	22	0	**44**	11	18	0	**29**	33	40	0	**73**
Rural Electric Co-op	2	0	0	**2**	1	0	0	**1**	3	0	0	**3**
Municipal Utility	1	0	0	**1**	1	0	0	**1**	2	0	0	**2**
Total	**28**	**45**	**1**	**74**	**39**	**30**	**11**	**80**	**67**	**75**	**12**	**154**

Table III-12 displays the number of selected projects by utility territory. The table shows that 27 projects in ComEd's territory and 22 in Ameren's territory were selected.

Table III-12
All Selected Projects
Utility Territory

Utility Territory	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
ComEd	2	1	**3**	13	1	10	**24**	15	2	10	**27**
Ameren	5	3	**8**	11	3	0	**14**	16	6	0	**22**
Total	**7**	**4**	**11**	**24**	**4**	**10**	**38**	**31**	**8**	**10**	**49**

Table III-13 displays the number of selected projects by city. The table shows that the selected projects are located in 17 different cities. While 16 selected projects were located in Chicago, six selected projects were located in Urbana, and five were located in Aurora and in Champaign.

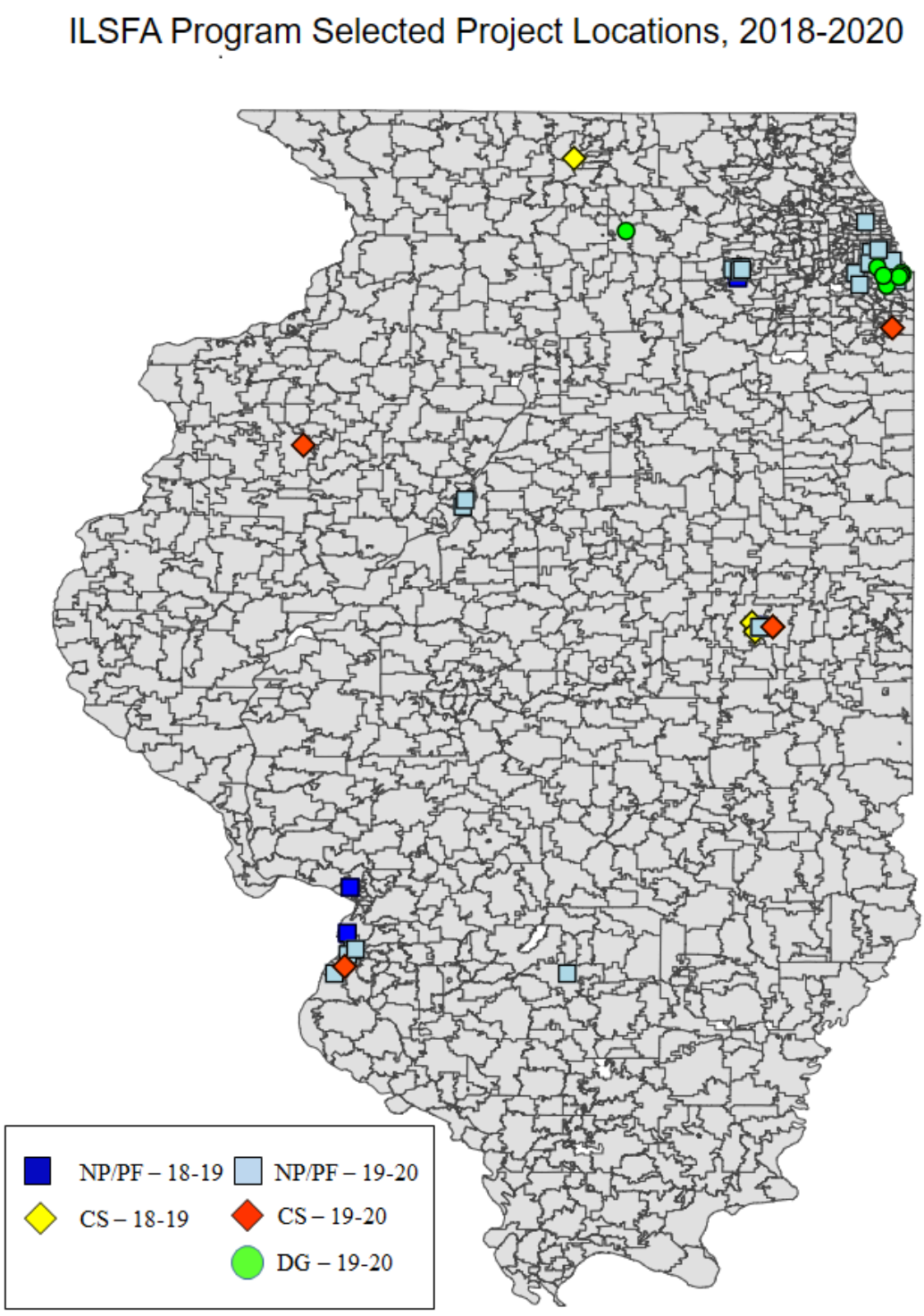
Table III-13
All Selected Projects
Illinois City

City	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
Chicago	0	0	**0**	7	0	9	**16**	7	0	9	**16**
Urbana	2	1	**3**	2	1	0	**3**	4	2	0	**6**
Aurora	1	0	**1**	4	0	0	**4**	5	0	0	**5**
Champaign	1	2	**3**	2	0	0	**2**	3	2	0	**5**

City	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
East St. Louis	0	0	**0**	3	0	0	**3**	3	0	0	**3**
Chicago Ridge	0	0	**0**	2	0	0	**2**	2	0	0	**2**
Peoria	0	0	**0**	2	0	0	**2**	2	0	0	**2**
Alton	1	0	**1**	0	0	0	**0**	1	0	0	**1**
Cahokia	0	0	**0**	0	1	0	**1**	0	1	0	**1**
Centralia	0	0	**0**	1	0	0	**1**	1	0	0	**1**
Chicago Heights	0	0	**0**	0	1	0	**1**	0	1	0	**1**
DeKalb	0	0	**0**	0	0	1	**1**	0	0	1	**1**
Dupo	0	0	**0**	1	0	0	**1**	1	0	0	**1**
Galesburg	0	0	**0**	0	1	0	**1**	0	1	0	**1**
Granite City	1	0	**1**	0	0	0	**0**	1	0	0	**1**
Montgomery	1	0	**1**	0	0	0	**0**	1	0	0	**1**
Rockford	0	1	**1**	0	0	0	**0**	0	1	0	**1**
Total	**7**	**4**	**11**	**24**	**4**	**10**	**38**	**31**	**8**	**10**	**49**

Figure III-1 displays the location of the selected projects by sub-program and program year.

Figure III-1
ILSFA Program Selected Project Locations



To characterize the urbanity of the selected projects, we initially applied the Census definition to the addresses of the selected projects.[26] The Census defines an urban area as an area with at least 2,500 people, at least 1,500 of which reside outside institutional group quarters. Rural encompasses all other areas not included in the urban areas. This definition classified all selected projects as being in urban areas, when most would not consider many of these locations urban. We instead used a definition from the Department of Health and Human Services, as published in the Federal Register[27] and applied the following methodology.

- The five-digit zip code for each project's installation was matched to the corresponding Census Zip Code Tabulation Area (ZCTA). ZCTAs are the Census Bureau's geographical approximation of zip codes, which are used to report Census data.

- Data from the 2010 Census on population density (number of people per square mile of land area) at the ZCTA-level was used to classify each project as urban, rural, or suburban using the following schema.
  - Urban is defined as a five-digit ZCTA in which the population density is greater than 3,000 persons per square mile
  - Suburban is defined as a five-digit ZCTA in which the population density is between 1,000 and 3,000 persons per square mile
  - Rural is defined as a five-digit ZCTA in which the population density is less than 1,000 persons per square mile.

Table III-14 shows that 27 projects were characterized as being in urban locations, 11 in suburban locations, and 11 in rural locations.

Table III-14
All Selected Projects
Urbanity

Urbanity	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
Urban	2	2	**4**	14	0	9	**23**	16	2	9	**27**
Suburban	2	0	**2**	7	2	0	**9**	9	2	0	**11**
Rural	3	2	**5**	3	2	1	**6**	6	4	1	**11**
Total	**7**	**4**	**11**	**24**	**4**	**10**	**38**	**31**	**8**	**10**	**49**

Table III-15 shows that the census tracts that had selected projects were comprised of an average of 63 percent minority (non-white), compared to an average of 30 percent minority in census tracts that did not have selected projects. While 65 percent of the census tracts that had selected projects had more than 50 percent minority households, 20 percent of the census tracts without selected projects had more than 50 percent minority households. The census

[26] https://www.census.gov/programs-surveys/geography/guidance/geo-areas/urban-rural/2010-urban-rural.html
[27] https://www.cms.gov/Regulations-and-Guidance/Regulations-and-Policies/QuarterlyProviderUpdates/downloads/cms4063ifc.pdf

tracts without selected projects were similar to the overall state composition and the census tracts with selected projects were more likely to have large minority populations.

Table III-15
All Selected Projects
Minority Communities

Percent Minority	Census Tracts Without Selected Projects	Census Tracts With Selected Projects	All Census Tracts in Illinois
Number of Census Tracts	3,076	40	3,116
≤ 10%	32%	3%	31%
11% - 25%	27%	13%	27%
26% - 50%	21%	20%	21%
> 50%	20%	65%	21%
Total	**100%**	**100%**	**100%**
Mean	**30%**	**63%**	**30%**

Table III-16 displays the number of submitted projects in EJ communities, in low-income census tracts, and by minority or women-owned businesses. The 154 submitted projects had the following characteristics.

- About half, 80 were in EJ communities.
- About three quarters, 113 were in low-income census tracts.
- Seven were submitted by MWBEs.
- 117 of the 150 projects had one of these characteristics.
- 37 projects had none of these characteristics.

Table III-16
All Submitted Projects
EJ Community, Low-Income Census Tract, and MWBE Businesses

Category	PY1: 2018-2019				PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	DG	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
EJ Community	14	19	0	**33**	31	7	9	**47**	45	26	9	**80**
LI Census Tract	22	28	1	**51**	38	13	11	**62**	60	41	12	**113**
MWBE	2	0	1	**3**	4	0	0	**4**	6	0	1	**7**
At Least One of Above	**22**	**30**	**1**	**53**	**39**	**14**	**11**	**64**	**61**	**44**	**12**	**117**
None of the Above	**6**	**15**	**0**	**21**	**0**	**16**	**0**	**16**	**6**	**31**	**0**	**37**
Total Submitted Projects	**28**	**45**	**1**	**74**	**39**	**30**	**11**	**80**	**67**	**75**	**12**	**154**

Table III-17 displays the number of selected projects in EJ communities, in low-income census tracts, and by minority or women-owned businesses.

- 24 of the 31 selected NP/PF projects were located in EJ communities, and 30 were located in LI census tracts.
- Three of the eight selected CS projects were located in EJ communities and 6 were located in LI census tracts.
- Eight of the ten selected DG projects were located in EJ communities and all were located in LI census tracts.
- None of the selected projects were submitted by MWBEs.

Table III-17
Selected Projects
EJ Community, Low-Income Census Tract, and MWBE Businesses

Category	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
EJ Community	5	1	**6**	19	2	8	**29**	24	3	8	**35**
LI Census Tract	7	2	**9**	23	4	10	**37**	30	6	10	**46**
MWBE	0	0	**0**	0	0	0	**0**	0	0	0	**0**
At Least One of Above	**7**	**2**	**9**	**24**	**4**	**10**	**38**	**31**	**6**	**10**	**47**
None of the Above	**0**	**2**	**2**	**0**	**0**	**0**	**0**	**0**	**2**	**0**	**2**
Total Selected Projects	**7**	**4**	**11**	**24**	**4**	**10**	**38**	**31**	**8**	**10**	**49**

Table III-18 breaks down the NP/PF projects into the two sub-program segments. The table shows that 21 of the selected projects were non-profit and that ten of the selected projects were public facilities.

Table III-18
Non-Profit and Public Facility Projects
Non-Profit or Public Facility

Type of Project	Non-Profit / Public Facility Participants								
	PY1: 2018-2019			PY2: 2019-2020			PY1 & PY2: 2018-2020		
	Selected	Not Selected	Total PY1	Selected	Not Selected	Total PY2	Selected	Not Selected	Total
Non-Profit	4	13	**17**	17	14	**31**	21	27	**48**
Public Facility	3	8	**11**	7	1	**8**	10	9	**19**
Total	**7**	**21**	**28**	**24**	**15**	**39**	**31**	**36**	**67**

Note: "Not Selected" includes eligible projects that were not selected and all projects that were ineligible, withdrawn, rejected, or under review as of April 2020.

Table III-19 displays the agreement type for NP/PF projects. While 21 selected projects were power purchase agreements (PPAs), eight were leases, and two were purchases.

Table III-19
Non-Profit and Public Facility Projects
Agreement Type

Agreement Types	Non-Profit / Public Facility Participants								
	PY1: 2018-2019			PY2: 2019-2020			PY1 & PY2: 2018-2020		
	Selected	Not Selected	Total PY1	Selected	Not Selected	Total PY2	Selected	Not Selected	Total
PPA	4	10	**14**	17	8	**25**	21	18	**39**
Lease	3	9	**12**	5	3	**8**	8	12	**20**
Purchase	0	2	**2**	2	4	**6**	2	6	**8**
Total	**7**	**21**	**28**	**24**	**15**	**39**	**31**	**36**	**67**

Note: "Not Selected" includes eligible projects that were not selected and all projects that were ineligible, withdrawn, rejected, or under review as of April 2020.

Table III-20 provides the term of agreement for the NP/PF projects. The table shows that ten of the selected projects had a 15-year term, eight had a 20-year term, 11 had a 25-year term, one had a shorter term, and one was missing these data.

Table III-20
Non-Profit and Public Facility Projects
Term of Agreement

Term of Agreement (Years)	Non-Profit / Public Facility Participants								
	PY1: 2018-2019			PY2: 2019-2020			PY1 & PY2: 2018-2020		
	Selected	Not Selected	Total PY1	Selected	Not Selected	Total PY2	Selected	Not Selected	Total
0	0	2	**2**	0	2	**2**	0	4	**4**
6-7	0	1	**1**	1	0	**1**	1	1	**2**
12	0	2	**2**	0	1	**1**	0	3	**3**
15	5	7	**12**	5	12	**17**	10	19	**29**
20	0	8	**8**	8	0	**8**	8	8	**16**
25	2	1	**3**	9	0	**9**	11	1	**12**
Missing	0	0	**0**	1	0	**1**	1	0	**1**
Total	**7**	**21**	**28**	**24**	**15**	**39**	**31**	**36**	**67**

Note: "Not Selected" includes eligible projects that were not selected and all projects that were ineligible, withdrawn, rejected, or under review as of April 2020.

Table III-21 displays the anchor type for the CS projects. While three of the selected CS projects had a public facility as an anchor, two had a non-profit as an anchor, and three did not have an anchor.

Table III-21
Low-Income Community Solar Projects
Projected Anchor Type

Anchor Type	Community Solar Participants								
	PY1: 2018-2019			PY2: 2019-2020			PY1 & PY2: 2018-2020		
	Selected	Not Selected	Total PY1	Selected	Not Selected	Total PY2	Selected	Not Selected	Total
Public Facility	2	14	**16**	1	11	**12**	3	25	**28**
Non-Profit	0	7	**7**	2	5	**7**	2	12	**14**
Other	0	1	**1**	0	0	**0**	0	1	**1**
None	2	19	**21**	1	10	**11**	3	29	**32**
Total	**4**	**41**	**45**	**4**	**26**	**30**	**8**	**67**	**75**

Note: "Not Selected" includes eligible projects that were not selected and all projects that were ineligible, withdrawn, rejected, or under review as of April 2020.

Table III-22 displays the projected anchor share for the CS projects. The table shows that three of the selected projects did not have an anchor, two had an anchor share between 12 and 20 percent, one had a share of 24 to 25 percent, and two had an anchor share of 40 percent.

Table III-22
Low-Income Community Solar Projects
Projected Anchor Share

Anchor Share	Community Solar Participants								
	PY1: 2018-2019			PY2: 2019-2020			PY1 & PY2: 2018-2020		
	Selected	Not Selected	Total PY1	Selected	Not Selected	Total PY2	Selected	Not Selected	Total
0%	2	20	**22**	1	10	**11**	3	30	**33**
2% - 5%	0	4	**4**	0	2	**2**	0	6	**6**
10%	0	2	**2**	0	2	**2**	0	4	**4**
12% - 20%	1	0	**1**	1	0	**1**	2	0	**2**
24% - 25%	0	2	**2**	1	0	**1**	1	2	**3**
33% - 37%	0	3	**3**	0	2	**2**	0	5	**5**
40%	1	10	**11**	1	10	**11**	2	20	**22**
Total	**4**	**41**	**45**	**4**	**26**	**30**	**8**	**67**	**75**

Note: "Not Selected" includes eligible projects that were not selected and all projects that were ineligible, withdrawn, rejected, or under review as of April 2020.

Table III-23 displays the distribution of DG projects between one to four unit buildings and five or more unit buildings. Nine of the selected projects were in one-to-four unit buildings and one was in a five or more unit building.

Table III-23
Low-Income Distributed Generation Projects
1-4 Units or 5+ Units

Housing Type	Distributed Generation Participants								
	PY1: 2018-2019			PY2: 2019-2020			PY1 & PY2: 2018-2020		
	Selected	Not Selected	Total PY1	Selected	Not Selected	Total PY2	Selected	Not Selected	Total
1-4 Units	0	0	**0**	9	1	**10**	9	1	**10**
5+ Units	0	1	**1**	1	0	**1**	1	1	**2**
Total	**0**	**1**	**1**	**10**	**1**	**11**	**10**	**2**	**12**

Note: "Not Selected" includes eligible projects that were not selected and all projects that were ineligible, withdrawn, rejected, or under review as of April 2020.

Table III-24 displays the funding source for the selected projects. Seventeen of the 31 NP/PF projects, five of the eight CS projects, one of the ten DG projects will be funded through the RERF.

Table III-24
All Selected Projects
Funding Source

Funding Source	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NPPF	CS	Total PY1	NPPF	CS	DG	Total PY2	NPPF	CS	DG	Total
RERF	6	3	**9**	11	2	1	**14**	17	5	1	**23**
Utility	1	1	**2**	13	2	9	**24**	14	3	9	**26**
Total	**7**	**4**	**11**	**24**	**4**	**10**	**38**	**31**	**8**	**10**	**49**

Table III-25 displays the projected project size for the selected projects. The mean size for the NP/PF projects was 134 AC kW, the mean size for CS projects was 1,009 AC kW, and the mean size for the DG projects was 206 AC kW.

There has been some concern that many of the CS projects are large in size and not truly community-driven. Five of the eight selected CS projects were 750 AC kW or larger and three were 1,850 AC kW or larger. This relates to the project economics and the developers looking for economies of scale in project implementation. However, the project selection criteria was recently changed to provide for selection of smaller projects.

Table III-25
All Selected Projects
Projected Project Size (AC kW)

Project Size (AC kW)	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
≤25 kW	1	1	**2**	6	0	9	**15**	7	1	9	**17**
26-50 kW	0	1	**1**	5	0	0	**5**	5	1	0	**6**
51-100 kW	3	0	**3**	5	0	0	**5**	8	0	0	**8**
101-1,000 kW	3	0	**3**	8	2	0	**10**	11	2	0	**13**
1,001-1,999 kW	0	1	**1**	0	2	0	**2**	0	3	0	**3**
2,000 kW	0	1	**1**	0	0	1	**1**	0	1	1	**2**
Total	**7**	**4**	**11**	**24**	**4**	**10**	**38**	**31**	**8**	**10**	**49**
Mean Size	**186**	**976**	**473**	**119**	**1,042**	**206**	**239**	**134**	**1,009**	**206**	**292**

Table III-26 displays the projected estimated production from the PV Watts tool for the selected projects. The mean production for the NP/PF projects was about 204 MWh per year and the mean for CS was about 1,962 MWh per year. The mean DG project production was 427 MWh per year.

Table III-26
All Selected Projects
Projected Estimated Production (MWh/Year)

Projected Estimated Production (MWh/Year)	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
5 – 13	0	0	**0**	0	0	9	**9**	0	0	9	**9**
21 – 40	1	0	**1**	4	0	0	**4**	5	0	0	**5**
41 – 50	0	1	**1**	5	0	0	**5**	5	1	0	**6**
51 – 100	0	1	**1**	6	0	0	**6**	6	1	0	**7**
101 – 200	4	0	**4**	1	0	0	**1**	5	0	0	**5**
201 – 300	0	0	**0**	3	0	0	**3**	3	0	0	**3**
301 – 500	1	0	**1**	3	0	0	**3**	4	0	0	**4**
690 – 890	1	0	**1**	2	1	0	**3**	3	1	0	**4**
1,650 – 1,670	0	0	**0**	0	2	0	**2**	0	2	0	**2**
3,701 – 4,200	0	2	**2**	0	1	1	**2**	0	3	1	**4**
Total	**7**	**4**	**11**	**24**	**4**	**10**	**38**	**31**	**8**	**10**	**49**
Mean Production	**275**	**1,942**	**881**	**183**	**1,982**	**427**	**437**	**204**	**1,962**	**427**	**536**

Table III-27 displays the contracted number of RECs for the selected projects. The table shows that the mean was 2,935 for the NP/PF projects, 28,289 for the CS projects, and 6,171 for the DG projects.

Table III-27
All Selected Projects
Contracted Number of RECs

Contracted # of RECs	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
75 – 155	0	0	**0**	0	0	9	**9**	0	0	9	**9**
301 – 500	1	0	**1**	1	0	0	**1**	2	0	0	**2**
501 – 750	0	1	**1**	8	0	0	**8**	8	1	0	**9**
901 – 1,000	0	1	**1**	2	0	0	**2**	2	1	0	**3**
1,001 – 3,000	4	0	**4**	5	0	0	**5**	9	0	0	**9**
3,001 – 4,000	0	0	**0**	3	0	0	**3**	3	0	0	**3**
5,001 – 7,000	1	0	**1**	3	0	0	**3**	4	0	0	**4**
9,001 – 12,000	1	0	**1**	2	0	0	**2**	3	0	0	**3**
13,233	0	0	**0**	0	1	0	**1**	0	1	0	**1**
23,396	0	0	**0**	0	1	0	**1**	0	1	0	**1**
32,460	0	0	**0**	0	1	0	**1**	0	1	0	**1**
52,823	0	1	**1**	0	0	0	**0**	0	1	0	**1**
55,425	0	1	**1**	0	1	0	**1**	0	2	0	**2**
60,693	0	0	**0**	0	0	1	**1**	0	0	1	**1**
Total	**7**	**4**	**11**	**24**	**4**	**10**	**38**	**31**	**8**	**10**	**49**
Mean RECs	**3,932**	**27,450**	**12,484**	**2,644**	**31,129**	**6,171**	**6,571**	**2,935**	**29,289**	**6,171**	**7,898**

Table III-28 displays the REC value for the selected projects. The table shows that the NP/PF projects averaged about $300,000, the CS projects averaged about $2.96 million, and the DG projects averaged $410,000 in REC value.

Table III-28
All Selected Projects
REC Value ($ Millions)

REC Value ($ Millions)	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
$0.01 - <$0.10	1	1	**2**	7	0	9	**16**	8	1	9	**18**
$0.10 - <$0.20	1	1	**2**	8	0	0	**8**	9	1	0	**10**
$0.20 - <$0.30	2	0	**2**	1	0	0	**1**	3	0	0	**3**
$0.30 - <$0.40	1	0	**1**	2	0	0	**2**	3	0	0	**3**

REC Value ($ Millions)	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	NP PF	CS	Total PY1	NP PF	CS	DG	Total PY2	NP PF	CS	DG	Total
$0.40 - <$0.50	0	0	**0**	2	0	0	**2**	2	0	0	**2**
$0.57	0	0	**0**	1	0	0	**1**	1	0	0	**1**
$0.60 - <$0.70	1	0	**1**	1	0	0	**1**	2	0	0	**2**
$0.90 - <$1.00	0	0	**0**	2	0	0	**2**	2	0	0	**2**
$1.10 - <$1.40	1	0	**1**	0	1	0	**1**	1	1	0	**2**
$2.45	0	0	**0**	0	1	0	**1**	0	1	0	**1**
$3.40	0	0	**0**	0	1	0	**1**	0	1	0	**1**
$4.00	0	0	**0**	0	0	1	**1**	0	0	1	**1**
$5.00 - $6.00	0	2	**2**	0	1	0	**1**	0	3	0	**3**
Total	**7**	**4**	**11**	**24**	**4**	**10**	**38**	**31**	**8**	**10**	**49**
Mean Value	**$0.39**	**$2.84**	**$1.29**	**$0.27**	**$3.07**	**$0.41**	**$0.60**	**$0.30**	**$2.96**	**$0.41**	**$0.76**

Table III-29 displays the dollars and percent of REC dollars in Ameren and ComEd service territories. The table shows that 60 percent of the REC value was in Ameren's service territory and 40 percent of the REC value was in ComEd's service territory. (The split for all project applications was the same as the split for selected projects.)

Table III-29
All Selected Projects
REC Value ($ Millions) by Utility Territory

Utility Territory	PY1: 2018-2019						PY2: 2019-2020							
	NP/PF		CS		Total – PY1		NP/PF		CS		DG		Total – PY2	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Ameren	$1.46	53%	$6.02	53%	**$7.48**	**53%**	$2.76	42%	$10.95	89%	$0.00	0%	**$13.71**	60%
ComEd	$1.30	47%	$5.36	47%	**$6.66**	**47%**	$3.76	58%	$1.34	11%	$4.15	100%	**$9.25**	40%
Total	**$2.76**	**100%**	**$11.37**	**100%**	**$14.14**	**100%**	**$6.52**	**100%**	**$12.29**	**100%**	**$4.15**	**100%**	**$22.96**	**100%**

Utility Territory	PY1 & PY2: 2018-2020							
	NP/PF		CS		DG		Total	
	#	%	#	%	#	%	#	%
Ameren	$4.22	45%	$16.97	72%	$0.00	0%	**$21.19**	**57%**
ComEd	$5.07	55%	$6.70	28%	$4.15	100%	**$15.91**	**43%**
Total	**$9.29**	**100%**	**$23.67**	**100%**	**$4.15**	**100%**	**$37.10**	**100%**

Table III-30 displays the dollars and percent of REC dollars by urbanity. The table shows that ten percent of the REC value was in urban areas, 23 percent was in suburban areas, and 67 percent was in rural areas, due to the location of the large CS projects and the large DG project.

Table III-30
All Selected Projects, 2018-2020
REC Value ($ Millions) by Urbanity

REC Value	PY1: 2018-2019						PY2: 2019-2020							
	NP/PF		CS		Total – PY1		NP/PF		CS		DG		Total – PY2	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Urban	$0.41	15%	$0.21	2%	**$0.61**	**4%**	$2.95	45%	$0.00	0%	$0.15	3%	**$6.52**	28%
Suburban	$1.30	47%	$0.00	0%	**$1.30**	**9%**	$2.50	38%	$4.74	39%	$0.00	0%	**$12.29**	54%
Rural	$1.06	38%	$11.16	98%	**$12.22**	**86%**	$1.07	16%	$7.55	61%	$4.00	97%	**$4.15**	18%
Total	**$2.76**	**100%**	**$11.37**	**100%**	**$14.14**	**100%**	**$6.52**	**100%**	**$12.29**	**100%**	**$4.15**	**100%**	**$22.96**	**100%**

REC Value	PY1 & PY2: 2018-2020							
	NP/PF		CS		DG		Total	
	#	%	#	%	#	%	#	%
Urban	$3.35	36%	$0.21	1%	$0.15	3%	**$3.71**	**10%**
Suburban	$3.81	41%	$4.74	20%	$0.00	0%	**$8.55**	**23%**
Rural	$2.13	23%	$18.71	79%	$4.00	97%	**$24.84**	**67%**
Total	**$9.29**	**100%**	**$23.67**	**100%**	**$4.15**	**100%**	**$37.10**	**100%**

Table III-31 displays the dollars and percent of REC dollars in EJ communities and low-income Census Tracts. The table shows that 72 percent of the REC value for NP/PF projects, 52 percent of the REC value for CS projects, and three percent of the REC value for DG projects were in EJ communities.[28] Almost all of the REC value was in low-income Census Tracts.[29]

[28] This is due to one large DG project that was not in an EJ community.
[29] The CS locations relate to the project's location and not the subscribers' locations. The subscribers' locations will be examined once the projects are energized and have subscribers.

Table III-31
All Selected Projects
REC Value ($) in Environmental Justice Communities and Low-Income Census Tracts

Community Type	PY1: 2018-2019						PY2: 2019-2020							
	NP/PF		CS		Total – PY1		NP/PF		CS		DG		Total – PY2	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
In EJ	$1.89	68%	$5.81	51%	**$7.70**	**54%**	$4.80	74%	$6.44	52%	$0.12	3%	**$11.37**	**50%**
Not in EJ	$0.88	32%	$5.56	49%	**$6.44**	**46%**	$1.72	26%	$5.85	48%	$4.02	97%	**$11.59**	**50%**
In LI Tracts	$2.76	100%	$11.16	98%	**$13.93**	**99%**	$5.91	91%	$12.29	100%	$4.15	100%	**$22.35**	**97%**
Not LI Tracts	$0.00	0%	$0.21	2%	**$0.21**	**1%**	$0.61	9%	$0.00	0%	$0.00	0%	**$0.61**	**3%**
Total	**$2.76**	**100%**	**$11.37**	**100%**	**$14.14**	**100%**	**$6.52**	**100%**	**$12.29**	**100%**	**$4.15**	**100%**	**$22.96**	**100%**

Community Type	PY1 & PY2: 2018-2020							
	NP/PF		CS		DG		Total	
	#	%	#	%	#	%	#	%
In EJ	$6.69	72%	$12.25	52%	$0.12	3%	**$19.06**	**51%**
Not in EJ	$2.59	28%	$11.42	48%	$4.02	97%	**$18.03**	**49%**
In LI Tracts	$8.67	93%	$23.46	99%	$4.15	100%	**$36.28**	**98%**
Not LI Tracts	$0.61	7%	$0.21	1%	$0.00	0%	**$0.82**	**2%**
Total	**$9.29**	**100%**	**$23.67**	**100%**	**$4.15**	**100%**	**$37.10**	**100%**

Table III-32 displays the first year projected costs savings, total costs, and savings for the NP/PF projects.

Table III-32
Non-Profit and Public Facility Projects, 2018-2020
Projected Project Costs and Savings for Selected Projects

Project Year	Costs and Savings	#	Selected Non-Profit/ Public Facility Projected Project Costs and Savings							
			Mean	Min	Percentile					Max
					P10	P25	P50	P75	P90	
PY1: 2018-2019	First Year Costs	7	$8,762	$12	$12	$12	$867	$22,228	$32,800	$32,800
	Total Costs	7	$205,712	$181	$181	$181	$12,561	$322,000	$948,692	$948,692
	First Year Savings	7	$14,731	$1,838	$1,838	$5,400	$10,953	$24,951	$32,800	$32,800
	Total Savings	7	$354,678	$31,584	$31,584	$156,187	$258,112	$447,869	$948,692	$948,692
PY2: 2019-2020	First Year Costs	24	$41,722	$0	$12	$132	$2,268	$10,987	$25,054	$859,403
	Total Costs	23	$128,888	$0	$181	$1,970	$40,453	$212,331	$377,117	$599,786
	First Year Savings	23	$8,232	$1,535	$2,177	$2,369	$4,690	$8,870	$16,373	$34,413

Project Year	Costs and Savings	#	Selected Non-Profit/ Public Facility Projected Project Costs and Savings							
			Mean	Min	Percentile					Max
					P10	P25	P50	P75	P90	
	Total Savings	23	$209,704	$17,776	$51,751	$55,869	$113,963	$300,744	$534,148	$981,288
PY1 & PY2: 2018-2020	First Year Costs	31	$34,279	$0	$12	$12	$2,232	$13,104	$25,054	$859,403
	Total Costs	30	$146,814	$0	$181	$181	$40,431	$212,331	$426,318	$948,692
	First Year Savings	30	$9,749	$1,535	$2,152	$3,627	$5,743	$13,104	$27,280	$34,413
	Total Savings	30	$243,531	$17,776	$45,338	$82,825	$139,285	$360,253	$557,609	$981,288

Note: One PY2 project with a Purchase Agreement only had data for First Year Costs.

Table III-33 displays the total percentage projected savings over the term of the agreement. This averages 73 percent, greater than the required 50 percent, for the selected NP/PF projects.

Table III-33
Non-Profit and Public Facility Projects
Total Projected Savings over the Term of Agreement

Total Projected Savings	Non-Profit / Public Facility Participants								
	PY1: 2018-2019			PY2: 2019-2020			PY1 & PY2: 2018-2020		
	Selected	Not Selected	Total – PY1	Selected	Not Selected	Total – PY2	Selected	Not Selected	Total
19%	0	2	**2**	0	0	**0**	0	2	**2**
50%-52%	2	1	**3**	5	3	**8**	7	4	**11**
56%-58%	1	8	**9**	1	0	**1**	2	8	**10**
59%-61%	0	2	**2**	4	2	**6**	4	4	**8**
62%-65%	0	0	**0**	4	1	**5**	4	1	**5**
69%-71%	1	2	**3**	0	5	**5**	1	7	**8**
75%	0	0	**0**	1	0	**1**	1	0	**1**
97%-98%	0	0	**0**	3	0	**3**	3	0	**3**
100%	3	6	**9**	5	4	**9**	8	10	**18**
Missing	0	0	**0**	1	0	**1**	1	0	**1**
Total	**7**	**21**	**28**	**24**	**15**	**39**	**31**	**36**	**67**
Mean	**76%**	**67%**	**69%**	**72%**	**72%**	**72%**	**73%**	**69%**	**71%**

Note: "Not Selected" includes eligible projects that were not selected and all projects that were ineligible, withdrawn, or under review as of April 2020.

Table III-34 brakes down the projected savings by more detailed status for projects that were not selected including ineligible, withdrawn, and under review.

Table III-34
Non-Profit and Public Facility Projects
Total Projected Savings over the Term of Agreement
For Projects Not Selected by Detailed Status

Total Projected Savings	Non-Profit / Public Facility Participants										
	PY1: 2018-2019			PY2: 2019-2020				PY1 & PY2: 2018-2020			
	Ineligible	Withdrawn	Total PY1	Ineligible	Withdrawn	Under Review	Total PY2	Ineligible	Withdrawn	Under Review	Total
19%	2	0	**2**	0	0	0	**0**	2	0	0	**2**
50%-52%	1	0	**1**	3	0	0	**3**	4	0	0	**4**
56%-58%	2	6	**8**	0	0	0	**0**	2	6	0	**8**
59%-61%	1	1	**2**	1	0	1	**2**	2	1	1	**4**
62%-65%	0	0	**0**	0	1	0	**1**	0	1	0	**1**
69%-71%	2	0	**2**	0	5	0	**5**	2	5	0	**7**
100%	2	4	**6**	0	4	0	**4**	2	8	0	**10**
Total	**10**	**11**	**21**	**4**	**10**	**1**	**15**	**14**	**21**	**1**	**36**
Mean	**61%**	**73%**	**67%**	**53%**	**81%**	**59%**	**72%**	**58%**	**77%**	**59%**	**69%**

C. DG Participant Statistics

Elevate Energy is responsible for collecting and maintaining participant data. This information includes income verification information as well as additional data from disclosure forms. These provide important information for the evaluation. Elevate provided these data without individual participant identification information to protect the confidentiality of program participants.

Data provided as of April 2020 included information for one selected multi-family DG project and an additional nine selected 1-to-4 unit DG projects.
Table III-35 displays information on the project stage and type of project for participants included in the anonymized participant file.

Table III-35
Distributed Generation Projects
Project Stage and Type

Project Stage	Type of Project	Number of Projects
ICC Approved/Construction	1-4 Distributed Generation	9
ICC Approved/Construction	5+ Distributed Generation	1

Table III-36 displays the type of income verification used for each project. The table shows that the following methods were used.

- Tax Transcript Request: This was provided by eight projects. This is a signed 4506-T IRS form that will allow the program administrator to contact the IRS and request the

previous year's income information on the participant's behalf. A completed 4506-T form is needed for each adult household member who files separately.[30]

- Third Party Program: This was provided by one project. This is documentation of approval or current enrollment in one of the following programs within the last 12 months.
  - Low Income Home Energy Assistance Program (LIHEAP)
  - Illinois Home Weatherization Assistance Program (IHWAP)
  - U.S. Department of Housing and Urban Development (HUD) Project-Based Vouchers
  - U.S. Department of HUD Project-Based Rental Assistance
  - Supplemental Security Income - Social Security (SSI)
  - Supplemental Security Disability Insurance - Social Security (SSDI not SSD)
  - Supplemental Nutritional Assistance Program (SNAP)
  - Women, Infants, and Children (WIC)
  - Temporary Assistance for Needy Families (TANF)
  - Medicaid

- Building Rent Rolls: This method was used by the selected and ICC-approved multi-family project. The rent rolls demonstrate payment of monthly housing costs, including utilities other than telephone, of no more than 30 percent of the maximum allowable income (as pursuant to the Illinois Affordable Housing Act) as defined by the HUD FY19 Fair Market Rent prices for the county.

Table III-36
Distributed Generation Projects
Type of Verification Used

Type of Verification	Number of Projects
Tax Transcript Request	8
Building Rent Rolls	1
Third Party Program	1
All Projects	**10**

Table III-37 displays the household income, poverty level, and percent of AMI for nine of the ten projects. One project was not included because income verification was based upon building rent rolls and income and poverty data were not provided. The table shows that there was a wide range of household income, poverty levels, and percent of AMI for the participating households. They ranged from 17 percent of the poverty level to 319 percent and from four percent of AMI to 65 percent of AMI. Households at the lowest income levels will experience the greatest impacts on energy burden and affordability.

[30] This is conducted by a third-party service, not directly through the IRS.

Table III-37
Distributed Generation Projects
Household Income and Poverty Level[31]

Observations with Data	Income			Poverty Level			Percent of AMI		
	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max
9	$2,051	$26,350	$53,000	17%	158%	319%	4%	38%	65%

Note: One ICC Approved/Construction project was excluded because income verification was based upon building rent rolls.

Table III-38 displays the energy value and first year costs. Energy values ranged from $633 to $1,332, and first year costs ranged from $278 to $585.

Table III-38
Distributed Generation Projects
Energy Value and First Year Costs

Observations with Data	Customer Energy Value			First Year Costs		
	Min	Mean	Max	Min	Mean	Max
9	$633	$963	$1,332	$278	$423	$585

Note: One ICC Approved/Construction Project was excluded due to missing First Year Costs data.

Table III-39 displays the customer first year projected savings and percent savings as a percent of total energy value. Customer first year projected savings ranged from $355 to $747 and were 56 percent of energy value for all customers because all projects were submitted by one AV with one business model.

The selected and approved multi-family project provided first year savings of $303,404. While the original calculations submitted by the AV showed that currently 305 units are occupied, additional information showed that there are as many as 526 units that could be occupied. Therefore, the per household first-year savings will range from $577 to $995, depending on the number of units occupied. The AV also reported that the plan was to attribute all kWh production to tenants and none to common areas.

[31] Income eligibility for the ILSFA is 80 percent of area median income. The ILSFA eligibility level for a one-person household in Cook County is $44,250. This corresponds to 367 percent of the 2017 poverty guidelines for a one-person households. https://aspe.hhs.gov/2017-poverty-guidelines

Table III-39
Distributed Generation Projects
Customer Projected Savings and Percent Savings

Observations with Data	Customer Projected Savings			Customer % Projected Savings		
	Min	Mean	Max	Min	Mean	Max
9	$355	$540	$747	56%	56%	56%

Note: One ICC Approved/Construction Project was excluded due to missing savings data.

Table III-40 displays the production and REC value. Estimated production averaged 426,691 kWh and the REC value averaged $414,598. However, these numbers are skewed by the one large project. The table shows the mean values excluding that project as well.

Table III-40
Distributed Generation Projects
Production and REC Value

Observations with Data	Est. Production (kWh)			Projected REC Value		
	Min	Mean	Max	Min	Mean	Max
10	5,394	426,691	4,189,944	$10,732	$414,598	$4,000,883
9 (Excluding Largest Project)	5,394	8,552	13,288	$10,732	$16,122	$22,179

Energy burden is defined as energy costs divided by income. The ILSFA Program reduces energy burden by reducing the costs for electricity due the savings realized through the program each year. The percentage point reduction in energy burden is the projected savings divided by household income. Table III-41 displays a calculation of the mean energy burden impacts for projects that had income and projected savings data in the data file. The projects reduced energy burden from one percentage point for the higher income households to over 36 percentage points for the lowest income household. The average first year projected savings is $540.

Table III-41
Distributed Generation Projects
Energy Burden Impact for Observations with Income and Projected Savings Data

Obs. with Data	Household Income			First Year Projected Savings			Projected Energy Burden Reduction		
	Min	Mean	Max	Min	Mean	Max	Min	Mean	Max
9	$2,051	$26,350	$53,000	$355	$540	$747	1.0%	6.3%	36.4%

The multi-family project did not have the household-level income data needed to estimate the energy burden reduction. Table III-42A provides an estimate of the energy burden reduction using the following estimates.

- Mean household income from the ACS analysis for the zip code was used.
- First year projected savings uses the midpoint of the two unit-level savings estimates based on the current and maximum number of units occupied.

Table III-42A shows that the energy burden reduction for these participants was 1.4 percentage points. However, if these households have lower mean income than what was estimated using the mean income in the zip code, the impact could be higher.

Table III-42A
Energy Burden Impact for Multi-Family Project
Mean Income in Zip Code Used as Income Estimate

Zip Code	Type	Own	Mean Household Income in the Zip Code	First Year Projected Savings	Projected Energy Burden Reduction
60115	5+	Rent	$57,504	$786	1.4%

Table III-42B provides the same analysis but uses 80 percent of AMI and average household size for the zip code, instead of mean income for the zip code, to estimate the missing income level. The 80 percent of AMI for the zip code represents the maximum income that the household could have to be eligible for the ILSFA Program. The result using 80 percent of AMI is approximately the same as the result using mean income in Table II-42A.

Table III-42B
Energy Burden Impact for Multi-Family Project
80% AMI in Zip Code Used as Income Estimate

Zip Code	Type	Own	Mean Household Size in the Zip Code	80% AMI in the Zip Code	First Year Savings	Energy Burden Reduction
60115	5+	Rent	3	$52,500	$786	1.5%

Table II-43 displays summary statistics on the energy burden impact. The table shows that mean pre-solar burden was 12.4 percent and mean post-solar burden was 6.6 percent.

Table II-43
Distributed Generation Projects
Energy Burden Impact
80% AMI for Zip Code Used for Project with Missing Income Data

Data Type		With Data	Estimated	Total
Obs.		9	1	10
Energy Costs	**Minimum**	$1,356	$855	$855
	Mean	$1,454	$855	$1,394
	Maximum	$1,496	$855	$1,496
Pre-Solar Energy Burden	**Minimum**	2.6%	1.6%	1.6%
	Mean	13.6%	1.6%	12.4%
	Maximum	66.1%	1.6%	66.1%
Energy Burden Reduction	**Minimum**	1.0%	1.5%	1.0%
	Mean	6.3%	1.5%	5.8%
	Maximum	36.4%	1.5%	36.4%
Post-Solar Energy Burden	**Minimum**	1.6%	0.1%	0.1%
	Mean	7.3%	0.1%	6.6%
	Maximum	29.7%	0.1%	29.7%

IV. Approved Vendor Feedback

APPRISE conducted in-depth telephone interviews with 20 of ILSFA's 32 Approved Vendors (approved as of December 2019). These interviews assessed vendors' experiences with the ILSFA Program.

This section provides information on the AVs' views and opinions. Statements that were made by the AVs and that are reported in this section may include suggestions that are inconsistent with the statutory requirements of the ILSFA and/or the ICC approved program design. Additionally, recommendations in this section are those made by the AVs, and may not represent the opinions of APPRISE or the IPA.

A. Methodology

This section describes the sample selection and the interview implementation.

The 32 AVs were stratified by several characteristics for selection. There were an additional seven vendors that were excluded from the selection process because they were not approved (i.e. "Under Review," "Rejected," or "Cancelled").

Vendors were stratified for selection by the following categories.

- Previously interviewed between November and December 2019 for the First Interim Report of the Phase II Evaluation (yes/no)
- Vendor type (Approved Vendor, Aggregator, Aggregator Designee)
- Submitted and/or selected projects in Program Years One and/or Two
- Submitted project type (Non-Profit/Public Facility, Community Solar, Distributed Generation)
- Minority/Women-Owned Business Enterprise (MWBE) status (yes/no)

Table IV-1 furnishes information on the sample stratification and selection. The table shows that the selected sample and the interviewed sample included vendors from each of the strata present in the sample frame. Twenty of the 22 selected AVs completed interviews.

Table IV-1
Sample Stratification and Selection

Characteristic	Sample Frame	Selected Sample	Completed Interviews
Not Previously Interviewed	10	8	8
Aggregator	1	1	1
Aggregator Designee	1	1	1
Approved Vendor	8	6	6
Submitted & Had Selected Projects	2	2	2
Submitted Projects, None Selected	3	3	3

Characteristic	Sample Frame	Selected Sample	Completed Interviews
No Submitted Projects	5	3	3
Submitted Only NP/PF Projects	2	2	2
Submitted Only CS Projects	3	3	3
MWBE	0	0	0
Not MWBE*	10	8	8
Previously Interviewed	22	14	12
Approved Vendor	22	14	12
Submitted & Had Selected Projects	11	9	8
Submitted Projects, None Selected	7	4	3
No Submitted Projects	4	1	1
Submitted Only NP/PF Projects	6	4	4
Submitted Only CS Projects	6	4	2
Submitted Only DG Projects	1	1	1
Submitted NP/PF and CS Projects	4	3	3
Submitted CS and DG Projects	1	1	1
MWBE	4	3	3
Not MWBE*	18	11	9
Total Number of Approved Vendors	**32**	**22**	**20**

*Not MWBE" includes vendors for which no MWBE information was provided.

The following procedures were used to implement the interviews.

- Vendors were contacted via phone and email to set up an interview.
- Up to six additional contact attempts were made via phone and up to five additional contact attempts were made via email to vendors that did not respond to the first attempt.
- Interviews were completed between February 17, 2020 and March 13, 2020.
- The interview length ranged from 22 to 130 minutes. Half of the interviews were 45 minutes or longer, and the average interview length was about 47 minutes.
- Interview summaries were sent to each organization for review and editing. Additional follow-up questions were sometimes included in these emails.

APPRISE selected a sample of 22 vendors and was able to complete 20 interviews. Of the two selected vendors that were not interviewed, one said they could not justify taking the time to complete the interview because they had already put significant resources and effort into the

Program and had not had a project selected. The other vendor did not respond to any contact attempts.

B. Interview Findings

Findings from the interviews are summarized within the following topic categories.

- Vendor and Staff Background
- Project Submission
- Adjustable Block Program
- Project Implementation
- Jobs and Job Opportunities Created
- Economic, Social, and Environmental Benefits
- Performance Metrics
- AV Recommendations

Vendor and Staff Background

Interviews were usually conducted with one respondent from each company. However, two interviews were conducted with two respondents and another two interviews were conducted with three respondents. Additionally, one interview was conducted in two sessions – the first with the Approved Vendor, and the second with the company managing the installation of the AV's project.

Interviewees held various titles at their companies. Eleven of the 26 respondents were Principals (Owners, Presidents, Founders, or Partners) and 12 were in other upper-level management positions (Vice Presidents, Department Directors, or Project Managers). Titles held by the other interviewees included Project Developer and Solar Consultant.

Interviewees also had varying responsibilities at their companies. The most common responsibility, reported by 12 respondents, was project development and/or project oversight. The next most common response, reported by eight interviewees, was general company oversight. Other interviewee responsibilities included oversight of sales and marketing, liaising with programs such as ILSFA and the Adjustable Block Program (ABP), managing relationships with subcontractors and aggregators, and leading community engagement initiatives.

At least one of the interviewees from all 20 of the interviewed AVs had primary or shared responsibility for AV registration submission and ILSFA project submission.

Project Submission

AVs were asked questions to assess their project submission experience, including whether they had tried to develop DG projects and whether they had participated in the ABP. This section summarizes those findings.

The four AVs that had not submitted any projects in the first or second program years were asked why they had not done so. They provided the following responses.

- Two (the Aggregator and Aggregator Designee) reported that they will not be submitting projects on their own, but will be partnering with other AVs and/or Aggregators to develop projects. Their partnering organizations will be responsible for project submission.
- Two felt that they did not have a good enough understanding of the program to submit projects in the second submission round. One of these AVs did not submit projects in the first submission round because they were not yet approved, and the other did not submit projects in the first submission round because the submission window occurred too soon after they had received approval.

The four AVs that had not submitted projects in the first and second round were also asked what challenges they had faced in project submission. They provided the following responses.

- Three of the AVs reported that they had difficulty understanding the program.
  - One AV stated that the program had been a little intimidating because there was a lot of complex information to read and comprehend.
  - Another AV stated that it was difficult to understand some of the required materials for project submission, including the savings calculator and the non-profit disclosure form.
  - A third AV stated that they had difficulty understanding program guidelines.
- One AV said that the fact that the non-profit sub-program did not allow upfront system purchase as a financing option created a barrier.[32] Because of this requirement, one the AV's non-profits, which had fundraised money to pay for the system upfront, was forced to take out a loan against their fundraised money to comply with this program rule.
- One AV was concerned that a project could be designed, engineered, submitted, and installed for a group of low-income participants, but ultimately not receive funding through the ILSFA selection process.[33]
- Another AV stated that the short submission window in the first round was a challenge.
- An AV reported that they had a challenge finding eligible customers.

Additionally, some AVs that had submitted projects but were not interviewed for the First Interim Report reported the following challenges in project submission.

- An AV reported challenges in obtaining the Letters of Intent (LOI) from CS project anchors.
- An AV stated that the project submission forms did not ask questions to assess the AV's ability to deliver on their proposals and expand discounted solar energy and job training. For example, the AV application included questions about community partners and experience with low-income subscribers, but this information was not used as scoring criteria in project selection.
- Another AV reported that the short submission windows required AVs to have project submission documentation prepared before the submission window opened.
- An AV stated that the large volume of required documentation was difficult, especially if developing multiple projects simultaneously.

[32] This was changed in the Revised Plan.
[33] This AV did not have a correct understanding of the project timeline. The project selection occurs before installation.

In the first round of AV interviews, all 22 interviewed AVs were asked what challenges they faced in project submission. They were most likely to state that the challenging aspects of project submission were the unclear application, the interconnection agreement, the project eligibility requirements, and the volume of required information.

Table IV-2 summarizes the project submission challenges that AVs reported in both the first and second interview rounds. The table shows that across the two interview rounds, the most commonly reported challenges were the unclear application, the interconnection agreement, and the project submission timeline.

Table IV-2
Project Submission Challenges

Challenges Faced	Number of Approved Vendors		
	First Round	Second Round	Total
Unclear Application	6	0	6
Interconnection Agreement	5	0	5
ILSFA Timeline	2	2	4
Finding Eligible Customers	2	1	3
Project Financing	2	1	3
Understanding Complex Program Information	0	3	3
Project Eligibility Requirements	3	0	3
Volume of Required Information	3	0	3
Elevate Energy	2	0	2
Other	3	3	6

*Some vendors provided more than one response.

AVs were asked if they had tried to develop DG projects for the ILSFA Program. Table IV-3 shows that only eight of the 20 AVs reported that they tried to develop DG projects.

Table IV-3
Approved Vendor Attempted to Develop DG Projects

Attempted Developing DG Project(s)	Number of Approved Vendors
Have Attempted to Develop DG Projects	8
Not Attempted to Develop DG Projects	12
Total	**20**

Seven of the eight AVs that tried to develop DG projects for the ILSFA reported that they encountered barriers when developing these projects. The most common barriers faced were financing issues and finding eligible customers.

- Two AVs reported financing issues.
  - One AV stated that the DG sub-program structure made it difficult to submit customer-owned projects. The AV would like to use a loan instead of a PPA or a lease, but could not find a qualifying loan for low-income households that would still allow the project to meet the 50 percent savings requirement.
  - The other AV was reluctant to cover the upfront costs for a project because of the uncertainty that the project would be selected.
- Two AVs struggled to find income-eligible customers with suitable roofs.
- One AV tried to work with community partners to develop DG projects but was not able to find any community partners.
- One AV had problems with ComEd's interconnection process. ComEd asked the AV to provide additional paperwork on multiple occasions and billed them over $900,000 for interconnection. Even though much of that cost was likely to be refunded, it was difficult for the AV to continue operating with the capital tied up.[34]
- One AV reported issues with the county and city permitting processes, especially when a project exists on the border of two different jurisdictions.

One AV that had not tried to develop DG projects noted that they were unlikely to develop any DG projects because AVs must provide the same amount of information for DG project submission as they do for NP/PF or CS project submission, even though DG systems are generally smaller than NP/PF or CS systems (and thus provide fewer RECs).

Adjustable Block Program

AVs were asked if they had submitted any projects to the ABP. AVs that had submitted projects to the ABP were asked if any of those projects were selected. Table IV-4 shows that 14 of the 20 AVs interviewed had submitted projects to the ABP, and ten had at least one of their projects selected.

Table IV-4
Projects Submitted & Selected through the ABP

Response	Submitted Projects to ABP	Projects Selected by ABP
Yes	14	10
No	6	4
Total	**20**	**14**

AVs that had submitted projects to the ABP were asked if they had ever submitted a project to the ABP instead of the ILSFA, even when the project would have been eligible for ILSFA

[34] The utility interconnection deposit is refundable if the project does not proceed or if actual costs are lower than estimated.

incentives. Table IV-5 shows that only five AVs had submitted ILSFA-eligible projects to the ABP.

Table IV-5
ILSFA-Eligible Projects Submitted to the ABP

ABP Submission	Number of Approved Vendors
Submitted ILSFA-Eligible Projects to ABP	5
Did Not Submit ILSFA-Eligible Projects to ABP	9
Did Not Submit Any Projects to ABP	6
Total	**20**

The five AVs that had submitted ILSFA-eligible projects to the ABP provided the following reasons.

- Two reported that they submit projects to both the ABP and the ILSFA to increase their chances of funding.
- One was not aware of the ILSFA Program when they initially submitted projects to the ABP.
- One felt that they were more likely to receive funding through the ABP. They added that the ABP is much more transparent about the amount of funding available in the program, and it has less complex project selection guidelines.
- One reported that ILSFA-eligible projects would only be submitted to the ABP if the client did not make it apparent that they were low-income or living within an Environmental Justice (EJ) community.

Project Implementation

The ten interviewed AVs that had projects selected in the first and/or second program year were asked questions to assess the progress they have made in implementing those projects. This section summarizes findings from their responses.

AVs were asked about the stage(s) they had reached in the development of their project(s). Table IV-6 shows that while most projects were still in the pre-construction stage, four projects were constructed and energized, and one project was constructed but had not yet been interconnected with ComEd.

Table IV-6
Stage of Implementation Reached for ILSFA Projects

Implementation Stage	Number of Projects
Pre-Construction	33
Under Construction	4
Constructed and Energized	4

Implementation Stage	Number of Projects
Constructed and Awaiting Interconnection	1
Total	**42**

Six of the ten AVs with selected projects reported that they requested help with project implementation from Elevate Energy. AVs that sought help from Elevate provided the following details about the assistance they requested.

- Project-specific questions that they could not remember.
- Help with an affidavit to verify that a customer had zero income.
- Documentation review to ensure that the information was submitted correctly.
- Help meeting the job training requirements because there are no qualified job training programs within 100 miles of their project locations.
- Assistance in filing paperwork to sell their ILSFA projects to a new owner.
- Ensuring that they are up to date on all required materials.
- Contact information for an office or agency that would be able to answer questions about zoning and permitting in a particular Chicago neighborhood.

When asked how helpful Elevate had been in providing the requested support, five of the six AVs reported that Elevate had been at least somewhat helpful.

- Three said that Elevate has been very helpful.
- Two said Elevate has been somewhat helpful.
- One said Elevate has not been helpful. This AV reported that it has been increasingly difficult to reach their vendor manager by phone. They noted that responses are usually faster by email, but in general Elevate was less responsive in Program Year Two than in Program Year One.

Additionally, three AVs that did not ask for help with project implementation noted that Elevate has always been very helpful and responsive when the AVs have asked questions in the past.

Jobs and Job Opportunities Created

This section summarizes AVs' experiences finding and hiring qualified labor and job trainees for their ILSFA projects.

AVs were asked if they had looked for solar job trainees in preparation for ILSFA work. Table IV-7 shows that ten AVs had looked into hiring job trainees. The remaining ten AVs reported that hiring and installation for their projects would be handled by other entities (referred to as sub-entities in the rest of the section), such as subcontractors, Aggregator Designees, or new project owners.

Table IV-7
Investigated Hiring Job Trainees for ILSFA Work

Job Trainee Recruitment Progress	Number of Approved Vendors
Vendor Looked into Hiring Job Trainees	10
Hiring Handled by Another Entity	10
Total	**20**

When asked how easy or difficult it had been/will be for AVs or their sub-entities to find staff who are qualified to perform the work needed for ILSFA, ten AVs said that it had been/will be very easy to find qualified staff, and five said that it had been/will be very or somewhat difficult to find qualified staff.

Table IV-8
Difficulty Finding Qualified Staff for ILSFA Work

Level of Difficulty	Number of Approved Vendors
Very Easy	10
Somewhat Difficult	4
Very Difficult	1
Don't Know	5
Total	**20**

AVs that felt that hiring had been/will be difficult provided the following additional details.

- An AV stated that companies are not able to fill all of the positions that they need. For example, the AV said that sales staff are very important, but it does not seem that FEJA-approved programs are training job trainees for sales positions.
- Another AV felt that the ILSFA prefers that AVs hire job trainees through ComEd's program, and it may be difficult to hire staff from that program if there are a limited number of graduates each year. [35]
- An AV was concerned that few potential workers may enroll in FEJA-approved job training programs, given that the ILSFA and ABP provide work in waves and do not provide steady, consistent income.
- An AV stated that it had been very hard to find trainees to fulfill the job training requirements because none of the AV's projects were close to the FEJA-approved training programs.
- Another AV stated that it is somewhat difficult to find qualified staff to perform solar work in general – not just for the ILSFA. Companies are always looking for foreman-level workers who have solar experience and can oversee/supervise jobs.

[35]AVs must give priority to graduates of Qualified Job Training Programs. Several organizations have been approved to deliver these programs. AVs may hire trainees from Other Qualifying Programs if they cannot find a graduate from a Qualified Job Training Program. No Other Qualifying Programs have yet been approved.

AVs were asked if they have heard that an increase in demand for solar labor has resulted in challenges hiring qualified solar labor, and whether their company had experienced these challenges. Table IV-9 shows that eight AVs heard that an increase in demand for solar labor was creating challenges in hiring solar labor, but only three AVs indicated that their company had experienced such challenges.

Table IV-9
Increased Demand for Solar Labor and Challenges in Hiring

Response	Have you heard that an increase in demand for solar labor has resulted in challenges hiring qualified solar labor?	Has your company experienced those challenges?
Yes	8	3
No	12	17
Total	**20**	**20**

AVs were asked if they had heard that an increase in demand for solar labor had resulted in the need for higher salaries and/or benefits offered to new staff, and whether their company had experienced that pressure. Table IV-10 shows that eight AVs had heard that an increase in demand was creating upward pressure on salaries for solar workers but only two had experienced this challenge.

Table IV-10
Increased Demand for Solar Labor and Upward Pressure on Salaries and Benefits

Response	Have you heard that an increase in demand for solar labor has resulted in the need for higher salaries and/or benefits offered to new staff?	Have you experienced that pressure on salaries for new solar staff?
Yes	8	2
No	10	15
Don't Know	2	3
Total	**20**	**20**

AVs were asked about the methods they or their sub-entities used to find qualified job trainees. Table IV-11 shows that nine AVs have or will be working with FEJA-supported job training programs, and three AVs plan to work with their community partners to recruit trainees and provide job training.

Table IV-11
Methods for Finding Qualified Job Trainees

Methods	Number of Approved Vendors
FEJA Job Training Programs	9
Community Partnerships	3
Don't Know	8
Total	**20**

The nine AVs that plan to work with FEJA-supported job training programs were asked which specific organizations and/or programs they planned to work with. They provided the following responses.

- Illinois Brotherhood of Electrical Workers – 3 AVs
- Elevate Solar Jobs Training Program/Millennium Solar Training Academy – 3 AVs
- Illinois Central College – 2 AVs
- All organizations on list provided by Elevate Energy – 1 AV
- Don't remember – 1 AV

The three AVs that planned to work with community partners to recruit and provide on-site instruction for trainees offered the following additional information.

- An AV stated that they partner with a local job training organization (not officially sanctioned by FEJA) and then identify and train enough staff to build the entire project. All these new trainees come from the community where the project is being built, and they are recruited by sending out a request for applications through our other community partners (churches, schools, and other non-profits). The AV pays for 100 percent of each trainee's training fees and completely covers the cost of taking the State certification test.
- Another AV stated that they partner with an organization that works with many churches and other organizations in the communities surrounding the proposed project. The organization identifies potential job candidates and introduces them to the hiring team. After candidates have been hired, the AV trains them with their own staff.
- A third AV stated that they work with installers to find job trainees. They work with a partner to recruit candidates from the local area and provide them with onsite training.

AVs were asked what assistance Elevate Energy has provided to help find qualified job trainees. Table IV-12 shows that nine AVs responded that Elevate had not provided assistance with regard to the job trainee recruitment. Four of the nine AVs that reported they did not receive assistance from Elevate said that they do not conduct hiring themselves (their sub-entities handle the hiring process), and two of the nine AVs specifically noted that they had not asked Elevate for any help recruiting trainees. AVs that indicated that Elevate had provided assistance most commonly reported that Elevate alerted them to job fairs and job training program graduations where they could network with qualified trainees.

Table IV-12
Job Trainee Recruitment Assistance Provided by Elevate Energy

Assistance Provided by Elevate	Number of Approved Vendors
Provided Information on Job Fairs / Training Program Graduations	4
Contacted Vendor to Ask if They Needed Assistance	2
Provided Contact Information for Qualified Training Programs	2
Hosted Networking Event for AVs and Job Training Programs	1
Checked Eligibility of An Alternative Training Program	1
Provided Instructions to Meet Job Training Requirements	1
Don't Know	1
Elevate Did Not Provide Assistance	9

*Some vendors provided more than one response.

AVs were asked how easy or difficult it had been for them to hire job trainees to meet the ILSFA Program's job training requirements. Table IV-13 shows that one AV felt that finding trainees had been fairly easy while another AV said that doing so had been very difficult. All the remaining AVs said that they either did not know how difficult it had been to find trainees, had not started hiring yet, or their subcontractors, Aggregator Designees, or new project owners would be doing the hiring.

The AV that indicated that finding qualified job trainees had been fairly easy added that they prefer to interview their job training candidates in-person, but that scheduling those interviews can sometimes be challenging because the trainees often have other jobs in construction, electrical work, or lighting, and are unable to find time to come into the office.

The AV that indicated that hiring qualified job trainees had been very difficult noted that they have tried to hire qualified trainees but have struggled to find any because their projects are located more than 100 miles from the nearest job training facility. This AV asked Elevate if they could hire a few people from their local electrician's union to fulfill the job training requirements, but Elevate determined that this would not be an acceptable alternative. The AV is currently working with Elevate to develop a solution to this issue but acknowledged that they may need to file for an exemption from the job training requirement.

Table IV-13
Level of Difficulty Hiring Qualified Trainees

Level of Difficulty	Number of Approved Vendors
Fairly Easy	1
Very Difficult	1
Don't Know	1
Not Yet Hiring	7

Level of Difficulty	Number of Approved Vendors
Hiring Handled by Another Entity	10
Total	**20**

AVs were asked if they or their sub-entities had hired any job trainees before the time of the interview. Table II-13 shows that two AVs had hired job trainees directly and another two AVs indicated that their sub-entities had hired trainees. Additionally, one AV reiterated that they had tried to hire trainees but had been unsuccessful in doing so because their projects are located too far away from the job training centers. The remaining AVs either had not started hiring yet or were unsure if their sub-entities had started hiring yet.

Table IV-14
Hired Qualified Trainees

Hired Trainees for ILSFA Work	Number of Approved Vendors
AV Hired Trainees Directly	2
Sub-Entity Hired Trainees	2
Unable to Hire Trainees	1
Not Yet Hiring	7
Unsure of Sub-Entity's Hiring Status	8
Total	**20**

The four AVs that had hired trainees directly or whose sub-entities had hired trainees were asked how many trainees had been hired so far.

- One AV said that their sub-contractor had hired one trainee.
- One AV had hired two trainees.
- Two AVs had each hired 12 trainees.

AVs were asked to provide the percentage of ILSFA project installation hours they expect to be completed by qualified trainees. Table IV-15 shows that the most common response, reported by six AVs, was that they were not sure the exact percentage that would be completed by trainees but were confident that they would at least achieve the minimum requirement set by the Program.[36] Among AVs that reported an actual estimate, responses ranged from 20 percent to nearly 100 percent of installation hours. The two AVs that reported that nearly 100 percent of installation hours would be completed by job trainees said that these hours would be completed under the supervision of project managers.

Additionally, the AV that estimated that 20 percent of installation hours would be completed by qualified trainees also estimated that 50 percent of Operations and Maintenance (O&M)

[36]The ILSFA Program requires that at least one third of DG projects include the use of one or more job trainees from the solar training pipeline program, the craft apprenticeship program, or the multi-cultural jobs program. Additionally, all AVs' portfolios of ILSFA projects must include at least ten percent of the hours worked on projects by job trainees in the first year of participation, 20 percent in the second year, and one-third in the third year.

work would be completed by job trainees. They added that it is easier to achieve a higher percentage of job trainee hours on O&M work because the work is less fast-paced and any mistakes on O&M work are less likely to cause performance issues than mistakes made during construction/installation.

Table IV-15
Percentage of Installation Hours Expected to be Completed by Qualified Trainees

Percent of Hours	Number of Approved Vendors
20%	1
33%	1
50%	3
Nearly 100%	2
At Least the Minimum Requirement	6
Don't Know	7
Total	**20**

AVs were asked what roles and responsibilities had been or would be given to hired trainees. Table IV-16 shows that 14 of the 20 AVs indicated that job trainees would primarily be involved in the physical labor of installation and construction. Other, less common responses included sales and marketing, project design and management, and customer relations.

Table IV-16
Roles and Responsibilities for Qualified Trainees

Trainee Roles	Number of Approved Vendors
Installation/Construction	14
Sales	2
Project Design and Management	2
Operations and Maintenance	1
Customer Relations	1
Don't Know	6

*Some vendors provided more than one response

Some of the AVs provided the following additional information about the roles and responsibilities of job trainees.

- Six reported that trainees will only perform installation and construction work.
  - Two of these reported that job training programs generally only provide construction/installation training, so AVs would be unlikely to find trainees with skills to fill other roles.
  - One stated that if they have more selected projects in the ILSFA, they may hire trainees to fill other roles.

  - One reported that they were not aware that there are other roles for trainees, such as sales and system design, and that the program should do a better job of communicating this information to AVs.
  - One reported that they did not have a big sales department and there wouldn't be any way to utilize trainees in the design process.

- One reported that potential titles for job trainees included Project Manager, Solar Sales Consultant, and Installer. Most of the hired trainees would be installers. However, they hired one trainee who works as both a Solar Sales Consultant and a Project Manager, and does some installation work occasionally. The education that this trainee received through the job training program allowed her to be more knowledgeable than some of their other sales consultants.

Most AVs did not know the hourly wage that trainees would be paid or did not know the compensation plans of their sub-entities. Among the six AVs that did provide an estimate of the hourly rate, two said trainees would make roughly $18 per hour, two said trainees would make $20-$25 per hour, and two said they would aim to pay trainees the prevailing wage, which is currently anywhere from $30 to $45 per hour depending on the county where the project is located.

Table IV-17
Hourly Rates for New Trainees

Hourly Rate for Trainees	Number of Approved Vendors
$18/hour	2
$20-$25/hour	2
$30-$45/hour	2
Don't Know	4
Unsure of Compensation Offered by Sub-Entity	10
Total	**20**

AVs were also asked about the annual salary for new trainees. Table IV-18 shows that most AVs either did not know the annual salary that trainees would be paid, did not know the compensation plans of their sub-entities, or planned to pay their trainees on a contract-by-contract basis. Among the four AVs that did provide an estimate of the annual salary, two said that trainees would make roughly $36,000 a year, one said that trainees would make roughly $50,000 a year, and one said that trainees would be paid full time at the prevailing wage, which is currently anywhere between $62,400 and $93,600 per year depending on where the project is located.

Table IV-18
Annual Salaries for New Trainees

Annual Salary for Trainees	Number of Approved Vendors
$36,000	2
$50,000	1
Full Time at Prevailing Wage ($62,400 - $93,600)	1
Paid Contract-by-Contract	2
Don't Know	4
Unsure of Compensation Offered by Sub-Entity	10
Total	**20**

AVs were asked if job trainees have been or will be located close to where they will be working. Table IV-19 shows that eight AVs have hired or plan to hire trainees who live within or close to the communities where their ILSFA projects will be sited, while three AVs believe that trainees will need to travel to the worksite given the location of their projects and the nearest available job training programs.

Table IV-19
Proximity of Trainees to the ILSFA Worksite

Trainee Proximity to Project Site	Number of Approved Vendors
Have/Plan to Hire Trainees that Live Close	8
Trainees Will Likely Need to Travel	3
Don't Know	1
Unsure of Sub-Entity's Hiring Plans	8
Total	**20**

The four AVs that had already hired at least one trainee were asked if those trainee(s) needed any additional training to complete the expected work. Two AVs indicated that their trainees required additional training and provided the following detail.

- One AV stated that the job trainees had all the essential skills they needed but required some additional on-site instruction with regard to the specific equipment that the AV uses.
- Another AV stated that most job trainees required additional on-site installation training. The AV said that the job training programs generally only provide about 12 weeks of classroom training, which only includes minimal on-site installation work.

These AVs provided the following responses when asked how the additional training required for job trainees compared to other solar staff that they had hired, and whether they expected trainees to have learned those skills within their training program.

- An AV said that it was pretty typical for all new hires to require some additional training on contractor or project-specific equipment. The AV stated that they expected the job

trainees to learn general skills and knowledge regarding the construction and installation of solar PV systems, but that they did not expect the trainees to know everything about project-specific equipment.

- Another AV stated that new hires that come from outside the job training programs tended to already have on-site installation experience. The AV did not expect job trainees to be as experienced as the foreman-level workers, but would like them to receive more on-site installation experience in their training program.

When asked about their overall satisfaction with the trainees they hired, three AVs said that they were very satisfied, and one said that they were somewhat satisfied. Two of these AVs provided the following additional detail.

- One AV said that they were very satisfied with the job trainees they hired. The AV found the trainees to be highly motivated, excited about solar, prompt, consistent, and passionate about the work. He noted that this was not always the case when they hired other construction workers, who may be less passionate about the work and simply looking for a job.
- A second AV rates his satisfaction with the trainees at an eight out of ten. He said that it would have been nine or ten, but that they had a few issues with trainees that did not want to work in the heat during the summer and refused to show up to work. Due to these disagreements, some trainees quit, and others were let go. They started with roughly 20 trainees and ended the project with 12.

All AVs in the sample were asked if they or their sub-entities planned to work with job trainees only for the ILSFA Program or on all future work. Table IV-20 shows that seven AVs said they would work with trainees on all future work, four AVs said that this would depend on trainee performance, and one AV said that they train and employ a new set of trainees for each project. The remaining AVs indicated that they were unsure of the hiring plans of the sub-entities they work with.

Table IV-20
Plans to Work with Trainees in the Future

Future Plans for Trainees	Number of Approved Vendors
All Future Work	7
Depends on Trainee Performance	4
Employ New Trainees for Every Project	1
Unsure of Sub-Entity Hiring Practices	8
Total	**20**

Two AVs consider their trainees to be temporary hires, six AVs said that the trainees would be permanent hires, and four AVs said that the trainees' continued employment at the company would be dependent on their on-site performance. The remaining AVs were unsure of the hiring practices of their sub-entities. These results are summarized in Table IV-21.

Table IV-21
Status of Job Trainees

Trainee Employment Status	Number of Approved Vendors
Temporary Hires	2
Permanent Hires	6
Depends on Trainee Performance	4
Unsure of Sub-Entity Hiring Practices	8
Total	**20**

Nine AVs provided recommendations for the FEJA job training programs and job training requirements. Their recommendations are listed below and summarized in Table IV-22.

- Four AVs recommended additional topics that they would like the job training programs to cover.
  - Two recommended office-based work, like sales and system design.[37]
  - Two recommended on-site installation training. One of these AVs elaborated that, ideally, job training programs would train students to be able to look at electrical drawings and understand how to install the project according to those drawings. Programs should also teach trainees how to bend conduit, which is a basic skill used for every job.
  - One recommended ILSFA-specific requirements. For example, trainees should be familiar with the interconnection process and should know the basics of the permitting and inspection requirements required by the State of Illinois and major local governments.

- One AV would like the job training programs to cover more areas of the state.[38]

- Seven AVs made the following recommendations for the ILSFA about the job training requirements.
  - An AV stated that the ILSFA should look for ways to increase the volume of projects (e.g. doing quarterly project selections instead of annual selections), so that there will be less uncertainty about whether or not trainees will be able to find consistent work after they finish their programs.[39]
  - Another AV recommended that the ILSFA Program should do more to provide complete and transparent information to AVs regarding the opportunities and funding available for job training and hiring qualified trainees. For example, if job training programs offer training for non-installation roles, this should be clearly outlined for all AVs.

[37] This is included in the AV manual.
[38] This is outside of the ILSFA's control.
[39] The AV believed that this would provide for a better project flow.

- An AV stated that the ILSFA Program should allow AVs that have hired job training graduates full-time to count at least some of that employee's hours towards job training requirements on projects in future program years. (This AV's understanding was that once trainees were hired full-time, they would no longer count towards the job training requirements on ILSFA projects in future years.)[40]
- An AV asserted that the ILSFA Program should increase the job training requirements so that a larger percentage of hours need to be completed by qualified trainees.
- Another AV stated that the ILSFA Program should be more flexible with job training requirements for AVs that have projects located far away from the main job training facilities.
- An AV said that the State should not be as heavily involved in the qualification process for job trainees. Firms should be allowed to decide whether someone is qualified or not.
- Another AV said that the State should provide funding directly to AVs for the purposes of providing job training with the training program of their choice, rather than having a fixed number of job training programs and forcing AVs to choose between them.[41] The AV said that the funds should be awarded via grant application based on analysis of each individual project.[42]
- An AV said that Elevate Energy should provide a database of qualified job trainees to AVs.

Table IV-22
Recommendations for Job Training Programs

Recommendations	Number of Approved Vendors
Training Opportunities for Office-Based Work	2
Hands-On Training Opportunities	2
Instruction on ILSFA-Specific Requirements	1
Cover More Areas in IL	1
Increase the Volume of Projects	1
Provide Clearer Job Training Information to AVs	1
Allow Full-Time Trainees to Satisfy Requirement	1
Increase the Required Hours for Job Trainees	1
Be More Flexible with Requirements for AVs in Rural Areas	1
Allow AVs to Determine Who is Qualified	1
Grant Funds for AVs to Finance Training Program	1
Provide Database of Qualified Job Trainees	1
No Recommendations	11

*Some vendors provided more than one response.

[40] This is not a correct understanding of the program.
[41] This is not an allowable use of ILSFA funding.
[42] This would require a change in the legislation.

Economic, Social, and Environmental Benefits

This section summarizes AVs' responses to questions about the benefits of the ILSFA Program and general awareness for the Program.

AVs were asked if they have used or plan to use solar panels that were manufactured outside of the United States for their ILSFA projects. Table IV.-23 shows that, of the 11 AVs that were able to answer the question, nine have used or plan to use panels that were produced internationally, and two were committed to using domestically-produced panels.

Six of the nine AVs that have used or plan to use foreign-produced panels provided the following additional detail about their decision.

- Two reported that most panels are manufactured internationally.
- Two reported that foreign-produced panels are often all that are available at a reasonable price.
- Two reported that most Tier 1 panels are manufactured outside the U.S., and most financiers require developers to use Tier 1 panels in order to provide a loan.
- One reported that domestically-produced panels can sell out a year or more in advance, which is a deterrent for developers because the Investment Tax Credit (ITC) declines each year.

Table IV-23
Foreign or Domestic Solar Panels

Panel Manufacturer	Number of Approved Vendors
Foreign Panels	9
Domestic Panels	2
Don't Know	5
Handled by Another Entity	4
Total	**20**

The nine AVs that purchased or planned to purchase foreign-made panels were asked to estimate the percentage increase in costs they would expect to incur if they purchased domestically-produced panels. They provided the following responses.

- 15 to 20 percent increase – 4 AVs
- 45 percent increase – 1 AV
- 50 percent increase – 1 AV
- Not sure - 3 AVs

Table IV-24 shows the responses AVs provided when asked what factors, other than price, had contributed or will contribute to their decision to purchase specific panels. The most common factors were quality, performance, and availability.

Table IV-24
Factors Informing Panel Purchasing Decisions

Factors	Number of Approved Vendors
Quality / Durability	12
Efficiency / Output Performance	9
Availability	5
Aesthetics / Workmanship	3
Comprehensive Warranty	3
Tier Ranking / Manufacturer Reputation	2
Ease of Installation	1

*Some vendors provided more than one response

AVs were asked if they had seen an increase in awareness of the ILSFA Program since its initial implementation. Table IV-25 shows that 13 AVs had noticed an increase in awareness of the ILSFA Program. One of these 13 AVs added that they have specifically seen more awareness among organizations in the public sector, which are interested in NP/PF sub-program participation.

One AV that had not noticed increased awareness reported that the lack of Program awareness among minority communities in Illinois is currently as low as it was when the Program was first implemented.

Table IV-25
Increased Awareness of the ILSFA Program

Awareness	Number of Approved Vendors
Noticed Increased Awareness	13
Had Not Noticed Increased Awareness	5
Don't Know	2
Total	**20**

Five of the eight AVs pursuing DG projects provided information on the marketing methods they use to reach low-income households for DG participation. Their responses were as follows.

- Two have conducted door-to-door canvassing in income-eligible communities.
- One has been sending sales representatives to Grassroots Education events. They noted that this method has not resulted in any leads, despite the events being well-attended.
- One has met with rental facility property owners after attending Grassroots Education events.
- One identifies buildings with potentially eligible households and then approaches the property owner with a proposal.

Seven AVs provided information on their marketing strategies to reach low-income households for CS sub-program participation. The remaining AVs did not provide responses because they were not planning to do any marketing, the marketing was being handled by a sub-entity, they were not pursuing the CS sub-program, or they did not want to divulge proprietary information.

- Two conduct door-to-door canvassing in income-eligible communities.
- Two conduct meetings at their community partners' facilities, in which they give short presentations on the benefits of CS and offer attendees the chance to ask questions and put themselves on a list of potential subscribers.
- One identifies community partners and project anchors that work with, and already have a connection to, low-income individuals that could subscribe to projects.
- One partners with a local community organization that provides assistance to low-income families dealing with prenatal or neonatal complications. The community partner identifies families that might be receptive to subscribing to a CS project and provides their contact information to the AV.
- One has been sending sales representatives to Grassroots Education events.

AVs were asked if potential customers had been aware of the ILSFA Program prior to any contacts from the AV or their sub-entities. Table IV-26 shows that seven AVs said their customers were aware of the ILSFA Program and nine AVs said their customers were not. The remaining AVs either did not know if their customers had been aware of the ILSFA or had not yet marketed their ILSFA projects.

Table IV-26
Customer Awareness of the ILSFA Program

Customer Awareness	Number of Approved Vendors
Customers Were Aware	7
Customers Were Not Aware	9
Don't Know	1
Have Not Marketed ILSFA Projects	3
Total	**20**

The seven AVs whose customers had prior knowledge of the ILSFA were asked how those customers had learned about the Program.

- Five reported that customers heard about the ILSFA through Grassroots Education campaigns.
- Two reported that customers heard about the ILSFA through the ILSFA website.
- One reported that customers heard about the ILSFA through local public radio.
- One reported that customers heard about the program through friends and neighbors.

AVs were asked if it is important for customers to have heard of the ILSFA Program and have some understanding of its benefits in order to be receptive to marketing. Table IV-27 shows that 13 of the 20 AVs felt that prior knowledge was helpful but not required for marketing efforts to be effective.

Only one AV felt that prior knowledge was not at all important; this AV said their customers are actually more likely to be suspicious if they hear about the ILSFA Program from an outside source because low-income consumers are acutely aware that they are often targeted by scams and tend not to trust things that seem too good to be true. This AV overcomes low-income consumer skepticism by building relationships with trusted leaders in low-income communities.

Table IV-27
Importance of Prior Knowledge of the ILSFA for Marketing Effectiveness

Importance	Number of Approved Vendors
Important	6
Helpful But Not Required	13
Not at All Important	1
Total	**20**

Performance Metrics

This section summarizes responses to questions about factors that have impacted AV success in the ILSFA Program.

AVs were asked if they faced any barriers that have caused or will cause them to cancel any ILSFA projects. Table IV-28 shows that seven of the 20 AVs reported that they had faced such barriers.

Table IV-28
Experienced Barriers Resulting in Project Cancellation

Faced Barriers	Number of Approved Vendors
Barriers Caused Cancellations	7
Barriers Did Not Cause Cancellations	13
Total	**20**

The barriers that caused the seven AVs to cancel projects are described in more detail below.

Non-Profit/Public Facility Projects

- Two AVs had at least one NP/PF partner that needed roof repairs but was unable to afford the costs of mitigation.

- One AV had projects that were deemed ineligible because the NP/PF partner was not located in a qualifying geographic area.
- One AV's NP/PF partners did not want to deal with the complexity of the program and the chance that their project might not be selected.
- One AV's NP/PF partner decided to install a slate roof, which would not be compatible with solar.

Community Solar Projects

- Two AVs cited high interconnection costs and excessive delays in the interconnection process with ComEd.
- One AV faced community pushback on the use of a vacant lot for the solar array.
- One AV was unable to obtain the necessary signature from the head of their community partner because of a change in staff.

Distributed Generation Projects

- One AV found it difficult to find participants who were both income-eligible and had roofs that were suitable for solar installation.

The two AVs with selected DG projects were asked about the housing stock issues they encountered when developing those projects.

- One AV encountered several customers with roofs that were completely shaded and one roof that was structurally unsuitable because it was "full of bullet holes".
- The other AV had not encountered any housing stock issues because they only work with large ground-mounted arrays for multi-family dwellings. When asked why they only choose to work with large ground-mounted arrays, the AV said that the ground-mounted model allows them to build more capacity without having to bear the cost of finding and building on many different roofs.

The AV that faced housing stock issues on their DG projects indicated that the potential clients were not able to remediate the issues because they could not afford the necessary repairs. When asked if they had worked with the potential clients to obtain remediation funding from any assistance programs, the AV indicated that they are aware that such programs exist but noted that participation in these programs takes too long to be viable under the ILSFA timeline.

All 20 AVs were asked if they felt that the ILSFA guidelines and procedures were useful, clear, and comprehensive. Table IV-29 shows that 13 AVs felt that the guidelines and procedures were clear and comprehensive.

Table IV-29
Vendor Assessment of ILSFA Guidelines and Procedures

Assessment of Guidelines	Number of Approved Vendors
Guidelines are Useful, Clear, Comprehensive	13
Guidelines are *Not* Useful, Clear, Comprehensive	6
Don't Know	1
Total	**20**

AVs that felt that the guidelines and procedures were not useful, clear, and comprehensive reported that the materials provided for the AVs were confusing, complex, and dense. Specific responses were as follows.

- An AV commented that the guidelines and procedures are useful and comprehensive, but they are too complex and dense. He added that navigating the ILSFA website is challenging because the AV page is very long with many links.
- Another AV stated that the guidelines are not clear and are very dense. He specifically noted that the disclosure forms ask for a lot of information but are often very vague about specific requirements. For example, there is a section in the project submission form that asks for electricity production data but does not specify whether the values should be in AC or DC.
- An AV stated that the ILSFA AV manual is comprehensive in that it provides all the guidelines and procedures. However, the information is often so dense and technical that it is difficult to put together a clear picture of how the program works from start to finish.
- Another AV noted that the program information on the consumer side is much clearer and more useful than the materials designed for AVs. He added that the AV manual does not provide all the information that AVs need. For example, it is not clear how much information is required for onsite inspections prior to project submission, and it is not clear whether projects selected through the program are guaranteed to receive ILSFA funding, or if there are other evaluations later on that might prevent the AV from actually receiving the RECS.
- Another AV also commented that the ILSFA guidelines and procedures are very comprehensive from a consumer perspective. However, he added that they could do more to engage the AVs and provide them with a better understanding of their role in ILSFA from start to finish.
- An AV noted that the communications and resources provided by Elevate are often very repetitive which can at times be confusing. He provided a specific example that when Elevate puts out a new Vendor Manual, they only publish the new one in its entirety instead of providing a summary document explaining what has changed.[43]

[43] Elevate provides a redline comparison that shows the changes.

AVs reported that the following factors positively impacted their success in the ILSFA Program. These included relationships, familiarity with Illinois solar programs, stakeholder feedback sessions, and program requirements and offerings.

- Developing relationships with organizations that are more experienced with the ILSFA and solar installation in general has helped the AV acquire clients and projects more quickly than if they had been working on their own.
- Prior familiarity with the various Illinois solar programs has helped the AV navigate and understand the complicated design of the ILSFA Program.
- The ability to participate in stakeholder feedback sessions has helped the AV better understand the program design, and hopefully influence the program to make it work better for AVs.
- Strict AV requirements help protect AVs from competition from other solar developers that are less committed to providing benefits for low-income communities.
- The inclusion of the NP/PF sub-program in the ILSFA design has allowed the AV to be successful because working with an organization as a client is generally much easier than recruiting individual program participants.

AVs reported that the following factors negatively impacted their success in the ILSFA Program. These included interconnection costs and delays; limited funding; disorganized program information; short submission windows; limited public awareness, program eligibility, batch submission, and financing requirements.

- Two AVs reported that the high costs and frequent delays in the interconnection process with ComEd have caused them to miss project submission deadlines.
- An AV reported that limited funding for each sub-program makes it more difficult for the AV to be successful because not all eligible projects will receive funding.
- Another AV stated that because critical program information is scattered across many different documents, the AV did not develop a comprehensive understanding of the program.
- One AV reported that the short submission windows have prevented them from submitting all their projects because they were not able to provide all the necessary information in time. [44]
- An AV stated that the strict eligibility guidelines have made it difficult to find DG participants that are both income-eligible and have a suitable roof for solar.
- One AV said that the minimum size requirement for a project batch forced the AV to develop more projects at one time than they would have liked to.
- One AV reported he was not able to develop NP/PF projects because some NP/PF partners are not willing to pay interest on a loan for an array when they could have paid cash up-front.[45]
- An AV stated that because non-profits are not eligible for MWBE status, the AV is at a disadvantage relative to for-profit minority-run companies.
- An AV asserted that because eligible projects are not guaranteed to receive funding, the AV has not secured anchors for their CS projects. In some cases, this has resulted in an

[44] Significant advance notice was provided for submission windows.
[45] This was addressed in the Revised Plan.

increase in their interconnection costs, as they have had to re-apply for interconnection for projects that were not selected in previous rounds.

- An AV stated that relatively low public awareness for the ILSFA Program has made it difficult for the AV to find interested clients.

AV Recommendations

AVs were asked what recommendations they had for Elevate Energy to more effectively manage the ILSFA Program, and eight AVs provided recommendations. When asked this question, five AVs noted that Elevate has done a great job managing the Program.

- Three AVs recommended improving the AV Portal.
  - Two AVs specified that they would like the portal to be used as a central repository for all documents, so that forms and other documents (such as PPAs and SDAs) are stored and managed in one central location rather than being emailed back and forth between Elevate and the AV multiple times when there are revisions.
  - One AV reported that on the home screen of the portal, there are fields that AVs must fill out, in addition to four or five buttons that AVs must click to upload documents. However, the portal does not save answers that AVs enter into the fields, and when AVs click any of the buttons to upload files, all of their responses on the home page were erased. This AV noted that this was an issue in both program years, and that they did not notice any improvements to the portal between program years.
- Two AVs recommended that Elevate provide more opportunities for AVs to connect, such as small group sessions where AVs can exchange tips and best practices. One of the AVs added that they do not think that other AVs would be opposed to these meetings, despite the competitive nature of the Program. This AV noted that they are a member of a contractor's association that has done this successfully, even though the members compete for the same projects.
- One AV recommended that Elevate develop the capacity to respond to AV questions and requests for assistance more quickly and efficiently, especially over the phone.
- An AV requested that Elevate provide a more comprehensive resource or "road map" for AVs that describes the steps necessary to develop an ILSFA project from start to finish.
- Another AV asked that Elevate provide additional webinars designed to walk AVs through the ILSFA portal and project submission process, and post recordings of those webinars on the website (if this is not already being done).[46]
- An AV requested that Elevate reduce redundancies in communications sent out to AVs and other stakeholders. When updated versions of documents are released, provide a summary of changes. [47]
- An AV recommended that Elevate only require AVs to submit one application with both project and batch information, rather than separate applications for each project and for the batch as a whole.[48]

[46] This is being done and some videos have been posted.
[47] A redline version is provided at the time the new version is posted.
[48] The AV may have an incorrect understanding of the process.

AVs were also asked what recommendations they had for the ILSFA Program more generally. They provided recommendations about project scoring/selection, program funding, project submission requirements, financing options, communication with AVs, Grassroots Education, partnerships with financial institutions and utilities, and reaching targeted communities. Specific detail AVs provided about these recommendations were as follows and are summarized in Table IV-30.

Project Scoring/Selection Recommendations[49]

- Two AVs want non-profit organizations to qualify for the MWBE point. They reported that, currently, only for-profit entities are eligible for the point.[50]
- An AV stated that the program should account for whether companies are committed to working with MWBEs, even if the AV is not an MWBE themselves, when scoring projects.[51]
- One AV recommended taking geographic location and demographic information into account to ensure that more projects are selected in and around Cook County.
- An AV recommended a change to the project selection process to reward AVs that take the time to build community partnerships and recruit potential subscribers before project submission.
- One AV asked that the program reform the EJ community rules so that only the geographic location and income level of the subscribers factor into selection, or remove the EJ community provisions entirely and just focus on the income eligibility of potential participants.[52]
- An AV recommended that the program change the rules so that only the beneficiaries of CS projects need to be in EJ communities to receive the EJ community priority points.

Program Funding Recommendations [53]

- Two AVs recommended re-allocating funding from the DG sub-program to the CS sub-program and one from the DG to the NP/PF sub-program.[54] One AV elaborated that the fastest way to increase the amount of solar energy being produced for the largest number of low-income households is to build large arrays and sell/give away subscriptions. Another said that NP/PF projects would help the program grow and achieve its goal of expanding renewable energy in Illinois more quickly because AVs are more likely to be attracted to large, single-site projects rather than trying to piece together many individual roof-top projects.
- An AV recommended that IL allocate more funding for the Illinois Solar for All Program. This will result in faster growth in the Illinois solar market and more immediate benefits to low-income households.

[49] Elevate posted a request for comments on the Draft Updated Project Selection Protocol on April 21, 2020.
[50] This change was considered but will not be implemented for Program Year Three.
[51] This change will be implemented for Program Year Three.
[52] This is required by the legislation.
[53] The Future Energy Jobs Act (FEJA) mandated the four sub-programs and indicated the funding percentages for the Renewable Energy Resources Fund that must be allocated to each of the four sub-programs.
[54] The ICC's order on the Revised Plan stated that reallocation of funding would not be permitted.

- One AV recommended that the program spend less of the budget on the Program Administrator, Job Training Programs, and Grassroots Educators, and spend more money providing RECs and grants to AVs and their community partners.[55] He stated that this would empower AVs to work with their community partners to provide grassroots education and job training, rather than forcing them to work with a set list of educators and training programs.
- An AV recommended that the program establish a mitigation fund that AVs can use to finance roof and other structural repairs for NP/PF projects.[56]

Project Submission Recommendations

- An AV requested that site assessments are not required until projects have been selected.[57]
- An AV recommended that the program could decrease the volume of work required for AVs by lengthening the project submission windows and reducing the amount of paperwork.
- An AV asked that the program only require AVs to sign the attestation that they will follow all laws, rules, and guidelines once – at the time of registration, rather than at the time of each project submission. While this change would only save AVs a few minutes, the AV stated that the change is representative of the kinds of changes the ILSFA can implement to make the participation process more straightforward for AVs.[58]
- One AV recommended more frequent project submission windows (i.e. a shorter gap between submission windows).
- An AV asked for increased transparency about how exactly the Program is using all the information that the AVs provide on the project submission application.
- An AV recommended that the program allow AVs to submit single projects, without having to meet the minimum batch requirement.[59]

Financing Recommendations

- One AV recommended more flexible financing options for the NP/PF sub-program.[60]
- An AV asked that the program explore alternative solutions to the Collateral Requirements so that AVs are not saddled with large upfront costs without knowing whether a project will be selected.
- An AV recommended that the program determine participant savings and upfront cost requirements on a project-by-project basis. The AV stated that while some low-income customers need to be protected from having to pay upfront costs, others might be willing to pay a down payment if it will ensure that the project gets built. He said that the 50 percent savings can be a difficult target to achieve, and some potential participants might be willing to participate even if their savings were lower. [61]

[55] Funding for these components is specified in the legislation.
[56] FEJA does not provide funding for this purpose.
[57] This may result in the selection of ineligible projects.
[58] The IPA stated that it is important to reiterate the requirements.
[59] This is addressed in the Revised Long-Term Plan.
[60] The Revised Plan allows for upfront costs in the NP/PF and 5+ DG sub-programs.
[61] This is required in the Long-Term Plan.

Recommendations for Communication with AVs

- An AV asked that the program hold an annual meeting or regularly scheduled conference call with representatives from the IPA, Elevate Energy, and the AV, in which the AV could discuss their project development pipeline, what areas of project development take the most time, and areas of difficulty structuring projects.
- An AV recommended that the program do more to provide complete and transparent information regarding the opportunities and funding available to AVs throughout the project development process, including resources for finding and hiring qualified trainees.
- An AV asked the program to commit to working with AVs to answer all their questions and make changes to the program when things are not working.

Grassroots Education Recommendations

- An AV asked that Grassroots Educators reach out to AVs to better understand what types of customers AVs are looking for, so that Educators can more effectively connect eligible consumers with AVs.
- An AV recommended that the program expand Grassroots Education outreach so that it reaches every community in Chicago.
- An AV recommended that the educators target large property owners who are renting to low-income households for multi-family DG participation, rather than just targeting households for single-family DG. [62]

Recommendations for Partnerships with Financial Institutions and Utilities

- Three AVs recommended that the IPA work with utilities and local governments to develop a process that assists AVs with interconnection. Utilities could offer expedited interconnection and transparent interconnection pricing for AVs.[63] They could also allow projects that have already been reviewed to pay a deposit (rather than full costs) to maintain their position in the queue, and to have the initial payment refunded if the project is not selected by the program within a set number of program years.
- An AV asked that the program do more to bring financial institutions and investors into the ILSFA process. The program could have dedicated investors or financial institutions, in the same way that it has dedicated AVs and Grassroots Educators. He stated that this would make it easier for AVs to secure financing for their clients and projects.

Recommendations for Reaching Targeted Communities

- An AV stated that the program could do a better job of reaching out to minority and low-income communities.
- An AV recommended that the program allocate some funding to selecting projects in non-EJC/LI communities off the waitlist in order to achieve a diversity of projects across the state.

[62] Both large and single-family DG projects have been selected.
[63] There is an ICC rulemaking underway on interconnection rules.

Other Recommendations

- An AV said that the ILSFA should continue to employ Elevate Energy. Elevate has built up a certain level of institutional knowledge about the ILSFA Program and removing them in favor of another Administrator would do more harm than good.
- An AV requested more flexibility in the job training requirements so that AVs located in areas far from job training programs can more easily meet the requirements.
- An AV asked for increased transparency about the CS Pilot Program, or that this sub-program is eradicated and reallocate the funds to the three main sub-programs.[64]
- An AV recommended a change to the income eligibility requirements for DG projects to match the requirements for CS projects (i.e. if a customer lives in a low-income census tract, that customer should be eligible for the program without having to verify their income). This would simplify the income verification process.[65]
- One AV asked that the program reassess the AV registration process to make it easier for businesses and organizations from minority and low-income communities to participate in the ILSFA.
- An AV stated that the IPA or Elevate Energy should handle the income verification process, instead of the Approved Vendors. [66]
- An AV asked for an update the ILSFA website to break up the "For Vendors" page into separate pages, and create a "landing page" that provides high-level explanations of each sub-program and sub-program eligibility for interested customers/organizations.[67]

Table IV-30
Recommendation Areas for the ILSFA

Recommendation Area	Number of Recommendations in Area
Project Scoring/Selection	6
Program Funding	6
Project Submission	6
Financing	3
Communication with Vendors	3
Grassroots Education	3
Financial Institution and Utility Partnerships	2
Reaching Targeted Communities	2
Other	7

[64] The Future Energy Jobs Act (FEJA) mandated the four sub-programs and indicated the funding percentages for the Renewable Energy Resources Fund that must be allocated to each of the four sub-programs.
[65] This was litigated in the plan revision docket. The more stringent requirements for the DG projects are related to the higher REC payments.
[66] The Revised Long-Term Plan includes the development of an option for the Program Administrator to perform the income verification.
[67] Some of these website edits have been made.

V. Stakeholder Outreach Design and Feedback

This section summarizes the findings from 14 in-depth interviews conducted with participating and non-participating ILSFA stakeholders in the first quarter of 2020.

This section provides information on the stakeholders' views and opinions. As these statements were made by stakeholders, and they may not have a complete understanding of all details of the ILSFA Program design and requirements, some of the statements in this section may be inconsistent with the statutory requirements of the ILSFA and/or the ICC-approved ILSFA Program design. Additionally, recommendations in this section are those made by the stakeholders, and may not represent the opinions of APPRISE or the IPA.

A. Overview

Stakeholder engagement is an important aspect in the development and implementation of the Illinois Solar for All (ILSFA) Evaluation. The Future Energy Jobs Act (FEJA), which required the development of this program, specifically stated that an objective was to include interaction with stakeholders.

Stakeholders for the Illinois Solar for All Program include the following:

- Environmental Justice Communities
- Low-Income Households
- Affordable Housing Owners
- Job Training Organizations
- Job Trainees
- Community Organizations
- Non-Profit and Public Sector
- Illinois Commerce Commission
- Investor-Owned Electric Utilities
- Solar Energy Providers and Solar Companies
- Neighborhood Associations
- Low-income Energy/Weatherization Programs

The IPA began workshops and solicitation of stakeholder feedback in May 2017. Many opportunities for feedback were related to the Long-Term Plan, Grassroots Education, Approved Vendor registration, EJ community designation, third party evaluation, job training requirements, participant eligibility and verification, quality assurance, REC contracts, project selection, and the Community Solar Pilot sub-program.

Elevate reported that they had good attendance at the stakeholder outreach presentations, ranging from 60 to 70 attendees at the smaller events and up to 120 at the larger events, depending on the subject matter. Since that time, ILSFA has continued to gather feedback from stakeholders through individual meetings, events/conferences, and a presentation of Phase I evaluation findings held in December 2019.

Much of the overall stakeholder feedback on the ILSFA Program has continued to come through ILSFA Working Group members, a coalition of many organizations which provides a single comment document for each topic that has been filtered through a consensus-building process. However, Elevate recently began exploring how to reach other stakeholders through collaboration with partnering organizations, attending industry conferences, and introducing the program at job training events held throughout the State. The ILSFA Program has adopted some of the recommendations provided in prior rounds of stakeholder feedback.

The current round of research represents the first time that stakeholders have been sourced through Low-income Energy Efficiency/Weatherization Programs.

B. Methodology

The Phase II Second Interim Evaluation involved 14 in-depth interviews with stakeholders who are currently involved or could potentially be involved in ILSFA in the future. The current round of research focused primarily on nonparticipating stakeholders and participating stakeholders who had not previously completed interviews during earlier rounds of the evaluation process.

All of the stakeholders completed their in-depth interviews by telephone. Most of the interviews were 30 to 50 minutes in length, depending upon the extent of respondent feedback. While many of the respondents/stakeholders were based in Illinois, a few were also located in other states.

The non-participating stakeholder list was established through online research to identify potential Illinois stakeholders who have not been involved in the program to date and interviews with low-income weatherization managers at the IL utilities. In total, approximately one hundred potential firms were contacted to identify respondents. We targeted Working Group Members who had not previously participated in interviews (5), Energy Efficiency Program Providers (12), Neighborhood Associations (15), Community Action Agencies (35), Environmental Solar Organizations (3), Solar Energy Providers/Companies (18), and others (12).

The following interviews were conducted.

Nonparticipating Stakeholders (n=11)
Low-income Energy Efficiency Providers (5)
Environmental/Solar Organizations (3)
Solar Energy Provider (1)
Solar Industry Company (1)
Neighborhood Organization (1)

Participating Stakeholders (n=3)
Solar Energy Providers (2)
Environmental/Solar Organization (1)
Note: The three participating stakeholders were working group members who had not previously participated in evaluation interviews.

C. Nonparticipating Stakeholder Interview Findings

Five nonparticipating stakeholder interviews were conducted with Low-Income Energy Efficiency (LI EE) Providers, and six with individuals employed by solar energy providers, companies, and nonprofit organizations. The LI EE Providers who were interviewed were Community Action Agencies (CAAs) that deliver the Illinois Home Weatherization Assistance Program (IHWAP) and private contractors that deliver low-income energy efficiency services for the utilities and as subcontractors to the CAAs.

Interviews with LI EE providers were conducted with the Program Director, Manager, or Coordinator for Weatherization programs that serve multiple counties, and/or the owner of a company that performs home energy audits and installations for Illinois weatherization programs.

The geographic service areas of the weatherization programs ranged from three to nine Illinois counties. The programs served 23 to 600 households and typically provided the following services.

- Home energy audits
- Furnace and air conditioner checks, repairs or replacements
- Water heater checks, repairs or replacements
- Attic/basement insulation checks and/or installation
- Window and door seal checks and fixes
- Air safety checks and safety fire/carbon monoxide detector installations

A few LI EE programs also offered installation of new thermostats, energy efficient lighting installations, and pipe wraps. Similarly, several LI EE providers reported that their services are coordinated with other programs, such as LIHEAP, scholarships, Drive to Succeed programming (Community Services Block Grant), and other community services.

Nonparticipating stakeholders in other environments included an Executive Director, four Directors, and a Business Owner. Three of these participants worked within the solar industry, and the other three worked in organizations outside the solar industry that provide a broader range of services to low-income individuals. These services included LIHEAP, energy efficiency, continuing education, health, urban issues, environmental justice, information, and newsletters.

Nonparticipating stakeholders were asked if their organization conducts advocacy work or typically participates in opportunities to offer comments on public programs.

- Six of eleven interviewees said their organization participates in advocacy and public feedback. On the whole, however, their advocacy/public commenting work is often limited in scope and dependent upon whether they are required by existing contracts or programs to provide that feedback.
- Among LI EE providers, four of five indicated involvement in advocacy/public commenting activities.
- One LI EE provider indicated that his organization has an outreach division to coordinate commenting.

- Another LI EE provider indicated that he/she provides feedback through the "Energy Efficiency Stakeholder Group" in Chicago.
- Among other nonparticipating stakeholders, only two of six reported involvement in advocacy/public commenting activities. Limitations of time and resources for advocacy work was the most commonly mentioned barrier mentioned to engaging in public commenting.

Stakeholders were asked about their awareness and understanding of the ILSFA Program.

- Among five LI EE providers, awareness was limited.
  - Three individuals indicated that they had limited awareness and no understanding of the program whatsoever.
  - Two other LI EE providers said that while they had heard of the program before, they did not know much about it.
  - One LI EE provider said that he/she participated in a recent conference call (hosted by the IL Weatherization program) about the ILSFA which was not helpful in learning about the program.

- Among the other six general stakeholders, awareness and understanding of ILSFA was dependent on solar industry involvement.
  - The three stakeholders who were involved in the solar industry had all heard of the program, and two of these three people indicated that they understood the program "very" or "somewhat well".
  - The three stakeholders who are not involved in the solar industry but more generally serve low-income individuals had never heard of the ILSFA Program before and knew nothing about it.

Respondents were asked if anyone in their organization had attended any of the informational meetings that were held during the ILSFA Program development process. All nonparticipating stakeholders said they did not personally attend the sessions. However, one respondent did say that while she had not attended herself, she could not say for sure whether anyone else at her organization had done so.

- Among five LI EE providers, none attended informational meetings. One indicated that she had participated in a recent telephone conference call about the ILSFA Program held by the head of state weatherization programs. She did not find the call helpful because it focused on weatherization services rather than delivering basic information about the ILSFA Program.
- Among other nonparticipating stakeholders, none had attended informational meetings and most were not aware that formal ILSFA meetings were held.

When asked if they had listened to the online recordings of the information and/or feedback sessions posted on the ILSFA website, none of the nonparticipating respondents had accessed the content. Only one nonparticipating stakeholder indicated that she was aware that the meetings were posted to the site, but she said she did not have time to listen to the meetings.

Stakeholder Outreach Process

Nonparticipating stakeholders were asked if they were aware that there had been several opportunities to provide feedback on the development of the ILSFA Program. Most of the nonparticipating stakeholders were not aware of such opportunities.

- Among five LI EE providers, only one stakeholder recalled an invitation to provide feedback, but did not do so. This individual reportedly learned of the opportunity through the ILSFA Working Group and/or related industry email listserv.
- Among six other nonparticipating stakeholders, only one was aware of the opportunity to provide feedback. This individual learned of the opportunity through email.

Stakeholders were also asked where they might expect to learn about ILSFA or hope to find opportunities to provide feedback on ILSFA. Digital communications, such email and webinars, were the most expected sources of information, followed by person-to-person channels.

- Digital Communications
  - Four said they would expect to learn about opportunities via email.
  - Two said they would expect to hear about opportunities through webinars.

- Personal Channels
  - Two said they would expect to hear about ILSFA through direct phone calls.
  - One said he/she would expect to receive program information via direct mail.
  - One indicated he/she would prefer to learn about the program in a "personalized day-long seminar".

- Influencers
  - Two said they would hope to learn about the program through nonprofit environmental organizations, such as the Illinois Sierra Club or Little Village Environmental Justice Organization.
  - One said he/she would expect to learn about the program from local Chamber of Commerce meetings.
  - One said he/she would anticipate that utilities or state commissions would share program information in monthly advisory conference calls.

- Through Educational Institutions
  - One said he/she would expect to learn about ILSFA in solar energy programs offered through Illinois community colleges.

Stakeholders were also asked if they felt the program had provided a sufficient amount of outreach to encourage stakeholder participation in the ILSFA development process. In general, it is difficult for nonparticipating stakeholders to judge whether or not there were sufficient amounts of outreach, especially if they had not been made aware of the program. As such, some respondents were unable to answer this question due to lack of awareness and a few others based their response solely on whether they had learned of the program personally.

- Two of the LI EE providers indicated that they were not aware of the extent of outreach, and the remaining three were not asked about it given that their limited awareness of the program overall would not lend itself to developing an opinion.
- Only one of the six other nonparticipating stakeholders reported that there was a sufficient level of outreach. Four others indicated that there was not a sufficient level of outreach, and one was not asked about it.

When asked if they felt the program could have taken other actions to solicit additional stakeholder feedback, over three-quarters of the respondents (nine out of 11) indicated that the program could have done more to make people aware of the program. They recommended the following additional outreach actions.

- One LI EE provider who was aware of the program indicated that the program could have engaged in greater networking, advertising, and targeted telephone calls.
- Another nonparticipating stakeholder indicated that information about ILSFA should have been disseminated by the State of Illinois to introduce the program and establish its connection with Illinois. At present, some nonparticipating stakeholders do not know that ILSFA is a program offered through the State of Illinois.

Stakeholders were asked if there had been any barriers to their participation in the ILSFA development process. Among nonparticipating stakeholders that were asked about this, the following barriers to participation were mentioned.

- Not knowing enough about the program to engage (3)
- Not having enough time (1)
- Not having enough resources to participate (1)
- Not knowing enough about solar energy in general to participate (1)
- Concerns about the 15-year guarantee required for installed systems (1)
- Concerns about reassurances home owners must make for maintenance (1)
- Availability of funding (1)

When asked if their organization planned to provide feedback on the ILSFA in the future, most nonparticipating stakeholders did not currently have immediate plans to do so, however, some indicated that they would be open to providing feedback if personally asked to do so. A few explained that they would be unlikely to provide feedback without such prompting and/or a direct request.

LI EE Provider Coordination with ILSFA

Nonparticipating LI EE Providers were asked if they had referred participants to ILSFA and if their participants had asked them about the ILSFA Program. To date, none of the LI EE providers interviewed said they had referred participants to ILSFA, and only two indicated that participants asked questions about solar energy in general.

Most said that they would be unwilling to refer participants to the ILSFA Program because they don't know enough about it at present. A few also expressed concern about making

referrals to any program unless they knew there was a good contractor service/support structure in place to assist their participants.

When asked how nonparticipating LI EE stakeholders felt the ILSFA Program could best coordinate with LI EE weatherization programs, the five LI EE respondents suggested the following methods.

- Help us know more about the ILSFA Program in order to engage (3)
- Coordinate with the utility-run energy efficiency programs (3)
- Coordinate service and support through the State's DCEO (2)
- Provide a structure for referring weatherization participants to ILSFA (2)
- Educate Illinoisans about solar energy and its benefits (2)
- Train and/or certify all weatherization contractors for solar energy work (2)
- Ask LI EE programs to build or extract a sub-sample list of low-income home owner roofs that are in good enough condition to support future solar installations (1)
- Issue a determination of whether individual counties are well-suited for solar energy so they can understand what regions will likely benefit most by participating (1)
- Share contractors because there are over 100 weatherization contractors in Illinois (1)
- Provides funding to allow weatherization programs to support ILSFA (1)

When asked if they collaborate with other organizations, all five LI EE providers indicated that they do occasionally do so. Discussions revealed that they are seasoned collaborators who connect with others in their local community to serve low-income individuals that qualify for various low-income support services. They specifically mention collaborating with the following organizations.

- Habitat for Humanity and other housing rehab organizations (2)
- Townships, communities, or counties with funding to allocate (2)
- The Salvation Army (2)
- Veteran's Society (1)
- Easter Seals (energy services for disabled individuals) (1)
- WECARE (1)
- Senior Services (1)
- Department of Public Health (1)
- Real Energy Program (solar-powered furnaces) (1)
- Elevate Energy (1)
- Citizen's Utility Board (CUB) (1)
- Other LI EE Providers (1)

When asked whether LI EE providers could screen homes for ILSFA participation, all LI EE providers indicated that they could expand home inspections for this purpose, however, they had some caveats.

- Some believed that roof inspections would require greater contractor expertise than current weatherization contractors maintain.
- Some suggested that only more seasoned inspectors could inspect roofs for solar.

- Some stated that current inspectors don't have solar industry training to know whether roof angles are appropriate for solar.
- Most said that energy efficiency auditors don't currently take ladders out for home inspections or have experience getting up on roofs.
- Others stated that some weatherization home inspections occur in the winter, and this would not be a good season for rooftop inspections.

Despite these concerns, some LI EE providers did feel that such barriers could be overcome through planning, development of new protocols, BPI training for contractors, a contractor selection process, and/or contractor certification.

When asked how they could collaborate with the ILSFA Program in other ways, some indicated concerns about sharing participant lists because they have agreements in place with clients not to share their personally-identifiable information (PII). Another manager indicated that while the State owns their low-income participant list, day-to-day use of the list is controlled by the county's public health department, so multiple layers of approvals would be needed to collaborate with the ILSFA Program. Given these explanations, it appears that there are also some differences in the way information is handled from site to site.

Despite concerns about the release of PII, most EE providers indicated that they do provide information or flyers to their participants about other programs that could serve them. This is generally easier for them to do than something that requires them to change their overall approach to services. Conversely, a change in service protocols would need to be come from their funding agencies and information would need to be provided on how to allocate or split the cost of their services between multiple programs.

ILSFA Design and Implementation

Nonparticipating stakeholders were generally not asked if they had any specific comments on the four ILSFA sub-programs due to their lack of familiarity with the program. A few did, however, provide input on aspects of program design.

- One nonparticipating stakeholder indicated that a key barrier to vendor participation in the program is the requirement for a 15-year vendor guarantee on installed systems.[68] The duration of the guarantee was seen as too long and hence as a risk for most vendors.
- Another nonparticipating stakeholder commented on job training requirements and opportunities. This stakeholder indicated that job training programs need to focus on quality and scalability to support the program's growth. He specifically felt that ILSFA needs to focus on recruiting qualified job training candidates and on improving the quality of their education.[69] He felt that it was important to move the cohort's scores on the NABCEP's associate test from a current low of 42 percent closer to the industry average of 95 percent.

[68] The legislation requires 15 years of REC delivery.
[69] The job training programs are administered separately from the ILSA.

ILSFA Evaluation

LI EE Providers were not asked about program evaluation metrics due to inclusion of other questions, and other nonparticipating stakeholders were only asked about their general suggestions for how the program should be evaluated. Only three nonparticipating stakeholders suggested evaluation metrics, and three had no ideas or input.

Nonparticipating stakeholders recommended the following metrics and indicators.

- Number of solar projects developed
- Extent to which project installation goals were met
- Whether vendor resources expanded
- Barriers to vendor participation
- Time frame for vendors to be paid by the State of Illinois
- Length of vendor contracts
- Number of applications submitted or processed
- Number of jobs created for in-state residents
- Number of jobs created that were union or non-union jobs
- Duration of the jobs created (full-year, seasonal, temporary)

One stakeholder added that the ILSFA Program should also measure the program's impact on consumer participants, including the following indicators.

- Perceptions of the program's value
- Ease of participating in the program
- Savings participants experienced
- Perceptions of the program's integrity; did it deliver what it promised?
- Did the program educate people about solar energy?
- Did the program make people aware of how to get solar?
- Did the program help people understand where solar panels go?

ILSFA Recommendations

Respondents were given the opportunity to provide any other comments or recommendations for the ILSFA Program. A key recommendation made by at least one-third of participants was that information about the ILSFA Program should trickle down from statewide LI EE leadership.

- Three LI EE providers indicated that the ILSFA Program should coordinate its work with energy assistance programs offered through the State's Department of Commerce and Economic Opportunities.
- One LI EE provider indicated that the ILSFA Program should also coordinate its outreach and collaboration with the Illinois Association of Community Action Agencies (IACAA), and more specifically, the IACAA's Director of Utility and Weatherization Assistance Programs.

Several nonparticipating stakeholders felt that it was important for the ILSFA Program to educate homeowners about solar energy, its benefits, and where it can be installed. They said

that this education was necessary to ensure qualified home owners are informed and have information to guide their decision-making.

Other nonparticipating stakeholder suggestions centered on the fact that the ILSFA Program needs to invest in more relationship-building. Nonparticipating stakeholders indicated that the ILSFA Program needs to increase personal contact with relevant, targeted audiences. Some suggested approaches are outlined below.

- One nonparticipating stakeholder indicated that the ILSFA Program needs to engage in more one-on-one conversations with people who are working in energy and environmental companies, and with individuals working in nonprofits that serve low-income individuals.
- Another stakeholder more generally stated that the ILSFA Program needs to reach out to more people personally.
- Yet another indicated that the ILSFA Program needs to take part in community events, participating in discussions that are held in the community, in schools, in churches, and at other local events.
- One stakeholder also suggested that the ILSFA Program become involved in the Local Industry Retention Initiative (LIRI) organized by the City of Chicago. This effort is designed to keep more businesses in Illinois and reportedly could be a good partner for the ILSFA Program.

Other nonparticipating stakeholder suggestions focused on how the ILSFA Program should install solar panels on buildings frequently accessed by low-income individuals to educate people about solar energy use.

- One LI EE provider indicated that the ILSFA Program should install solar panels on Illinois food pantries to reduce the costs of food pantry operation and to help low-income individuals learn about solar energy.
- One general nonparticipating stakeholder indicated that the ILSFA Program should install solar panels on buildings owned by local Community Action Agencies for the same reasons.

Some nonparticipating stakeholders suggested that the ILSFA Program should coordinate outreach overall and through trusted community and spiritual leaders.

- One nonparticipating stakeholder suggested that the ILSFA Program should improve its outreach, strengthen its storytelling through case study examples, and fully capitalize on various networking opportunities.[70]
- Another general nonparticipating stakeholder indicated that the ILSFA needs to focus on outreach to local Chambers of Commerce and churches because both types of organizations may be trusted sources of information for low-income individuals.

D. Participating Stakeholder Interview Findings

All three participating stakeholders were individuals who had participated in the ILSFA Working Group in the past, and were executives within their organizations, holding the titles

[70] Elevate is planning to do more in this area.

of Owner, Partner, or Vice President. Two individuals were from Solar Energy Provider firms and one individual was from a Solar Industry Company.

All three participating stakeholders became involved in the ILSFA Program development during the legislative process. They indicated that they had tracked legislation leading up to the ILSFA Program and had been involved in providing comments or guidance on that legislation.

Participating stakeholders provided information on how they had engaged in the feedback on the ILSFA development process.

- All three participating stakeholders said they offered public comments during the designated submission window.
- All three also reported involvement in the ILSFA Working Group, such as attending group meetings, participating in discussions or conference calls, and/or submitting comments on working group topics of interest so that comments could be synthesized through consensus and reported to the IPA.
- One respondent also indicated that his/her organization had submitted informal feedback to an ILSFA Approved Vendor with the hope that it would be shared with IPA.

When asked if their organization planned to provide feedback on the ILSFA in the future, all three participating stakeholders indicated that they plan to continue providing feedback.

Stakeholders were also asked about their understanding of the ILSFA Program. They reported varying levels of understanding, assessing their understanding of the ILSFA Program as "very well," "well", and "halfway there" (moderate).

Note: Despite these self-assessments, it should be noted that all three participating stakeholders shared strong working knowledge of the program's design, as well as its strength and weaknesses during the interview. However, their self-assessments are likely based upon a higher standard or benchmark than average given their ongoing working group participation. In prior conversations, working group participants have indicated that participants each bring unique expertise to the working group.

Participating stakeholders offered the following additional details about their understanding of the various components of the ILSFA design.

- One respondent felt very qualified to discuss program details, expressing self-described expertise and a thorough understanding of how the ILSFA Program works to support proposals for projects under the program.
- The second respondent indicated thorough knowledge of the program, but with a narrower focus on nonprofit/public facilities. This individual claimed lesser knowledge of community solar and distributed generation sub-programs.
- The third respondent indicated that he was not qualified to talk about program specifics and would need to study current project requirements again to offer sufficient detail.

Stakeholder Outreach Process

Participating stakeholders were asked how they had learned about opportunities to provide feedback on the ILSFA Program. They offered the following sources of information.

- All three learned about feedback opportunities through emails from the IPA.[71]
- One also heard about feedback opportunities through the Illinois Solar Energy Association (ISEA), specifically through the organization's meetings and/or mailing list.
- One read about the stakeholder feedback process on the ILSFA website, and obtained information about feedback opportunities through content specifically placed on the website's announcement page.

Stakeholders were asked if they felt the ILSFA Program provided a sufficient amount of outreach to encourage participation in the program's development. They were mixed in their response, with one saying "yes", one saying "no", and one saying "not sure." Two participating stakeholders suggested that the program could have secured feedback from additional audiences, including the following.

- Installers: Feedback from installers would have reportedly helped balance concerns about consumer protections with realistic site assessment protocols.
- Latino Consumers: Though the ILSFA Program is credited with securing feedback from African Americans, more feedback from Latinos could reportedly have helped the program reach and communicate more effectively about the program in Spanish for low-income Latino stakeholders.

When asked if they felt the ILSFA Program could have taken any other actions to solicit additional stakeholder feedback and participation, two of the three participating stakeholders said that the program could be doing more. They recommended the following actions to improve participation.

- Greater program involvement with the ISEA.[72]
- Alignment of the program's ILSFA Working Group[73] with ISEA.
- Outreach to the Adjustable Block Program vendors for additional feedback and lessons learned that could be transferrable to the ILSFA Program

Participating stakeholders were asked if there were any barriers to their participation in the ILSFA Program. Two of the three respondents said they experienced barriers, as outlined below.

- Time availability to engage given competing workload.
- Lack of community awareness and interest.
- Limited funding solutions (i.e. no financial institutions willing to back ILSFA projects).
- Unfair project selection criteria which places a heavier weight on EJCs at the expense (exclusion) of non-EJC projects.[74]

[71] Note that these emails are usually sent by Elevate Energy.
[72]The Illinois Solar Energy Association is part of the Solar for All Working Group.
[73] The ILSFA Working Group is an independent group. It is not part of the ILSFA Program.
[74] The legislation requires the EJ community preference.

- Limited duration of the ILSFA Program given that it may take three years to get solar projects off the ground. There is a perception that there needs to be a future runway of ten years to allow vendors sufficient confidence and time to recover their investments.

Participating stakeholders provided the following additional comments on the stakeholder outreach process.

- Gather feedback from off-takers to understand their program satisfaction levels.
- Gather feedback from community leaders, especially those who do not achieve project funding to understand their investment of resources.
- Facilitate the ILSFA Working Group's collaboration with ISEA.
- Ensure greater involvement with ISEA to create improved awareness and understanding of the ILSFA Program.

Stakeholder Participation

Participating stakeholders were asked if they felt there was sufficient stakeholder participation in the ILSFA development process.

- One respondent indicated that there was not sufficient stakeholder participation.
- Two respondents said that they did not have enough information upon which to judge whether or not stakeholder participation was sufficient.

Respondents were also able to identify where additional participation was needed. They offered suggestions on where it would be beneficial for the ILSFA Program to obtain more feedback.

- One participating stakeholder said that the ILSFA Program needs to obtain more feedback from installers to help ensure protocols and disclosures are not overly complex.
- Another participating stakeholder said the ILSFA Program needs to secure greater involvement of community members across the State, including Chambers of Commerce, County Boards, and Mayors. Because these individuals must, at times, collaborate to support community solar projects, their awareness and understanding of the program is important.
- The third participating stakeholder said that the ILSFA Program needs to be more aware of time constraints that various audiences may face in participating, recognizing that more time may be required to ensure adequate and diverse audience feedback.

Stakeholders were asked if they felt the program was open to feedback and ideas from stakeholders. In general, participating stakeholders were more likely than nonparticipating stakeholders to believe that the program was open to feedback.

- All three participating stakeholders reported that the IPA and the ILSFA Program was open to feedback compared to only one nonparticipating stakeholder (1 of 11).
- One participating stakeholder added that while the ILSFA Program is open to feedback, it still needs to understand that people in Illinois have limited exposure to solar energy and have varying levels of information about it.
- This same stakeholder explained that there are many misperceptions about solar in Illinois that the ILSFA Program needs to listen to, understand, and address. He feels that solar

energy in Illinois is often misperceived as very costly to install, rather than as a solution that can actually deliver savings to home owners over time. This stakeholder feels that people in his community would prioritize investments in solar if they had a more accurate understanding of the benefits solar energy can deliver.

Interviewees were asked if they felt the program responded appropriately to stakeholder comments.

- All three participating stakeholders indicated that the ILSFA Program responded to stakeholder feedback appropriately.
- Despite this, participating stakeholders credited the ILSFA Program for doing a good job documenting stakeholder feedback and sharing their detailed responses to stakeholder feedback.
- Similarly, participating stakeholders praised the ILSFA Program for responding promptly to their feedback and within what was perceived to be a short window of time.

Stakeholders were asked if they felt their ideas were heard and taken into account.

- Participating stakeholders had varying impressions of whether their ideas were heard and taken into account, and answered "yes", "no", and "not sure".
- The participating stakeholder who felt his/her ideas were not heard indicated that the 65 percent savings requirement was bumped up for the nonprofit sector despite expressed concerns.[75]

Stakeholders were asked whether they thought their feedback had an impact on the development of the ILSFA Program. While one participating stakeholder felt his/her feedback had "made an impact", another said "partially" and another was "not sure".

Stakeholders were asked if the ILSFA Program had incorporated stakeholder comments into the program design where feasible and beneficial.

- Two participating stakeholders felt their comments had been incorporated into the program's design, but another felt his feedback had not been incorporated.
- Another participating stakeholder felt that because feedback was not obtained from everyone in the field (i.e. installers), the ILSFA Program did not actually obtain and apply feedback wherever it was feasible and beneficial to do so.[76]

Two participating stakeholders offered additional comments on the ILSFA's stakeholder outreach process. Their comments generally focused on steps that the IPA could take to ensure feedback represents geographic, socio-economic, and racial diversity in Illinois.

- One participating stakeholder noted that ILSFA stakeholders need to look at how to best expand the program under FEJA and to focus on areas that are not being served that could be served.

[75] The recommendation was considered but not adopted by the IPA.
[76] All AVs received notice about the opportunities to comment on program design.

- Another noted that the ILSFA Program needs to focus on timing to ensure it doesn't get in the way of outreach to minority audiences and the ability to secure a diverse base of comments.

ILSFA Design and Implementation

Participating stakeholders were asked if they had any specific comments on the four ILSFA sub-programs.

- One respondent commented on Community Solar.
  - This individual felt that the ILSFA Program needs to obtain feedback from off-takers to measure program satisfaction and from community leaders who did not receive funding to monitor frustration levels.
  - The stakeholder notes that people tend to sour on a program pretty quickly if they are not getting what they think they should from it. He/she added that this is important to realize and manage because the ability to engage future communities in solar energy projects can be affected by the experiences of off-takers and community leaders who have already been through the process.

- One respondent commented on Nonprofit/Public Facilities.
  - This individual felt that the savings calculator could be improved by offering more flexibility. Not every financing model reportedly fits the calculator, e.g. it needs to accommodate different buyout methods, operations paid for in different ways, use of different models, etc.
  - The stakeholder explains that not allowing participants to make a down payment to improve their overall savings is a mistake. If churches have cash on hand and can pay for some part of the system upfront, then their overall cost could be much lower. So, the requirement that ILSFA be a "no cost thing" is limiting.[77]

The three participating stakeholders were also asked to comment on the ILSFA's project selection guidelines.

- One participating stakeholder said the current approach to securing interconnection agreements could be improved. This individual explained that currently, approved interconnection agreements are just deleted when projects don't receive funding. This means that vendors have to complete the entire interconnection agreement process again if they intend to re-submit a project for future consideration.[78] Because it takes a significant investment of time for contractors to secure interconnection agreements, the stakeholder feels there should be an option to "hold open" an interconnection agreement on non-funded projects instead of subsequently having to repeat the process. The stakeholder explains that in other states, vendors may be asked to make a five to ten percent down-payment to hold interconnection agreements open. Then, the vendor can re-submit their project again for consideration in the next round of funding.

[77] This was changed in the Revised Plan.
[78] Previous interconnection agreements apply to applications that are re-submitted.

- Another participating stakeholder indicated that project scoring criteria needs to be reviewed because currently, if you are submitting a project in a non-EJC area, your project won't be funded due to weighting which prioritizes EJC projects.

Stakeholders were asked if they had any comments on the Grassroots Educator (GE) selection or role and if they felt that GEs are meeting the goals of reaching hard-to-serve communities across the state.

- One participating stakeholder shared an impression that the timeline for Grassroots Education is currently out-of-sync with the market, given that educators are promoting a program where, in some cases, vendors do not yet exist for their area.
- Another stakeholder said that Grassroots Education is lacking in Spanish,[79] and that greater efforts need to be placed on delivering bi-lingual (English/Spanish) education because many low-income Illinois consumers speak limited or no English.

Stakeholders were asked to comment on the ILSFA guidelines and materials, and had mixed reactions.

- One participating stakeholder indicated that she had a positive reaction to the ILSFA website, noting that she used the website frequently and found it "easy-to-use".
- A second indicated that while he found ILSFA emails helpful, he felt the website was "clunky" and "not intuitive to use."
- A third stakeholder indicated that while much of the current guidelines and materials are useful, they need to also be made available in Spanish.

ILSFA Evaluation

All three participating stakeholders provided comments on the ILSFA's key evaluation metrics and had other comments on the evaluation.

- Three respondents felt that the key evaluation metrics were good, but may need to be expanded.
- One said that off-taker metrics should be added, examining off-takers' program satisfaction and perceptions of the program's value.
- Another stakeholder indicated that Illinois consumer metrics need to be added, examining reactions from consumers who submitted a letter of intent on projects which did not get funded. The stakeholder indicated that it may not be fair to raise consumer expectations that their energy costs will decrease, only to inform them that this is not the case.
- One respondent said the key evaluation metrics should include the geographic location of each project to ensure that ILSFA projects are available across the state and not just in a few select locations.

Additional Participating Stakeholder Recommendations for ILSFA

Participating stakeholders were given the opportunity to provide any final comments or recommendations for the ILSFA Program. They offered the following responses.

[79] There was Spanish representation among the Grassroots Educators.

- One participating stakeholder indicated that it is important for the IPA to ensure that the ILSFA Program doesn't become too complex. This individual believes that too much complexity is likely to reduce future vendor participation in ILSFA.
- Another participating stakeholder reiterated the importance that the IPA review and adjust project selection scoring, specifically with regard to weighting of projects submitted from EJCs, to ensure that the State does not unintentionally exclude projects in non-EJC areas.
- One participating stakeholder also reinforced the importance of allowing vendors to secure or hold an interconnection agreement open by tendering a security deposit.[80]

[80] This is an interconnection rule. The deposits are refundable.

VI. Grassroots Education Participant Feedback

APPRISE conducted in-depth telephone interviews with 16 participants who attended an event organized by ILSFA's Grassroots Educators between October and November 2019. These interviews assessed participants' experiences at the GE events they attended as well as their knowledge of and desire to participate in the ILSFA Program.

A. Methodology

Three of the 11 Grassroots Educators provided information on attendees at their Grassroots Education events for use in the interviews. There were four types of contact information available.

1. Mailing address and telephone number.
2. Mailing address and no telephone number.
3. Email address and telephone number.
4. Email address and no telephone number.

Table VI-1 displays the number of potential respondents by organization with each set of information. While there were 109 contacts, only 79 included a telephone number. All of these potential respondents were sent an advance letter, either in the mail or via email, depending on whether they provided a physical mailing address or an email address. The advance letters provided a toll-free number for participants to call in to complete the interview at their own convenience, however most interviews were completed via outbound calling.

If the contact information did not include a phone number, the advance letter also included a request for the individual to provide a phone number via email or by calling APPRISE's toll-free number. Additionally, APPRISE interviewers attempted to look up the phone numbers for all potential respondents who did not provide one by conducting a basic internet search using respondent names and event locations.

Table VI-1
Grassroots Education Participant Sample

Available Contact Information	Organization			Total
	CEFS	Embarras	PRN	
Address & Phone Provided	54	1	0	55
Address Provided – Phone Not Provided	2	25	0	27
Email & Phone Provided	0	0	24	24
Email Provided – Phone Not Provided	0	0	3	3
Total	**16**	**26**	**27**	**109**

The following procedures were used to implement the interviews.

- Advance letters or emails were sent to participants depending on the contact information provided.
- APPRISE interviewers made up to seven contact attempts via phone. Voicemails were left on the first, third, and sixth attempts.
- Interviews were completed between March 17, 2020 and April 9, 2020.
- Interviews ranged from 17 to 56 minutes with an average length of about 34 minutes.

The final dispositions for the interviews are listed in Table VI-2 below. Among the selected sample of 109 potential participants, APPRISE was able to complete 16 interviews.[81] Most of the customers who were not interviewed either did not answer the phone, had a non-working or incorrect number, or did not provide the grassroots educator with a phone number in their contact information.

Table VI-2
Interview Response

Interview Response		
	Count	**Percent**
Completed Interviews	**16**	**15%**
No Answer/Busy/Voicemail	47	43%
Non-Working Phone /Wrong Number	17	16%
Refused	10	9%
Ineligible/ Did Not Remember Event	5	5%
Unsuccessful Phone Lookup	14	14%
Total	**109**	**100%**

B. Interview Findings

This section provides a summary of findings from the completed interviews. The following topics are addressed.

- Participant and Event Background
- Grassroots Education Event Participation and Feedback
- ILSFA Program Awareness and Understanding
- ILSFA Participation and Satisfaction

Participant and Event Background

All 16 participants confirmed that they attended a Grassroots Education event that discussed the ILSFA. This section summarizes findings from questions related to the format of the events that participants attended, participant experiences paying their electric bill, and participant knowledge of solar energy and energy efficiency programs.

[81] This is a much lower response than what APPRISE usually obtains in our studies due to incomplete contact information.

When asked about the format of the event, all 16 participants indicated that they attended an event at a community meeting place where a presentation was given about solar energy and the ILSFA Program. Most participants said that the event included a PowerPoint Presentation, a question and answer period, and a free meal.

Participants were asked why they attended the GE event. They provided the following responses, with more than one response possible per respondent.

- Interested in Learning about Solar Energy – 11
- Interested in Learning about Opportunities to Save on Energy Bills – 9
- Attended as Part of a Regularly Scheduled Head Start Meeting – 8
- Food or Other Benefit Provided – 2

Participants offered the following additional comments on why they had decided to attend the GE event.

- Meeting was a Head Start Event
  - "I mainly just went because it was through my daughter's Head Start program and because they give extra points or money for attendance."
  - "They gave out a promotion for attendance where they would take some money off of your light bill. My wife usually makes me go to all of the Head Start events."
  - "I just go to Head Start meetings because I'm part of the leadership community. I go to meetings every month. I have one meeting with the board of Head Start and one with parents and people involved."
  - "Right now I'm the chairperson for the Head Start family connection committee so I usually attend the meeting each month. I was definitely interested in learning about opportunities to participate in solar energy, especially if it would have the potential to save me money."
  - "I normally attend the Head Start parent meetings whenever they are held, but I thought this topic was particularly interesting. I am interested in opportunities to affordably participate in solar energy."
  - "I'm a community representative on the CEFS Head Start leadership board. I was pleased when I heard that the topic would be ILSFA. I have friends who switched to solar, so I know the savings aren't immediate, but there are savings eventually."
- Interest in Solar
  - "I live with my boyfriend and two kids. He said that he was interested in learning about opportunities for solar, but he couldn't attend the event, so I went instead."
  - "I thought it would be a good investment to save money and save as much energy as possible. Being first-time homeowners, we aren't educated on the right things to do.

How would I pay? Would I pay out of pocket? Habitat houses are already energy efficient. Would solar help us become more energy efficient?"

- "I figured that my home is in a good location for solar because there's a lot of sun where I'm located."

- "Michelle from Habitat was telling me about it. The way that my house is, the sun shines directly on it, so I'd be a good candidate for the solar panels."

- Interested in Saving Energy or Money
  - "It was free and I wanted to know more about saving energy. I own my own house, so it may be something I can invest in."

  - "I'm a homeowner and I was hoping to save on Ameren. If you're late on your bill, they add a fee, which I don't like because I'm always late in the winter. I was looking for something else so I wouldn't have to pay so much."

Participants were asked if the event they attended included information about opportunities or programs other than the ILSFA. Three participants said that other information was covered at the meeting, eight said that the meeting was solely focused on ILSFA, and five said that they did not know or could not remember if other topics had been discussed.

- ILSFA was the Sole Topic of the Event – 8
- Event Discussed Opportunities and Programs Other than ILSFA – 3
- Don't Know/Can't Remember – 5

Among the three participants who said that other topics were discussed, two said that the event covered school-related information and one said that LIHEAP was discussed. However, all participants acknowledged that ILSFA was the main focus of the event.

Participants were asked to describe their interest in the ILSFA Program. Fourteen participants said they were interested in having solar installed on their roof and eight said they were potentially interested in a community solar subscription.

- Rooftop Solar Installation – 14
- Community Solar Subscription – 8
- Job Training – 1
- Not Interested in ILSFA – 2

Participants were asked if they had previously participated in other no-cost energy efficiency or home weatherization programs. Three participants said they had participated in Weatherization and 13 participants said they had not.

Participants were asked how difficult it was for them to pay their monthly electric bill. Most participants indicated that it was not too difficult or not at all difficult.

- Very Difficult – 1
- Somewhat Difficult – 2

- Not Too Difficult – 10
- Not at All Difficult – 3

Participants offered the following additional details on their electric bill payment difficulty. Six of the ten respondents who said that it was not too difficult to pay their electric bill indicated that their bill would be much more difficult to pay if they were not on budget billing or receiving some form of assistance.

- Difficult
  - "Sometimes during the winter, the power is more than my rent, so I have to choose. I have a cold house but a roof over my head, so I choose something to keep over my head, and use blankets to keep warm in case the power turns off."

  - "I've lost part-time jobs, so it's become more difficult. We have a propane hot water heater, propane cooktop, and a propane furnace. We try to keep the thermostat at a reasonably comfortable level. Our electric is not on an equal payment plan. The difficulty depends on time of year and my husband's work schedule. It is easier in the summer and more difficult in the winter."

  - "It depends on what month it is. In the winter and summer is when the costs go up. Spring and fall are reasonable. But you don't really know what to expect if it's a cold winter. I have a programmable thermostat that I set with a timer to decrease heating/cooling when I'm outside or asleep. But, since this coronavirus I'm at home all day, so I'm using more power. I'm expecting the worst."

- Not Too Difficult because of Assistance
  - "I usually do alright because I have a payment plan arrangement with Ameren. I have a discounted bill because I am low income. I believe it's a ratepayer program, but I don't know."

  - "Right now we are able to get along without too much trouble. But if I didn't have the PIPP program it would be very difficult. I have to reapply every six months and there is no guarantee that I will continue to get reapproved."

- Not Too Difficult with Budget Billing
  - "It's not really difficult. We're on budget billing, so we have the same bill roughly all the time."

  - "It's affordable with budget billing; it's not difficult. It would be much harder without the monthly budget billing to pay my bill."

  - "Right now, it's not that bad. I'm on budget billing, so it works out. They let me know three months ahead of time what the next three to four months will look like. It'd be nice to get the bills lower."

- Not Too Difficult
  - "Until recently it has not been too difficult. We have always been on time. But my boyfriend isn't allowed to go to work right now because of COVID-19. If that continues it will be difficult."

Participants were asked how knowledgeable they felt they were about solar energy. Most participants said they were somewhat knowledgeable. None of the participants in the sample felt that they were very knowledgeable about solar power.

- Somewhat Knowledgeable – 11
- Not Too Knowledgeable – 3
- Not at All Knowledgeable – 2

Participants were also asked how knowledgeable they were about energy efficiency opportunities. Five respondents felt that they were very or somewhat knowledgeable about energy efficiency while 11 respondents felt that they were either not too knowledgeable or not at all knowledgeable.

- Very Knowledgeable – 1
- Somewhat Knowledgeable – 4
- Not Too Knowledgeable – 6
- Not at All Knowledgeable – 5

Grassroots Education Event Participation and Feedback

This section summarizes participant responses to questions about how they learned about the GE event, what they learned, and their overall satisfaction with the presentation.

When asked how they had first learned about the event they attended, participants said they received information through the local Head Start program, Habitat for Humanity, their church, and the Grassroots Educator that hosted it.

- Head Start Program – 8
- Habitat for Humanity – 3
- Local Church – 3
- Volunteer/Work for the Grassroots Educator – 3

Participants were asked what kinds of contact methods the programs and organizations used to deliver information about the GE event. There were several sources of information and some of the participants received information from multiple sources.

- Newsletter Sent Home with Kids – 6
- Staffer/Organizer Told Me in Person – 5
- Sent Info in the Mail – 5
- Posted Advertisements on Community Bulletin – 3
- Sent Info in an Email – 2
- Posted on Social Media – 2
- Radio Announcement – 1

Only one of the participants indicated that he was unaware that solar energy and the ILSFA Program would be the topic of discussion at the event they attended. This participant indicated that their local Head Start provides a list of dates for the year's meetings, but that the topics are always a surprise.

Five of the participants indicated that they attend meetings similar to the ILSFA GE event on a regular basis and that these meetings generally cover a different topic every time. These participants were asked if they would have attended an educational event about solar power or the ILSFA even if that event had not coincided with their regular meeting. Four participants said they would likely have attended a separate ILSFA GE Event if it were hosted somewhere else and one participant said that they would not.

Participants offered the following additional comments regarding whether they would have attended the ILSFA GE event if it were not held as part of their regularly scheduled meeting for another organization.

- Would have Attended
  - "Yes, if it was in a time frame where I could attend, like a weekend or evening. It is something I'm interested in."
  - "Yes, I would have gone to an event hosted by another group if I knew about it."
- May Have / May not Have Attended
  - "I may have attended the event if I was invited, but I probably wouldn't have sought out solar on my own. I generally find out about these kinds of assistance programs through Head Start."
  - "I probably would have attended an event held by another group if I knew about it. My husband and I have been curious about solar opportunities ever since our friends got a system."
  - "I probably would not have attended had I not already been going to the monthly Head Start meeting. It depends on my child care, if I'm able to get it or not."

Participants were asked if there were any barriers to their attendance at the ILSFA GE event. All but one of the respondents said that they had not faced any barriers. The participant who experienced a barrier indicated that they were almost unable to attend because their child was sick and it was difficult to find a babysitter last minute. Additionally, one respondent said that she had not personally experienced any barriers, but that a family in her session had trouble understanding the presentation because they did not speak English very well and there were not any materials provided in Spanish.

Participants were asked how far the GE event was located from their home. Most said it was very close to their home.

- < 5 Minute Drive – 11
- 10-20 Minute Drive – 4
- > 20 Minute Drive – 1

When asked if they had known anything about solar energy prior to attending the event, 11 participants indicated they had and five participants indicated they had not. Participants who indicated that they had prior knowledge about solar energy provided the following additional details about what they knew.

- Information from Friends or Previous Experience
  - "Yes, because we had purchased solar panels for our camper."
  - "A little bit. I'd seen and heard about it on Facebook, from friends and contractors who installed them. A neighbor put one up not too long ago."
  - "A little bit. I have friends who work in solar installation, but I didn't know much."
  - "Yes, I knew that solar was possible in Illinois because we have some friends that got panels on their roof. I didn't think it would be affordable for people in our situation but I was contemplating looking into it."
  - "Being an electrician, we did little projects with solar in the past."
  - "I took an environmental sustainability class in college, and for a field trip they had us visit a house with solar panels. They gave us a tour of the house and showed us how the solar panels worked."
- Other Information
  - "I did not know a whole lot; just basically that people could put solar panels on their house, and they would absorb energy from the sun."
  - "I knew a little bit, but not enough to make a decision. I'd heard that panels produce energy throughout the day and night."
  - "Yes, probably about a month before, I was approached about a program that Urbana had. They wanted people to respond, but not enough people responded so they didn't hold a meeting. I went to a workshop the next month."
  - "I had heard of it. I work indirectly with The University of Illinois, so I know a little bit about voltage through their electric contractors. I didn't know anybody where I lived that had solar panels on their house."

Participants were asked what important information they had learned at the GE event. Some participants provided more than one response. They were most likely to say that they received an explanation of the ILSFA Program or basic information about solar power.

- Explanation of the ILSFA Program – 15
- Basics about Solar Power – 14
- Steps to Install Solar on Roof – 3
- How to Subscribe to a CS Project – 3
- How to Participate in Job Training Opportunities – 1

Respondents provided the following additional detail when discussing what they had learned at the GE event.

- How to Participate / Who to Contact
  - "They shared who to contact – who to call if you want solar power."
  - "They said the next step was that someone would contact us."
  - "They didn't go into too much detail about how to sign up. They told us that there are not a lot of projects being built in our area and gave us a number to call and check if more opportunities were available in the future."
  - "They also told me where I'd need to go to [sign up for a subscription to community solar project]."
  - "I've never even thought about getting solar panels prior to this workshop, so I don't know how I'd go about doing that."
- Community and Rooftop Solar
  - "I learned that there are two main options for us to participate in the ILSFA Program: 1) having solar on your own house (DG); and 2) having a CS subscription. Both of these options would help participants be more energy efficient and save money on their electric bills."
  - "We learned how they would go about putting the solar panels on the roof and how it would all work. They talked about both rooftop and community solar, but I was mainly focused on the rooftop."
  - "I learned that ILSFA existed. The presenter explained how the program works and the difference between community and rooftop solar. There was no pricing information and no information on community solar installation."
  - "They just told us about the different programs what your house qualified for and whether it was rooftop solar or if it was shared solar. If it was shared solar, that you'd have to buy into it. They just showed us basics about solar."

  - "I learned that you have two options: solar panels on the roof or on the side of the house, or they may have panels set up somewhere in town and you can link to that."

- Benefits of ILSFA/Solar
  - "They showed us an example of a lady that converted her entire farm to solar power and provided a breakdown of how much money she is saving."

  - "They did not explain ILSFA in detail other than that it would cost nothing out of pocket, and you may actually get money out of it by selling energy back to Ameren."

  - "They said how much they thought it would reduce your electric bill."

  - "I learned that they're trying to implement solar panels into the regular population and kicking back money to people who switch to solar. If I get solar panels installed, technically the power company should buy some of the energy they produce."

  - "They basically just explained the ILSFA Program and how it can help us save money. They said that they could put us in contact with companies that could build solar panels on our roofs, and that the electricity produced by those panels would help reduce our monthly electric bills."

  - "They talked about getting solar panels and how much energy you can generate from the solar panels, but I don't remember the specifics."

  - "We didn't know you could sell extra energy that the panels produce to the city. We learned about the basics of solar power and ILSFA."

  - "The most important pieces of information were the job opportunities that could be coming to this town, and the community subscription that we could get credits or something for our Ameren bill. During the informational meeting, they were giving us information based on other towns because the program hasn't started here yet. They couldn't project all the costs of getting solar panels installed on your house, because they'd have to have someone come out and see where your roof is sitting, the direction of it, or whether anything was blocking it like trees or something."

  - "We just learned different ways that solar power can be used and ways to save money. They were saying that depending on how much energy is absorbed through the panels, the power company can credit you the money."

When asked if they felt the community educators that hosted the event had done a good job of presenting the information about the ILSFA Program in a way that was easy to understand, most said that they did.

- Educators did an Excellent Job – 10
- Educators did a Good Job – 4
- Educators did a Poor Job – 2

Some of the respondents offered additional details when discussing the performance of the Grassroots Educators. Their comments are listed below.

- Excellent or Good Job
  - "They did an excellent job. The woman who presented also takes care of the low-income weatherization program and the energy program at CEFS."
  - "Except for the lack of translated materials for the Spanish speaking family, they presented well."
  - "They did a good job. During the question session at the end, if you didn't understand something, they would go back over it and brought it down to your level, which I really liked."
  - "It's just that it's been a while, sometime last fall, so I don't remember all the details, but at the time, her presentation was easy to understand."
- Not Such a Good Job
  - "It was very difficult to understand because I am a first-time homeowner and a minority."
  - "No they did not do a good job, they didn't go into the details of the program. They just said someone would contact us, but they didn't explain step-by-step what would happen. They said a contractor would contact us. It led to confusion because I thought they would contact us and look at the house, but it turns out I'd have to set it all up myself."

Participants were asked if they felt they had someone they could call to learn more about solar when they left the event. Fourteen respondents said that they had received a pamphlet, card, or other material that included contract information for the Grassroots Educator. The remaining two respondents did not feel that they had someone they could call.

When asked if they had been contacted by the Grassroots Educators after the event, three respondents indicated they had been contacted and 13 respondents said they had not.

Two of the respondents who had been contacted by the Grassroots Educators were asked if they wanted to sign up for one of the ILSFA sub-programs and the other respondent simply received a thank you for attending and additional contact information for the educator's office. The remaining respondents did not receive any information from the educators.

- Educator Called to Ask if the Participant Wanted to Sign Up for ILSFA – 2
- Educator Sent a Thank You Email and Additional Contact Information – 1
- Educator Did Not Send Additional Information – 13

Participants were asked about their overall satisfaction with the GE event they attended. Satisfaction was very high.

- Very Satisfied – 10
- Somewhat Satisfied – 4
- Very Dissatisfied – 2

Some participants offered additional details about their level of satisfaction with the GE event. These additional comments are provided below.

- "I was just satisfied, not very satisfied, because it seemed like I'll need more information once they get this started. They may have had another meeting but they didn't advertise it to my church."

- "The information they provided was good. I was somewhat satisfied. It was like a parent/teacher conference. It wasn't that bad compared to other workshops."

- "I wasn't satisfied at all. They didn't go into the details of the program; they didn't explain step-by-step what would happen."

- "Very dissatisfied because I felt like there were no answers to my questions."

Participants were asked if they had any recommendations for the Grassroots Education programs or for how the educators could improve their presentation. Four respondents said that the educators should increase the advertising efforts for both the education events and the ILSFA Program overall and three mentioned that the educators should simplify the materials to match the education level of the target audience. Most of the other respondents either offered their own unique recommendation or did not offer any recommendations.

- Expand Advertising for GE Events and the ILSFA Program – 4
- Align Materials with the Education Level of the Target Audience – 3
- Provide Materials in Spanish – 1
- Bring in an Expert on the ILSFA Program – 1
- Bring in Existing ILSFA Participants to Talk about their Experience – 1
- Provide an Estimate of Costs for Participants – 1
- Have Vendors Available to Sign Participants Up on the Spot – 1
- Hold Events on Weekends – 1
- Target an Audience that Actually Wants to Hear About Solar – 1
- No Recommendations – 4

Additional details about the recommendations respondents provided for Grassroots Educators are provided below.

- More Advertising and Events
  - "Maybe advertise the workshop more extensively because we didn't have a large crowd of people. It may have been because of the wintertime. Holding the workshop on a Saturday would be better because it would be beneficial for more people to hear about ILSFA."

- "I think more advertising, not just in the churches, but maybe public places, like in the news. It seemed like they mostly had pamphlets. If it could be on the news, it would reach a lot of people."

- "I think solar energy offers benefits, not just for low-income families, but for all families. I think they should do more events to help spread the word and get more people involved."

- "It'd be nice if they put out via the media to let more people know about it. They should advertise it more through television or radio to reach more of the neighborhood. It may be out there, but I didn't see it."

- Information Provided
  - "They need to cater their presentations to the audience's experience level. They should have pricing and options available. They should have a down payment assistance plan or a payment plan. How would we finance it? Will we have to replace panels if they break? If they have a warranty? The education needs to be more basic and comprehensive."

  - "They should get someone who knows exactly what they're talking about and explain exactly what the ILSFA Program entails. They should keep the information consistent, so they don't go back on their word. It makes people distrust them."

  - "They could have a better presentation, maybe with a PowerPoint. There could be better food variety offered for the meal. Whoever is doing the solar panel switchover program would have a better shot to reach a bigger and better audience of people who are trying to listen to their presentation if they went to city hall."

  - "They should invite someone from the community who actually has solar on their home so that they can go through the pros and cons."

  - "There is not a lot more you can do other than having the actual cost in dollars and having someone there ready to sign you up."

  - "They should hold it on a weekend, like a Saturday afternoon, so people aren't as tired after work."

- Handouts
  - "They should update the materials and information so that it is easier to understand, and they should try to reduce the costs of solar."

  - "They could have had more handouts that were in a simpler structure. They needed to break the information down in the handouts and make it easier to read. They should put basic information on a magnet or stickers; something other than paperwork which gets lost easily."

- "They should translate the presentation and materials in Spanish."

ILSFA Program Awareness and Understanding

This section summarizes participant responses to questions about their awareness and understanding of the ILSFA Program both before and after attending the GE event.

When asked if they were aware of the ILSFA Program before attending the GE event, all 16 of the respondents said that they were not.

Participants were asked how well they understand the ILSFA Program now that they have attended a GE Event. Most said they have a moderate understanding of the program.

- High Level of Understanding – 1
- Moderate Level of Understanding – 11
- Low Level of Understanding – 4

Participants were asked if they understand the steps they would need to take in order to subscribe to an ILSFA Community Solar project. Most participants said they did not.

- Understand the Steps to Subscribe to a CS Project – 2
- Might Understand the Steps to Subscribe to a CS Project – 3
- Do Not Understand the Steps to Subscribe to a CS Project – 11

Respondents who said they understand or might understand the steps necessary to subscribe to a CS project were asked to describe their understanding of those steps. All of the respondents said they would need to review the paperwork they were given at the event or call a phone number provided at the event. None of the participants were able to provide a more detailed description of the steps involved. Their responses are provided below.

- Understand the Steps to Sign Up for Community Solar
  - "The presenter provided several phone numbers in the packets that they gave out and told us to call those numbers if we were interested in signing up for the program. So, I would call those numbers."
  - "I know I've got to reach out to the school with questions or pull out the flyer. But that's about where it ends."
- Might Understand the Steps to Sign Up for Community Solar
  - "I'm pretty sure I can call CEFS or Ameren and they'd walk me through the steps."
  - "I don't really know beyond calling the representative."
  - "I don't know without having the paperwork in front of me. I know it's in the paperwork, but I'm not interested in doing it, so I haven't read it seriously."

Participants were asked if they understand the steps they would need to take to find a vendor to install an ILSFA DG project on their roof. Most did not understand the steps.

- Understand the Steps to Install DG – 3
- Might Understand the Steps to Install DG – 3
- Do Not Understand the Steps to Install DG – 10

Respondents who said they understand or might understand the steps necessary to find a vendor to install a DG project on their roof were asked to describe their understanding of those steps. Similar to the responses regarding CS projects, all of the respondents indicated that they would need to call the Grassroots Educator or some other provided contact. Once again, none of the participants were able to provide a more detailed description of the steps involved. Their responses are provided below.

- Understand the Steps to Install DG
  - "Yes. They told us we just need to call CEFS and let them know we are interested."
  - "Yes, I think I have that information. They gave us the card of a guy that works with one company that works with ILSFA. I still have his card."
  - "I'd call the number on the card they gave us."

- Might Understand the Steps to Install DG
  - "I am pretty sure that the process for roof installations and subscriptions is the same, you just need to call the number they provided and tell them you are interested."
  - "I think I would need to call the number they gave us and also talk to my electric company. I think Ameren was a part of this."
  - "My understanding is that the process for roof installations is the same as it would be for signing up for a subscription. I would just call those numbers provided by CEFS and they would take care of it from there."

Participants were asked what other questions or concerns they have about the ILSFA Program. The topics that respondents reported varied widely and many respondents provided more than one response. Their responses are summarized below.

- Requested Information about Opportunities for Renters – 3
- Concerned about Roof Condition and the Cost of Repairs – 3
- Unsure of Income Eligibility Cutoffs – 2
- Requested More Information about the CS Sub-Program – 2
- Requested Information about Benefits and Utility Agreements – 2
- Requested Information about Financing Options – 2
- Requested More Comprehensive Information on the Entire Program – 2
- Concerned that CS would Provide Unreliable Power – 1
- Requested Information on Steps to Sign-Up and Contact Vendors – 1
- No Questions/Concerns – 5

More detailed information about the questions and concerns that participants raised about the ILSFA Program are provided below.

- Requested Information about Opportunities for Renters
  - "How would renters participate? How do you get the landlord onboard? If the landlord doesn't want to do it then you're barking up wrong tree. Even if we wanted to change, we couldn't."
  - "I would like to know more about my eligibility for the program given that I live in an apartment building through Section 8."
  - "They ask if you own or rent because you can't put something on someone else's property if you rent. Are there other options for renters?"
- Concerned about Roof Condition and Cost of Repairs
  - "I don't think I'd qualify for the roof installation. I don't know how old my roof is, though I guess I could get it checked out."
  - "When I looked at my roof, I just know I'm looking at an extra cost to fix it."
  - "If the roof gets damaged what happens? Do you help with fixing roofing due to damage from solar panels?"
- Unsure of Income Eligibility Cutoffs
  - "I'd like to know more about the income qualifications. It would be nice if it was available for everyone and not just low-income families."
  - "I think they mentioned that you must be in a certain income bracket to qualify. It is important to know exactly what salary you'd need to make and how long you'd have to pay for the solar panels. If you live by yourself or with someone else, or if you're a senior compared to someone who is young, do these things affect income qualifications?"
- Requested Information about Community Solar
  - "I might want more information about the community subscription, because I would like to save on my power bill."
  - "If I understand correctly, there could be several homes that could hook up to one solar panel system. I'd like more information on that."
- Requested Information about Benefits and Utility Agreements
  - "We'd like to know exactly the ins-and-outs of the program, so we'd be better able to decide to participate. For instance, I want more knowledge of how exactly it works with your electric company."

  - "What would be the kickback and benefit for having solar? Is the light company planning to buy back energy produced by solar if there's enough solar panels in community?"

- Other Concerns
  - "Do they have a down payment plan or payment plan? How would we finance it? Will we have to replace panels if they break? Do they have a warranty? If the roof gets damaged what happens? Do you help with fixing roofing due to damage from solar panels?"

  - "I'm not interested in community solar because the power drops out regularly now, so I don't trust it. That would probably get worse if I did community. If it's on the roof it's a self-contained unit and I wouldn't have that issue."

  - "If you have information on how to get the process started, how to contact a vendor and get pricing, I'd be interested in stuff like that."

Participants who raised questions or concerns about the ILSFA were asked how the program and/or community educators could better address those issues. The most common response was that the educators should expand the content of the presentation and try to anticipate more specific questions that attendees might have. Other responses included holding more than one information session, providing more printed materials, varying the way the information is presented, and loosening income eligibility requirements for the program.

- Expand Information in the Presentation / Try to Anticipate FAQs – 5
- Hold More Than One Meeting – 1
- Give Out More Take-Home Information – 1
- Provide More Visual Cues in the Presentation – 1
- Loosen the Income Eligibility Requirements – 1

More detailed information about the recommendations participants gave for addressing their questions and concerns about the ILSFA Program are provided below.

- Expand Information in the Presentation / Try to Anticipate FAQs
  - "People would probably have to ask those in charge of the workshops about the opportunities for renters to participate in the program. Nobody asked those questions in the Q&A, so it wasn't talked about. They should make it part of presentation."

  - "The ILSFA Program could mention the eligibility for Section 8 renters even if it is not a question asked by the audience."

  - "Find out about the group you'll be speaking with and learn about them before you do a presentation. Know who you're talking to. Take a survey of questions we have. If you don't know answers to questions, take a break or reach out to someone who would know the answer. Even if it took five minutes, it would help a lot."

  - "Be more prepared at the workshop and explain the process in detail. None of the attendees know about ILSFA, so the presenters have to break it down."

  - "Continue with the presentations and put out information prior to holding them."

- Other Recommendations
  - "For me, I'm more of a visual person, so if they can highlight short and simple points in an email or PowerPoint or something, that's easier."

  - "They did a really good job answering questions while we were there. It's just been a while since [the meeting], almost five months. Giving out more physical information about the program in addition to the pamphlet would be helpful."

  - "They should have more than one meeting because there's not enough time to go over everything. The meeting is only an hour, including a meal, presentation, and Q&A, so the presenter had to condense a lot of information into a short session."

  - "I think it would be nice if you could let more people participate. I have an acre of land out here. They said if low-income families have land then you can put solar out there. There's no difference with my land; you can put it here too. I'm more likely to have better access to land that's good for solar then they do. It would be better for everyone. I understand it's a huge expense, it would also seem like you'd want someone actually interested in having solar who would take care of it. As opposed to people wanting it because someone could get something out of it and wouldn't take care of it or care about it at all."

Participants were asked to describe the benefits of the ILSFA Program. The most common response, reported by 12 respondents, was that the ILSFA Program can help program participants reduce their electric bills and save money. Other common responses were that solar energy is good for the environment and that ILSFA can help program participants get a solar system on their roof.

- Reduced Electric Bills / Save Money – 12
- Good for the Environment – 7
- Receive Solar on My Roof – 6
- Subscribe to a CS Project – 2
- Creates Jobs – 1
- Helps Low-Income People – 1

Participants were asked if they received any printed materials about the ILSFA Program at the GE event. Only one of the 16 respondents said they did not receive any written information about the ILSFA. The remaining fifteen respondents all acknowledged that they had received some kind of pamphlet or packet with information about the program.

Participants were asked how easy or difficult it was to understand the information in the materials they received. Most said that the written information was very or somewhat easy to understand.

- Very Easy – 7
- Somewhat Easy – 3
- Somewhat Difficult – 3
- Very Difficult – 2
- Did Not Receive Written Materials – 1

When asked how useful the printed materials they received had been, most said they were very or somewhat useful.

- Very Useful – 7
- Somewhat Useful – 4
- Not at All Useful – 4
- Not Applicable – 1

Participants were asked if they had visited the ILSFA website. Four participants indicated they had visited the site and 12 indicated they had not.

The four participants who had visited the ILSFA website were asked how easy or difficult it was to understand the information on the site. Two respondents said that the information was very easy to understand, one respondent said it was very difficult to understand, and one respondent said that they could not remember how difficult it had been to understand.

Participants who had visited the ILSFA website were asked if they had any recommendations for the website. Two participants said that the information needs to be simplified and one participant said that the information should be presented using visual cues.

- Simplify the Information for the Reading Level of the Target Audience – 2
- Present the Information Visually with Graphics – 1
- No Recommendations – 2
- Did Not Visit the ILSFA Website – 12

The recommendations that participants provided for the ILSFA website are provided in more detail below.

- "Maybe break it down a little bit more and present it in different ways. Everyone learns differently, so I think it would be nice if they had visual cues to go along with the explanation of how the program works, how it provides savings, and how people can sign up."

- "The information should be more basic. They need to break it down and explain it thoroughly if they want people to participate."

ILSFA Participation and Satisfaction

This section summarizes participant responses to questions about their plans or interest in participating in the ILSFA Program.

Participants were asked if they are now interested in having an ILSFA DG project installed on their roof. Half said they were interested.

- Interested in Installing DG – 8
- Not Interested in Installing DG – 6
- Don't Know – 2

When asked if they had plans to install an ILSFA DG project on their roof, only one participant indicated plans for the installation of solar panels.

- Plan to Install a DG Project – 1
- Considering Installing a DG Project – 6
- Not Planning to Install a DG Project – 9

Participants who are either considering or not planning to install solar panels on their roof were asked to provide their reasoning for not planning to move forward with a DG installation. The most common response was that they are concerned that buying into a solar project would be too expensive.

- Wary of Buy-In Costs – 7
- Don't Own the Home / Live in a Multi-Family Building – 5
- Roof is in Bad Condition – 3
- No Vendors Working in My Area – 2
- Unsure if Income-Eligible – 2
- Don't Understand How to Participate – 2
- Concerned about Implications for Home Resale – 1
- Don't Know – 1

More detailed descriptions of the reasons participants gave for not planning to move forward with DG installation are provided below.

- Wary of Buy-In Costs
  - "In addition to living in a rental, I am concerned about the cost – it's expensive."
  - "Even if they were available in our area, we would still need to consider the costs of buying-in before committing to anything."
  - "Getting my husband on board is challenging because it would be an extra expense to pay for the actual solar panels out of pocket. The main issue is money."
  - "They didn't answer our questions, so I didn't understand the reasons why solar would benefit me. My house is efficient, so what's the point of me getting solar? Educate me on why and how much it would benefit me versus cost me. I don't want to have to take out loans for something that won't benefit me in the long run."

  - "I don't understand it. I'm not going to call contractors who expect me to pay $3,500 for them to install it. That's not what we were told at the workshop. Nine out of ten people at the meeting don't have an income to do anything like that."

  - "I'm worried about the condition of my roof and the costs of solar installation. In the long run it saves money, but in the short run it's costly. I'm older and I don't want to get into debt."

  - "It would have to be affordable and I would need their help."

- Don't Own Home / Live in Multi-family Building
  - "I live in an apartment building through Section 8 and I don't have the ability to decide those kinds of things."

  - "I live in a rental house, so I have no say over what goes on the roof."

- Not Available
  - "The main reason is because projects are not currently available in our area."

  - "I was told there weren't any vendors available in my area."

- Other Concerns
  - "I have other questions to ask before I make a final decision about such a purchase. I own my own home and I don't have much time left on my mortgage. I'm not sure if I will sell my house. If I sold my house, how would the other person feel about having the solar? I would have to sell them on it. I don't know if my roof could even support solar panels so I wanted to look into options for a ground system that would be linked to my residence."

  - "Not sure if my roof is in good condition/facing the right way. Also, not sure if I am income eligible."

Participants were asked if they are now interested in subscribing to a Community Solar project through the ILSFA. A minority of the participants said they are interested.

- Interested in Subscribing to an ILSFA CS Project – 4
- Not Interested in a CS Subscription – 11
- Don't Know – 1

When asked if they had any plans to move forward with a subscription to an ILSFA CS project, four participants said they are considering subscribing to a CS project.

- Plan to Subscribe to a CS Project – 0
- Considering Subscribing to a CS Project – 4
- Not Planning to Subscribe to a CS Project – 12

Participants who were either considering or not planning to subscribe to an ILSFA CS project were asked to provide their reasoning for not planning to move forward. The most common responses were that participants did not know how to participate in CS or were concerned about expensive buy-in costs. Other responses included that there were no vendors operating in the area, that participants did not own their own home, that participants did not know if they were income-eligible, and a concern that CS would provide unreliable electric service.

- Don't Understand How to Participate – 5
- Wary of Buy-In Costs – 4
- No Vendors Working in Area – 2
- Don't Own My Home – 2
- Unsure if Income Eligible – 1
- Concerned about Unreliable Electric Service – 1
- Prefer Rooftop Solar – 1
- Don't Know – 1

More detailed descriptions of the reasons participants gave for not planning to move forward with a CS subscription are provided below. Of particular note is the fact that many participants did not seem to know much about the CS sub-program or were concerned about high buy-in costs.

- Don't Understand How to Participate
  - "I'd have to learn more about Community Solar and know exactly what I'm getting myself into."
  - "We would have to know how Community Solar would work to be interested. It was not covered much at our event."
  - "I don't know enough about Community Solar to move forward. They did not explain why it would benefit me or how much it would cost me to buy-in."
  - "I don't understand how Community Solar would work. There needs to be a one-on-one explanation instead of everyone shouting in the Q&A. It's confusing. They end up explaining the same thing over and over."

- Wary of Buy-In Costs
  - "We would need to consider the costs of buying-in before committing to anything."
  - "I need to get through the coronavirus and make sure I can pay my bills before I can take on more expenses."
  - "It all depends on the cost. But I know there are savings available – I just need to go back over everything again to see if there's been any development with ILSFA in this community."

- No Vendors Working in Area
  - "Again, we were told that projects are not currently available in our area."
  - "There's nothing available because we are in a very rural area."

- Don't Own My Own Home
  - "Same reason why I don't want my own system. I don't own my home and I'm not sure I could get it hooked up to something like that."
  - "I pay my own electric bill, but I still don't think I have the authority to sign up for subscription or anything like that. I'm on Section 8, so I think I would need to get some kind of approval."

Participants who were either interested or planned to participate in ILSFA in the future were asked how important the GE event had been in informing that interest. They said it was very or somewhat important.

- GE Event was Very Important – 3
- GE Event was Somewhat Important – 3
- Not Interested in ILSFA at this Time – 10

When asked if they felt they had a good understanding of how to participate in the ILSFA Program, six respondents said that they had a good understanding and 10 participants said that they did not have a good understanding.

Participants were asked about the barriers they experienced or expected to experience if they choose to pursue participation in the ILSFA Program. Eight participants said that unexpected costs are likely to be a barrier and four participants noted that a lack of vendors or projects in their area would be a barrier. Other barriers mentioned included a lack of homeownership, poor roof conditions, issues with income eligibility, and a lack of understanding about the program or how to sign up.

- Cost – 8
- Lack of Vendors or Projects in Area – 4
- Lack of Homeownership – 3
- Poor Roof Conditions – 2
- Issues with Income Eligibility – 2
- Lack of Program Understanding – 2
- Unsure How to Sign Up – 1
- Don't Know – 2

The barriers that participants anticipate they will experience in the ILSFA Program are described in more detail below. Half of the respondents said that costs are likely to be a barrier.

- Cost
  - "I think that buy-in costs will be a barrier. Even though it's a low-income program I get the sense that it is still expensive."

  - "Costs will definitely be a barrier. I think it's a great idea but that's what is stopping me."
  - "We are not in a financial situation where we can be spending a lot of money right now. So, if participation turns out to be rather costly, we won't be able to do it."
  - "Unexpected costs and not knowing what to expect."
  - "Cost is a concern for me."
  - "Costs could be a barrier, because I'm already paying so much into Ameren. I've got to make sure it would actually create savings for me."
  - "Even if I am eligible based on my income, I don't know if I could afford it."

- Lack of Vendors/Projects in Area
  - "There are no vendors or projects in my area."
  - "It seems that there are no active projects in our area at this time."
  - "We were told there are no projects being built in our area."

- Lack of Homeownership
  - "The only barrier I can think of is the fact that I live in Section 8 housing so I don't think I can have a rooftop system and I am not sure if I can sign up for a subscription-type thing."
  - "I don't own my own home, so I can't just start signing up for these things without permission."
  - "I rent so I can't put panels on the roof."

- Issues with Income Eligibility
  - "I don't know if I meet the income requirements."
  - "I'm fairly confident that I don't meet the income threshold."

- Other Concerns
  - "I'm not sure if my roof is suitable."
  - "There are potential language barriers for Spanish speaking families."
  - "The time commitment for getting all signed up and then potentially volunteering later on just seems like a lot."

- "I don't know how to get the actual process started, which vendor would be the best, or how to choose them."

- "They said someone would come do an overview of the house and they'd contact the contractor and they'd set up a time to get the solar. None of that happened. All I got was the email explaining something totally different months later."

When asked if they had tried to contact or had been contacted by an Approved Vendor, 15 of the 16 participants said that they have not had any contact with Approved Vendors. The remaining participant indicated that they had not tried to contact any vendors, but that a vendor had contacted them.

The single participant who had spoken with an Approved Vendor was asked what information had been included in that discussion. The vendor had called to ask about the respondent's interest in the program and to inform the respondent of potential upcoming projects in the area. The respondent told the vendor that they were not interested because their roof was in bad shape and they were unwilling to pay for repairs.

Participants were asked if they had shared information about the ILSFA Program with their friends, family, or neighbors. Five of the participants said they had shared the information and eleven participants said they had not.

All five of the participants who had shared ILSFA information with others indicated that the people they had told were interested in the ILSFA Program and would potentially be willing to attend a GE event similar to the one they attended.

Participants were asked if they had any other comments or recommendations for the ILSFA Program more generally. Eight respondents simply reiterated recommendations they had given for improving the GE presentations. However, a few participants offered new recommendations, such as making the program more affordable, broadening the eligibility requirements, making the sign-up process less cumbersome for participants, and adding more incentives for participation over the long run.

- Reiterated Improvements for GE Presentations – 8
- Make the Program More Affordable – 1
- Broaden Eligibility Requirements – 1
- Require Less Action from Participants to Sign Up – 1
- Increase Incentives for Participation – 1
- No Recommendations – 5

Participant recommendations for the ILSFA Program are provided in more detail below.

- Reiterated Improvements for GE Presentations
  - "When they do have an informational session, they should have more than one person presenting. They should be more knowledgeable. It should be broken up into small groups instead of 20 to 30 people and only one presenter. Having a one-on-one session

would help as well. Even if there were four to five people in a group, would be better because you could get your questions answered. The person who spoke was just reading from the PowerPoint and when you asked a question the answers changed each time."

- "They should hold workshops on a weekend and have people who have participated in the ILSFA in our area come and speak. They should be clearer on income eligibility requirements and options for renters."

- "The only thing I can think of at this time is that the ILSFA Program should hold more events and do more to spread the word about the program. Also, I think they should make it clearer, both in the trainings and on the website, whether or not people who rent with Section 8 can sign up for the program."

- "We need another meeting to see where the community is at when it comes to subscriptions. If there are more job opportunities, then they're not telling us. They need to get our city government more involved."

- "Provide easier to understand information. I'd be interested in more information, and I think it's a great deal."

- "Providing more printouts, like copies of the PowerPoint, would be helpful."

- "There should be more substantial information about which vendors to go to and more details about the program in general."

- "They should reach out to the right crowd and have all costs lined up. Money is a big issue right now. Is this something you can do on a monthly plan? Have the right answers for uneducated people."

- Other Recommendations
  - "Broaden the scope of eligibility."

  - "Make the program accessible and affordable. I feel like it's more for wealthy people and people who own businesses and properties. It's not for regular people who rent and live paycheck to paycheck. It's not realistic for my lifestyle."

  - "Stop asking people to take so many steps to sign up. If people are interested get them signed up on the spot and then have everything else taken care of automatically. Don't give people the opportunity to fall off the bandwagon with gaps and delays in the time between the educations session and getting started with the program. It makes more sense to do it that way and it would be faster."

  - "Maybe they can at least try to give people a stipend or reward or something in order to sign up. Like an incentive to actually keep it for so many years. Right now, it seems

like you can sign up and have it for a year and the next year they don't want it on their roof anymore."

C. Recommendations

The following recommendations are made for the Grassroots Education based on this research.

- Simplify Presentation and Information: Several participants indicated that they had a hard time understanding all of the details in the presentation or written materials that were provided to them. Educators should review and clarify these materials with an emphasis on key points about eligibility, benefits, and how to participate.

- Emphasize No Upfront Costs and Guaranteed Savings: Many participants were hesitant to move forward with a DG installation or a CS subscription because they were wary of unexpected costs and worried that participating in the ILSFA Program would be expensive. GEs are not getting the message across that there are no upfront costs and that participants will receive at least 50 percent of the value of the energy generated by the system.

- Emphasize Community Solar Opportunities for Renters: Several participants said that they felt they were unable to participate in the ILSFA because they did not own their home, they lived in a multi-family building, or their roof was not suitable. They even provided these barriers as reasons they did not feel they could participate in Community Solar.

- Provide Clear Sign-up and Next Step Instructions: None of the interviewees demonstrated an understanding of how to pursue participation in the ILSFA Program aside from calling the Grassroots Educator or some other contact. Educators should provide a clear outline of the steps that participants would need to take in order to enroll in a DG or CS project. If there are AVs in the area or CS projects in the area, GEs should take their contact information and request permission to share that information with AVs who are actively recruiting participants.

VII. Program Administrator Assessment

This section provides a summary of Elevate Energy's responsibilities in the ILSFA Program, challenges faced, tasks completed, and an assessment of Elevate Energy's performance to date. Findings in this section are based upon review of publicly available material on the ILSFA website and additional program information and data provided by Elevate; and interviews with the IPA and Elevate Energy staff, Approved Vendors, participating and nonparticipating stakeholders, and Grassroots Education participants.

A. Overview

Following approval of the Long-Term Plan, Elevate Energy was hired to administer the ILSFA Program. Elevate Energy is responsible for the DG, CS, NP/PF sub-programs. NERA Economic Consulting (NERA), the IPA's Procurement Administrator, is responsible for the CS Pilot sub-program. Because the CS Pilots were first implemented in the last quarter of 2019, the NERA assessment will not be conducted until a future evaluation report.

B. Outreach

Elevate Energy has wide-ranging responsibilities with respect to outreach to stakeholders, low-income households, energy efficiency vendors, and job training organizations. Their proposal for program administration noted specifically that they would conduct outreach to "…execute an initial awareness campaign for ILSFA that reaches all targeted stakeholder groups, including the solar industry, low-income households, job training organizations and job trainees, and community organizations across the state." As reported in the previous evaluation report, Elevate needs to strengthen its work in this area to increase ILSFA Program knowledge and opportunities for collaboration.

Elevate's outreach has not appeared to reach low-income energy efficiency (LI EE) program stakeholders and other stakeholders outside of the solar industry who serve low-income households. This has resulted in a lack of information about and participation in the ILSFA across many relevant organizations including Community Action Associations, low-income advocacy organizations, environmental and sustainability groups, and neighborhood organizations.

The LI EE providers interviewed said they had not referred participants to the ILSFA Program and most said that they would be unwilling to do so because they do not have a firm enough understanding of the ILSFA Program. They recommended that the ILSFA Program coordinate with LI EE programs by providing education about the ILSFA, coordinating services with the LI EE programs or the Illinois Department of Commerce and Economic Opportunity (DCEO) which runs the Illinois Home Weatherization Assistance Program (IHWAP), and providing referrals and education. All of the LI EE providers indicated that they do coordinate with other programs or services. Elevate could increase the likelihood of such coordination between the LI EE programs and ILSFA by improving their outreach to this market segment. When asked whether LI EE providers could screen homes for ILSFA participation, all interviewed LI EE providers indicated that they could expand home inspections for this purpose.

Other nonparticipating stakeholders stated that the ILSFA Program needs to invest in more relationship-building. Nonparticipating stakeholders indicated that the ILSFA Program needs to increase personal contact with relevant, targeted audiences.

When asked specifically about efforts to expand the stakeholder audience, Elevate reported that they are developing a plan to update the stakeholder list, but have not yet added recommendations from the previous evaluation reports to their list.

Elevate reported the following activities to expand outreach.

- Developing a list of additional contacts that are affiliated with diverse contractor associations and other workforce development groups to add to their broader newsletter list and tagged as interested in workforce for possible future targeted communication.
- Working with the Illinois Solar Energy Association (ISEA), through a webinar with their membership team, and sharing information about job training organizations for the ISEA's job fair.
- Sharing the Grassroots Education RFP with the Illinois Community Action Association (ICAAA). Planning to discuss additional collaboration with the ICAAA, including participating in their meetings.
- Sending out press advisories for Grassroots Education events and to advertise the Grassroots Education RFP opportunity.

Elevate reported that they are working on the following additional tasks.

- Email Distribution: Elevate is planning to review, refresh, and expand the email distribution list where they send important program announcements to ensure that they are reaching relevant individuals and partner organizations.
- Referral Checklist: Elevate is working to formalize a checklist for field staff to use to determine initial site suitability.
- Press Release Schedule: Elevate is planning press releases that will be focused on ILSFA Program milestones such as the close of the program year and project information.
- Program Coordination: Elevate is developing strategies to expand coordination with other income-qualified programs. These include low-income programs, associations, utilities, program implementers, and other energy industry associations such as Illinois Green Alliance and The Midwest Energy Efficiency Alliance (MEEA).
- Interconnection: Elevate is planning to establish working relationships with the interconnection teams at the utilities. They had a meeting with Ameren staff and are working to set up a meeting with ComEd staff.

Elevate has been involved in several other programs and initiatives that could provide opportunities for collaboration and referrals. These include income-eligible multi-family energy efficiency programs, public housing energy efficiency programs, non-profit organization programs, a program that provides repairs for income-qualified seniors, a healthy homes initiative, and energy education throughout the state. However, they have not fully utilized these opportunities to provide outreach for the ILSFA Program. When information is provided, it is often only a referral to the ILSFA website.

When asked specifically about conducting ILSFA eligibility assessments during delivery of other services, Elevate noted that such assessments are not part of Elevate Energy's audit process at this time, but they aim to create a process in the future to integrate a basic screening for the ILSFA Program. Elevate noted that the energy analysts could review the roof (when accessible) and provide a qualitative remark on the roof area availability, potential shading issues, and gather data on the roof age and general roof conditions from visual observation.

While Elevate is not currently conducting solar assessment during site visits under utility-funded energy efficiency programs in Illinois, the ILSFA team has developed a basic screening checklist for building roofs that the technical staff working on energy efficiency programs could utilize when they visit buildings, when appropriate. The screening checklist is being reviewed by the IPA and would also need to be reviewed and approved by utilities before roll-out. Elevate has had some initial, informal discussions with ComEd staff to discuss opportunities for coordination between programs, but there have not been any developments in this area.

Elevate affirmed that increasing awareness of the ILSFA Program among utility stakeholders will also be critical to encouraging coordination between utility programs and the ILSFA Program. Elevate is trying to achieve this awareness by engaging with utilities. Another option is to work with utilities and other stakeholders to present information about the ILSFA at the Illinois Income-Qualified Advisory Committee meetings.

When Elevate was first beginning work on the ILSFA Program, the Illinois Stakeholder Advisory Group's Income-Qualified Advisory Committees (IQ North and IQ South) wanted to engage in conversations with Elevate about coordination between solar and energy efficiency programs. However, at that time Elevate was focused on setting up the processes for program launch, and shortly after, the process for project submission. Elevate plans to re-engage with these groups in the near future.

As noted in the previous evaluation report, Elevate should work more proactively to engage with the following groups.

- Low-Income Households: Elevate has stated that they hope to help the GEs connect with community action groups that administer energy assistance programs to disseminate messages to low-income households. They noted that it is the responsibility of the GEs to engage low income households in the areas in which they're working and that the role of Elevate is mainly to facilitate the content and questions. Elevate noted that they have staff with the skills to do the work, but that their role as defined by IPA does not include this outreach. They noted that their call center and outreach coordinators are educated to answer questions, but they have been pulled back when they tried to do more proactive outreach.

- Energy Efficiency Programs: Elevate does not view their role as connecting AVs with the energy efficiency programs. Elevate has created a resource guide with all of the energy efficiency programs in the state. While they are trying to connect AVs with the GEs, they are not attempting to connect them to energy efficiency programs. They noted that the

energy efficiency actors are aware of the ILSFA but that Elevate has not conducted outreach to these groups. Elevate reported that they are working to increase their engagement with energy efficiency program managers to make them aware of the ILSFA.

- Other Low Income Program Providers: Elevate should also provide outreach to additional organizations that provide services to low-income households.

Future success of the ILSFA may depend on forging greater connections. While Elevate reported that they have plans to take some of these actions, they should prioritize more outreach and communications with these audiences to promote these important linkages.

C. Call Center

Elevate Energy has a call center to field questions about the ILSFA Program and provide guidance and information. They reported that since the launch, the call center has received over 300 calls about the ILSFA Program. While many of the initial calls came from vendors, the call center now receives more calls from homeowners and non-profit organizations.

The initial vendor calls requested general information, inquired about the benefits of installing solar given the upfront costs, and asked how to apply to become an AV. Homeowner calls addressed whether they qualified to participate in the program given their income, what the ILSFA Program could do for them, and vendor referrals.

Elevate databases caller contact data in a Salesforce-driven information system that records information about every call, such as the contact date and time of the call, caller contact information, phone number, nature of inquiry, etc. This information is shared with the IPA via a monthly email, and Elevate provided these reports for the evaluation.

Elevate's call center metrics report does a very good job of providing information on the volume and type of calls handled. The report shows that from April 2019 through March 2020, a total of 252 incoming calls were handled, 29 voicemails were received, and 108 outgoing calls were made. Calls were most likely to be received from vendors, followed by homeowners and renters, and then non-profits and public facilities. The most common topics covered were general program information, DG participation, AV requirements and registration, CS participation, and NP/PF participation.

D. Program Materials

Elevate is responsible for developing the program manual and related documents for use by AVs. They are also responsible for assisting in the development of contracts, disclosure forms, and brochures used by ILSFA AVs and CBOs. Elevate has developed most of these materials with detailed review and edits provided by the IPA.

Elevate developed many guidelines and materials for the ILSFA Program before and shortly after the launch. Users of these materials, including stakeholders, AVs, and GEs, have noted that they are complicated, unclear, and difficult to navigate. The earlier evaluation reports

made recommendations for organization and reading level. Elevate noted that they keep track of comments and edits and have periodically updated the AV manual.

Some of the AVs have continued to report a need for improved program materials. While 13 of the 20 AVs interviewed for this evaluation report felt that the ILSFA guidelines and procedures were useful, clear, and comprehensive, six AVs reported that the guidelines were not clear and comprehensive, stating that the materials provided for the AVs were confusing, complex, and dense. Since the start of the program, AVs have stated that they need a comprehensive resource that describes the steps necessary to develop a project. A document that summarizes the Part I Submission was posted on the ILSFA website in July 2020.

Elevate reported that they have made the following updates to program materials and guidelines in 2020.

Vendor Resources

Elevate has developed many new resources and improved some of the existing resources.

- Program Resource Guide: Reviewed to make sure links and phone numbers were still current, added additional resources, and reviewed language for readability.
- Community Solar Disclosure Form: Developed the form and made it accessible to all reading levels. Simplified the document and improved consistency in response to comments.
- Community Solar Disclosure Calculator: Updated from previous versions to more clearly connect the relevant fields to the disclosure form. Indicators were added to inform AVs if their calculations were within program guidelines. This form does an excellent job of collecting and displaying the necessary information.
- REC Contracting Summary: Developed a document that provides a clear, high-level overview of the process for contracting and implementing a project. Elevate shared this document with the AVs. We recommend that this document is posted on the ILSFA website.
- AV Project Guidance Videos: Developed videos that explain how to determine if a location is within an EJ or Low-Income community, portal data entry, and how to navigate the portal.
- Bi-Annual Report: Developed a template for the report that AVs are required to submit every six months after the Trade Date until energization.

Grassroots Education Resources

- Grassroots Education Materials: Developed and added to slides for GEs that provide examples of savings that could result from participation in the ILSFA Program (referred to as "Savings Avatars").

Public Resources

- Project Map: Created and published an interactive and multi-layered map of all ILSFA projects, which is available on the website. This allows the public to see where all projects are located across the state, while clicking on each project allows viewers to see specific project details.

- Project Summary: Addressed usability issues. Updated to include all approved projects from both program years.

Planning Documents

- 2020 Marketing and Outreach Plan: Shared plan with the IPA that outlines the timeline for refreshing and simplifying program materials such as the Grassroots Education fact sheets and AV sub-program brochures, which will be ready for program year three and the next round of the Grassroots Education campaigns. This will include additional usability and reading level updates.

As of May 2020, the AV manual posted on the ILSFA website was dated August 28, 2019.[82] Elevate reported in March, 2020 that the updated AV manual was in the final review stage and would be finalized following approval of the Revised Long-Term Plan (completed in April 2020). Elevate reported that the revised manual would include the following updates.

- Clarifying timelines and integrating previous forms and processes updates that were posted as website Announcements into the manual.
- Changes based on the Long-Term Plan Updates.
  - Batch size determination.
  - Income verification.
  - Other broad categories included in the plan update.

Elevate plans to expand marketing and outreach efforts to include placing content, such as blog posts, in partner organizations' newsletters and email campaigns. They will also create materials such as case studies of completed ILSFA projects.

E. ILSFA Website

Elevate Energy created and updates the ILSFA website. This resource is meant to provide up-to-date ILSFA Program information. They use Google Analytics to track how individuals use the website and respond to marketing emails.

Initial response to the website acknowledged the vast amount of information that is available, and the usefulness of that information. However, there was agreement that the website is not well-organized and information can be difficult to locate. Elevate has been working to address these concerns.

Elevate reported that they made the following general improvements to the website in 2020.

- Website Design: Simplified website content and organization.
- Website Fonts: Updated pages that have been identified as difficult to read.
- Website Usability: Installed a WordPress plugin that assesses the readability of the content on each webpage. Used the results to adjust language and use of passive voice.

[82] The updated manual was posted on June 17, 2020.

Elevate also reported the following updates to specific sections of the website.

- Website Dashboard: Updated to better explain the available funding remaining in each sub-program.
- Website Events: Designed a comprehensive and integrated Calendar webpage that pulls together all program events and timelines and allows users to sort by event type.
- Job Training: Updated and re-organized to provide more detailed information about job training opportunities (where it had previously had focused on program requirements) and the language was revised so that it is easier to read.
- For Vendors Webpage: Resources were separated into pages for AVs, prospective vendors, and project-specific information. Pages are now shorter and easier to navigate.
- Project Map: Interactive map shows all ICC-approved projects to date. Project details are shown when users click on the project location.

Elevate reported that they have also planned the following updates.

- Home Page: This webpage will also be updated similar to other noted updates.
- For Illinois Residents Webpage: The page is undergoing a re-design that will make the steps for signing up for each ILSFA sub-program easily visible and understandable.
- For Vendors Webpage: Elevate plans to simplify the content on each of these pages using the readability plugin for guidance and will add infographics to help explain key program elements.

These improvements have resulted in a more useful website. However, significant additional improvement to the website organization and information could make the program more accessible to the public, potential participants, and vendors. Elevate reported that they previously worked with a subcontractor on the website design but felt that they had greater control and flexibility since they took over control of website design. While it is important for Elevate to maintain that control, it appears that Elevate does not have the design capabilities or staff time needed to create more significant improvements to the website organization and flow.

F. Approved Vendor Portal

Elevate Energy maintains a portal that includes information on AVs, projects, participants, and Grassroots Education.

There are several users of the database system.

- Elevate Energy, AVs, and GEs, for data entry and review
- Grid Alternatives, for job training oversight
- Shelton Solutions and Elevate Energy staff responsible for recipient verification
- Elevate Energy IT staff
- Elevate Energy Call Center staff

This portal has many uses, including the following.

- Vendors complete applications to become AVs.
- AVs submit project applications.

- AVs submit job training, income verification, and other data during later project phases.
- GEs submit information on education events.
- Call center staff enter information on calls received.
- The quality control subcontractor will submit information on completed site inspections.

Elevate Energy designed the portal using the Salesforce platform. They have a team of developers and have also worked with external contractors to assist with the development. Elevate has noted that the system was being developed as the rules and the parameters for the ILSFA Program were still under development. They had a short window to design and implement the portal before the program went live, and some of the details and internal checks in the system were still being improved at that time.

Elevate Energy reported that they worked to design the system to be as simple as possible for the users. However, they found that the AVs needed reinforcement of what is expected in each field, so they provided training sessions on this topic. The AVs reported many challenges with the portal, and Elevate's vendor managers have spent a great deal of time supporting AVs in using the portal and responding to their questions and problems.

Elevate reported that they have made some improvements to the portal since the initial implementation.

- They improved the user interface so users don't have to jump back and forth between the portal and the forms.
- The AVs can now enter information directly into the database, and the database performs many of the calculations. The information that the AV can enter directly includes the make, model, quantities of AC and DC components, and the design specifications (array and site suitability conditions).
- The portal calculates production and REC values automatically, and presents them to the AV.
- The disclosures are automated so that when the user enters information, the system generates a PDF disclosure for the AV and then they can send that via an email and get it e-signed by the participant (or the AV can print it).[83]
- Data are tracked at various points through the process. The system accommodates the data values submitted by the AV and values edited/approved by the vendor management team. This allows for the original submittal to be captured and left unedited as the project moves through approval. This is useful because there are times when the review process may result in system design changes.
- They added the CS and NP/PF disclosures.

They also reported the following additional improvements in early 2020.

- Created and prioritized a "to do list" for development.
- Updated text on the portal for clarity.
- Focused on development of the portal for Part Two Project Submissions.
- Worked on hiring business analyst/technical associates to test new programming.

[83] The AVs still have the option to do them manually using an Excel-based calculator. This will eventually be phased out.

- Added help text fields to provide more information and context around data inputs and information requested from the AVs.

They are working on the following improvements and updates.

- Auto-calculation of co-located REC pricing, when there are two or more systems on the same property parcel and the calculation needs to look at the aggregate capacity. The REC calculations are handled differently in this situation.
- Two new documents that are condensed, user-friendly guides to assist AVs in submitting project applications. The new guides will assist the AVs by consolidating the relevant information into a step-by-step format. (Note: This was posted in July 2020.)
- Calculations for the Part Two Submission.
- Internal checks for the stages of each project, so the project cannot advance until all requirements are met.
- Access for the inspection subcontractor.
- AV reporting required six months after ICC approval.
- Making the system more user-friendly.
- Moving information from documents to data fields so reports can be run.

They would like to make the following additional improvements.

- Enabling the vendor managers to record that they reviewed the AV's submission and indicate that the AV has met all of the requirements. This will automate the process to advance a project to the next stage.
- Creating a back-end checklist for applicants to know whether they are ready to submit applications.

Elevate appears to be doing more advance planning to provide for a smoother transition to Part Two Submissions. They should continue to advance and test these modules so that the system is working well prior to the start of Part Two Submissions.

G. Grassroots Education

Elevate Energy is responsible for coordinating the distribution of funding for Grassroots Education by CBOs and overseeing the Grassroots Educators' work. Elevate has conducted the following Grassroots Education activities.

- Worked with the IPA to develop an initial RFP for GEs.
- Selected 11 GEs to provide education.
- Oriented GEs to the ILSFA Program and Grassroots Education requirements.
- Developed a module in the ILSFA Portal where GEs were required to enter data on Grassroots Education events.
- Provided guidance and oversight for the first round of Grassroots Education.
- Provided education materials for Grassroots Educators to use.
- Worked with the IPA to develop a second RFP for GEs. The RFP was released in January 2020 and the second round of GEs are expected to begin work in June 2020.

The Phase I evaluation included in-depth telephone interviews with the 11 selected GEs. The Phase II, First Interim Report included statistics from the first round of Grassroots Education. This current round of the evaluation included in-depth telephone interviews with a sample of 16 Grassroots Education participants.

The Grassroots Education participants provided some positive information about the education process.

- Most of the participants reported that the Educator did a good job of presenting the information.
- All 16 respondents were unaware of the ILSFA Program prior to attending the GE event, showing that Grassroots Education is an important activity and is increasing awareness about the ILSFA Program.

However, there were several findings that point to the need for more focused information that clearly presents the benefits and eligibility guidelines for the program.

- Most interviewees did not understand how to get started with DG or CS participation.
- Interviewees had many questions about the ILSFA Program that they felt had not been answered.
- Most interviewees who were not interested stated it was because they were concerned about the cost or they don't own their home (even when asked specifically about CS).

Specific recommendations for Grassroots Education in the second round include the following.

- Simplify the presentation and the information provided.
- Emphasize key points about eligibility, benefits, and how to participate.
- Stress that the program has no upfront costs and guaranteed savings.
- Clarify renter and multi-family eligibility for CS subscriptions.
- Provide clear instructions for sign-up and next steps.

Elevate should observe GE presentations in the next round to ensure that they are providing a clear presentation of this information.

H. Energy Efficiency

Elevate has conducted the following activities related to energy efficiency.

- Developed the Program Resource Guide for AVs and updated it in March 2020.
- Conducted in-house training to ensure that their management-level team members are knowledgeable about the ILSFA Program, so they can refer requests to Elevate's ILSFA Program managers.

Energy efficiency programs and ILSFA are run completely independently of one another. The AV Management Team is not helping AVs make connections with energy efficiency programs. While Elevate does not have direct contact with customers, they should take more action to coordinate the ILSFA Program with income-qualified energy efficiency programs in

Illinois, both to provide leads for the ILSFA Program and to ensure that ILSFA participants undertake beneficial energy efficiency actions prior to ILSFA Program participation.

I. Vendor Administration and Support

Elevate Energy has responsibilities for administering and supporting the vendor registration and project submission process. They are responsible for assisting the AVs to meet the ILSFA Program requirements by acting as a liaison with job training organizations and informing AVs of energy efficiency, weatherization, lead abatement, and other program opportunities that could provide additional benefits to participants.

Elevate's vendor management team works directly with the vendors. This involves supporting vendors through the application and vetting process, reviewing vendor applications, and making recommendations to the IPA about whether they should approve each vendor. Once vendors are approved, Elevate performs the vendor onboarding process, provides them with vendor credentials to access the portal, trains them on how to access the system, helps them submit projects, and answers questions on their projects. Elevate assesses the needs of each AV and tailors specialized training to those needs.

Interviews with Elevate staff and AVs show that Elevate has provided extensive support to the AVs throughout the registration and project submission process. AVs spoke favorably about their experience with Elevate and the tremendous assistance that Elevate provided.

Twenty-six AVs submitted projects and there were 14 different AVs that had selected projects across the two program years, indicating a successful AV participation rate.

While Elevate has provided excellent support to AVs in the registration and project submission process, they have not taken an active role in providing more proactive assistance to AVs in other areas where it has become apparent that additional support is needed. This includes the following areas.

- The Interconnection Process: AVs continue to express a need for support in this area. When asked about providing support to AVs on interconnection issues, Elevate noted that ComEd and Ameren have useful material on their websites and that they would circulate that information to the AV list, as it should cover most of the interconnection-related questions. This step should be taken, but AVs have expressed concerns about the interconnection process for some time, and additional support may be needed.

- MWBE Participation: None of the selected projects were submitted by MWBEs. Elevate has not provided any additional outreach or support for MWBE firms.

- DG Project barriers: Only two vendors have selected DG projects. Eight of the 20 interviewed AVs had attempted to develop DG projects, and seven of these AVs faced barriers while doing so. When asked about bringing in more DG projects, Elevate responded that the barriers are outside of Elevate's control; it is up to the AVs to conduct the outreach; and it's their decision, business model, and choice of what sub-programs to participate in. Elevate does not conduct direct outreach to bring in more applications in

any one sub-program, as they report that this is not part of their role. However, Elevate could take a more active role to provide greater potential for participation in this sub-program.[84]

J. Environmental Justice

Elevate was responsible for working with the IPA to develop the EJ determination process and the self-designation process. They developed a rigorous and well-documented process for determining the EJ communities, and the map and list of EJ communities is provided on the ILSFA website.

Elevate now continues to work with the IPA and community groups to score incoming EJ self-designation applications. They have also developed a systematic process for this scoring and meet with the scoring group on a regular basis to score EJ self-designation applications as they come in.

K. Reporting

Elevate is responsible for providing quarterly reports to the IPA and the ICC on the status of the program, including number of applications received, number of applications approved, number of projects completed, REC payments, payments for Grassroots Education efforts, status of Grassroots Education, and technical assistance provided. Elevate submitted the first report to the IPA on February, 28, 2020, and it was approved in May 2020. This report could be streamlined to provide program statistics in a more accessible manner.

Elevate has also developed the following reports to update the IPA on the ILSFA progress and has met with the IPA on a regular basis to provide updates.

- Call Center Metrics: This report provides information on the number of calls by month, inbound versus outbound, type of caller, and topic. This report does a good job of presenting the important information about the call center.

- Technical Assistance: This separate report provides information on the date, organization, contact, and nature of the inquiry each month. This is a useful report to understand the types of questions received by Elevate Energy.

- Newsletter Report: This report provides information on the date of the report, the recipients, a summary of the information provided, a link to the report, the delivery and opening rate, the rate at which hyperlinks were clicked, and a table that provides statistics for all newsletters, and recommendations for future newsletters. This is a detailed and informative report that does a good job of presenting the information.

- Website Report: This report provides information on use of the ILSFA website, where users originate from (such as search, email, and referral), specific referral sources (such as Illinois.gov and elevateenergy.org), the pages within the ILSFA website that had the

[84] Elevate recently reported that they are working on identifying barriers and looking at ways to bring in additional DG projects.

most views, and the email campaign that led to the website visit. This is a detailed and informative report that does a good job of presenting the information.

- Salesforce Reports: These reports allow the IPA to view project details.
- Project Dashboard: This provides an overview of submitted projects, selected projects, and project funding.
- Grassroots Educator Invoicing: These invoices provide an update on Grassroots Education activities.

Elevate has done a good job of developing reports that provide important information to the IPA.

L. Quality Assurance

Elevate is responsible for developing a process for quality assurance, including photos of projects under construction and on-site inspection of a random sample of installations. Projects have not yet reached the stage when quality control would be undertaken. However, Elevate has developed an Onsite Inspection Checklist and contracted with a subcontractor to conduct the inspections.

This Onsite Inspection Checklist provides an overview of the inspection requirements and tables that record information on the systems, scoring and approval instructions, and an overall scoring rubric. The document provides separate instructions and scoring for various types of systems. The document also provides an AV rating and corrective action that is required, if applicable.

The Onsite Inspection Checklist is a comprehensive form that will systematically collect important information on the quality of the installation and the AV's work.

Elevate's subcontractor will schedule inspections on a calendar directly with the AVs when the projects are verified as inspection ready. When the inspection is complete, the subcontractor will provide a report to Elevate that identifies the score, the results, and any deficiencies that were found that would indicate the project is not ready to be paid out or completed. In that scenario, the AV would then be provided with information on whatever deficiency they need to correct.

VIII. Best Practices Review

This section provides a review of Low- and Moderate-Income Solar Programs that have been implemented across the country. The following issues are addressed.

1. What are the different models that have been employed to encourage solar adoption or provide solar to low- and moderate-income households?
2. What are the key elements of those models?
3. What are the advantages and disadvantages of those models?
4. What are the best practices from these programs? Which are included in the ILSFA and which could potentially be adopted in Illinois to improve ILSFA participation and outcomes? Which of these new strategies are consistent with the law and the Plan? Which strategies are inconsistent with the law or Plan and what types of changes to the law or Plan would be required to incorporate these approaches into the ILSFA Program?

A. Program Overviews

This section provides an overview of low- to moderate-income (LMI) solar programs that have been implemented in states around the country. Some of the programs had more comprehensive information available than others, but the review attempted to provide information on the following where available.

- Date of Program Implementation
- LMI Solar Budget
- Funding Source
- Income Eligibility
- Home Owner and Renter Eligibility
- Home Type Eligibility
- Utility Service Territory Eligibility
- Environmental Justice/Disadvantaged Community Requirements
- Job Training Requirements
- LMI Solar Incentives
- Savings Goal
- System Ownership Options
- Number of Systems Installed
- System Sizes / Community Solar Subscription Sizes
- Community Solar Subscription Length
- Community Solar Subscriber Savings
- Energy Efficiency Requirements
- Quality Control

Following this section that provides program descriptions, we compare the characteristics across the programs.

California

California has developed several programs to help LMI customers participate in solar PV. The following three key programs are summarized in this section.

- SASH: Single Family Affordable Homes Program.
- DAC-SASH: Disadvantaged Communities Single Family Affordable Solar Homes Program.
- MASH: Multi-Family Affordable Solar Homes Program

SASH

The CA Single Family Affordable Homes Program (SASH) was initiated in 2009. SASH 1.0, the initial version of the program, provided seven different payment levels based on income, with one fully subsidized payment level. SASH 2.0 provides $3,000 per installed kW up to a maximum of 5.0 kW to homeowners who live in their home with income at or below 80 percent of Area Median Income (AMI). The homes must meet California's definition of affordable housing.

GRID Alternatives administers the SASH program, helps to fund the unsubsidized solar system cost, and provides solar installation training. They have ten CA Affiliate offices, located around the state. The SASH 1.0 program was funded at $108.3 million and ran through 2015. The SASH 2.0 program started in 2015 and is scheduled to end at the end of 2021, or when funding is depleted. SASH 2.0 had a budget of $54 million.[85]

CA SASH funding covers 85 percent of solar installation costs on average. GRID often provides the funds for the funding gap through grants, corporate funding, and individual donations. GRID also receives discounts for equipment from many solar manufacturers. Nearly all installations have been done at no cost to the homeowners.

In the initial CA SASH program, the solar panels were owned by the homeowner. Since 2016, about 80 percent of the projects use third-party ownership via a Power Purchase Agreement (PPA). The PPA provides a performance guarantee, system monitoring, a 20-year warranty and other protections required by the California Public Utilities Commission (CPUC). Through this model, the funding gap for the part of the system not covered by SASH can be covered by the Federal Investment Tax Credit and the Renewable Portfolio Standard (RPS) credits that are taken by the investor. Following installation of the system, GRID prepays the PPA and takes over the contract. GRID asks the homeowner to make a quarterly financial contribution of up to 50 percent of the homeowner's bill savings, but this is a voluntary contribution.[86]

From 2009 through 2018, nearly 8,100 projects were installed and interconnected. About half of the systems are 3 kW or smaller, and the average project is approximately 3.1 kW. The sizing is based upon the customer's annual energy usage minus the expected savings from

[85]Al-Shabbi, Hatham. Affordable Solar Power for Low-Income Families in the USA. November 2019. https://www.solarpowerrocks.com/affordable-solar/affordable-solar-power-for-low-income-families/
[86]Al-Shabbi, Hatham.

basic energy efficiency measures. The minimum size is 1 kW and is capped at 5 kW.[87] Nearly 90 percent of the participants are eligible for the California Alternate Rates for Energy Program, with income at or below 200 percent of the Federal Poverty Level.

SASH applicants participate in energy efficiency education and training sessions provided by GRID. GRID works with the Energy Savings Assistance Program (ESAP) to streamline enrollment for SASH clients. Customers must enroll in ESAP if they are eligible. GRID is responsible for ensuring that incentives are not paid until feasible ESAP program measures are completed, the participant is on the waiting list for ESAP, or an energy efficiency training and education session is completed. [88]

SASH requires job training at every installation, whether the job is done by GRID or by one of their subcontractors. If the job is installed by GRID's volunteer-based model, the project must include an opportunity for a Team Leader, a SolarCorps, or at least three individuals from a job training organization to participate as volunteers. The Team Leader provides guidance for other volunteers and supervises all work. SolarCorps are one-year paid fellowships based on the AmeriCorps program in project management, system design, marketing and outreach, communications, job trainee and volunteer management, market development, construction, and fundraising.

SASH requires that inspections are done by a third party on one of every 12 installations. The inspectors are approved by the CPUC. If the inspector finds that the system does not comply with program guidelines, no incentive payment will be made until the system is modified to meet the program guidelines.

DAC-SASH

The CA Disadvantaged Communities Single Family Solar Homes Program (DAC-SASH), launched in 2019, is the same as SASH, but only provides benefits to homeowners in the top 25 percent of most disadvantaged communities and who meet the California Alternative Rates for Energy (CARE) requirements, which are 200 percent of the Federal Poverty Level (FPL).[89] The program provides $10 million per year through 2030, 85 percent for incentives, 10 percent for administration, four percent for marketing and outreach, and one percent for evaluation. DAC-SASH is funded by the utility greenhouse gas allowance revenues, funds paid by utilities to purchase carbon credits from CA.[90]

The CA DAC-SASH applicant may or may not be the system owner. The applicant may enter a third-party ownership arrangement with a partner. GRID is responsible for ensuring that Third-Party Ownership DAC-SASH participants meet the following minimum consumer protection standards.

1. Customers receive at least 50 percent of the savings, as compared to standard IOU rates.

[87]Single-Family Affordable Solar Homes (SASH) Program Semi-Annual Program Status Report. GRID Alternatives and Go Solar California. January 2019.
[88]Single-Family Affordable Solar Homes (SASH) 2.0 Program Handbook. GRID Alternatives. https://gridalternatives.org/sites/default/files/SASH%202.0_Handbook%20Update_FINAL.pdf
[89]Al-Shabbi, Hatham.
[90]Al-Shabbi, Hatham.

2. Reduce or eliminate barriers with poor credit to qualify and participate.
3. Address customer concerns about moving or selling their home during the contract term.
4. Cover maintenance, operations, inverter replacement, and monitoring.
5. Prohibit liens on homes.
6. Minimize risk to customers that the system would be removed for delinquent payments.
7. Ensure that all costs are transparent and there is no risk of an additional financial burden for the customer.
8. Standardize financial terms for low-income customers where possible.
9. Protect the customer against terms that could change after the contract signing.
10. Require that agreements note the potential for additional costs associated with the contract, if applicable.
11. Require the provider to explain that rate changes will affect the economics of the PPA.
12. Require the agreement spells out what happens if the solar financing company defaults.[91]

CA DAC-SASH Program applicants receive energy efficiency training and education from GRID. All applicants are referred to the Energy Savings Assistance Program. GRID is required to compile data on applicants who have been referred to and participated in the ESA Program. They also report on the number referred to and enrolled in the ESA and create strategies to improve enrollment. GRID is responsible for ensuring that incentives are not paid until feasible energy efficiency measures are completed, the applicant is on a waiting list for ESA, and/or an energy efficiency training and education session is completed.

CA DAC-SASH requires that inspections are done by a third party on one of every 12 installations. For subcontractor-installed systems, initially 100 percent of each subcontractor's installations in the program will receive an inspection by a third-party inspector. If the inspector finds that the system does not comply with program guidelines, no incentive payment will be made until the system is modified to meet the program guidelines.

MASH

The CA Multi-family Affordable Solar Housing (MASH) Program provided solar incentives on qualifying multi-family homes from 2008 through 2019. MASH was established with $108.3 million in funding and was reauthorized in 2015 with an additional $54 million in funding. The program was fully subscribed by the end of 2018.

CA MASH was open to multi-family affordable housing properties that had at least 20 percent low-income tenants or owners. CA MASH was also open to low-income residential housing, defined as a multi-family residential complex financed with low-income housing tax credits; tax-exempt mortgage revenue bonds, general obligation bonds; or local, state, or federal loans

[91]Disadvantaged Communities Single-Family Affordable Solar Homes (DAC-SASH) Program Handbook. GRID Alternatives Approved September 12, 2019. https://gridalternatives.org/sites/default/files/DACSASH%20Handbook_Final_Approved%20via%20Resolution%20E5020_9.12.19.pdf

or grants.[92] The second version of the program required the multi-family building to have at least five units and either be located in a disadvantaged community as defined by the California EPA or have at least 80 percent of the households with income at or below 60 percent of AMI.[93]

MASH required that the properties conduct an energy efficiency walkthrough audit or enrollment in an energy efficiency program. The audit must have been conducted within three years of the MASH application submittal. Following the audit, the customer is required to submit a copy of the completed energy efficiency audit documentation. The customer must also sign an Energy Efficiency Disclosure which certifies that the Program Administrator provided the customer with information on the building that enables them to make informed choices about energy efficiency. The customer must certify that they have reviewed the most recent 12 months of usage for the building, building energy use assessment tools, list of possible cost-effective energy efficiency measures applicable in the building, and a list of current utility energy efficiency rebates and incentives that are available. They also must identify which energy efficiency measures will be taken. And they must provide a list of tenant addresses to the Energy Savings Assistance Program and post a notice for tenants with ESA program information.[94]

MASH requires that the contractor provide at least one student or graduate of a job training program with at least one full paid day of work for each 10 kW of system size up to 50 kW. The training can be completed on the MASH solar installation at the MASH project site or in a support role. Eligible job training programs include those offered by a California Community College or other PV-training program offered by a local government workforce development program, community non-profit, private enterprise, or the electrical workers union. [95]

MASH provided fixed, up-front capacity based incentives based on estimates of the system's future performance. MASH 2.0 provided incentives of $1.10/watt for common area load, non-virtual net metering tenant load, or virtual net metering tenant load where the tenant received less than 50 percent of the economic benefit of the allocated generation. MASH 2.0 provided $1.80/watt for virtual net metering tenant load where the tenant received at least 50 percent of the economic benefit of the allocated generation.[96] Incentives were provided for systems from one to 1,000 kW but the system could provide up to 5 MW of generation. The estimated production could not be higher than the previous 12 months of usage for all eligible meters. MASH and other program incentives could not exceed total eligible project costs. [97]

The MASH system owner can be the property owner or a third party owner.

[92]Multifamily Affordable Solar Program Handbook, Second Edition. California Public Utilities Commission. June 2010. https://www.cpuc.ca.gov/uploadedFiles/CPUC_Public_Website/Content/Utilities_and_Industries/Energy/Energy_Programs/Demand_Side_Management/Customer_Gen_and_Storage/MASH%20Handbook%202nd%20Edition_Final.pdf

[93]Shared Renewable Energy for Low- to Moderate-Income Consumers: Policy Guidelines and Model Provisions. Interstate Renewable Energy Council. March 2016.

[94] Multifamily Affordable Solar Program Handbook, Second Edition.

[95] Multifamily Affordable Solar Program Handbook, Second Edition.

[96] California Solar Initiative Annual Program Assessment. June 2019. California Public Utilities Commission.

[97] Multifamily Affordable Solar Program Handbook, Second Edition.

Program Administrators conducted an inspection visit for each incentive claim form submitted to verify that the project was installed per the application information, and that it was operational, interconnected, and met all eligibility criteria.

Table VIII-1 provides a summary of the SASH and MASH program accomplishments, including number of projects, incentives paid, and installed capacity.

Table VIII-1
MASH and SASH Program Participation

Program	Number of Projects	Incentives Paid ($ Millions)	Installed Capacity (MW)
SASH 1.0	5,266	$92.08	16
SASH 2.0	2,962	$27.55	9.2
MASH 1.0	379	$86.82	27.4
MASH 2.0	101	$17.85	14.4
Total	**8,708**	**$224.30**	**67**

Colorado

Colorado has had several strategies for increasing uptake of solar within the low-income population.

- Incorporating solar into the Weatherization Assistance Program.
- Requiring five percent low-income shares in Community Solar Gardens.
- Supporting 100 percent low-income community solar demonstration projects.

CO Rooftop Solar

Beginning in 2016, the Colorado Energy Office (CEO) used Weatherization Assistance Program funding to subsidize the installation of solar panels for single family homeowners with income at or below 200 percent of the FPL. Homeowners could also qualify through enrollment in other low-income programs including Temporary Assistance for Needy Families, Aid to Needy and Disabled, Old Age Pension, Supplemental Security Income, Low-Income home Energy Assistance Program, Supplemental Nutrition Assistance Program, or Social Security Disability Insurance. CEO worked with the network of local WAP providers, and the solar installations were completed by a network of private contractors. The solar installation was required to have a net benefit assessed by the CEO, and the system size could not exceed 3.5 kW. A maximum of $3,545 of WAP funds could be utilized for a project, so the remaining cost had to be covered by private investment or other public funds. [98]

A 2016 Xcel Energy settlement agreement provided additional incentives for low-income households installing solar through WAP. The funding was collected through the Renewable

[98]Campbell, Shawn. Affordable Solar Power for Low-Income Families: Colorado. August 2019. https://www.solarpowerrocks.com/affordable-solar/affordable-solar-power-for-low-income-families-colorado/

Energy Standard Adjustment (RESA), a part of the distribution charge paid by all ratepayers. The program provided $2.00 per installed watt up front and $0.034 for each kWh produced. The incentive was only available for 2017 through 2019 and for up to 300 households.[99] The mean size was 3 kW and expected savings were $400 per home annually. Customers received the net metering credit from the systems and Xcel retained the RECs for compliance with CO's Renewable Portfolio Standard.[100]

CEO was able to reduce the costs of installations from the original cost of $3.60 per watt by $1.00 per watt by reducing installers' soft costs (non-hardware costs). These costs include permitting, financing, and installing solar; acquiring customers, and paying suppliers. The dual-incentive program focused on projects in rural areas with high solar capacity factors and higher than average electricity usage. The Xcel funding has been depleted, so the program is not able to continue due to the fact that WAP does not cover the full installation cost.[101]

CEO found that only ten to 20 percent of weatherization-eligible homes were suitable for PV installations because of the electrical and roof conditions. Additional homes were not good candidates because of shading and orientation.[102]

CO Community Solar Gardens

Colorado passed a 2010 law called the Community Solar Garden Act. This law required developers of community solar projects for Investor-Owned Utilities (Xcel and Black Hills) to ensure that at least five percent of their subscribers were low-income households. The solar gardens must be 2 MW or less, have at least ten subscribers, subscribers must be in the same county or adjacent to that of the solar array, subscribers must be in the same utility service territory, and the subscriptions cannot supply more than 120 percent of the average annual consumption of electricity by each subscriber. The owner can be the utility or a third party operator that contracts with the utility.[103] To date, all have been third-party owned.[104] While not required for other utilities, there are many community solar gardens where municipal utilities and co-operative utilities have supported low-income households.[105]

The Solar Garden developer is responsible for marketing, outreach, administration, utility bill analysis, subscriber enrollment, helping with the subscriber's application, and tracking program metrics. The utility companies are responsible for providing incentives and verifying compliance with the PUC's solar garden rules and regulations. The developers submit the subscribers' applications to Xcel's internal portal and the portal sums the low-income subscriptions to verify that each solar garden is in compliance. If the garden moves out of

[99]Campbell, Shawn.
[100]Cook, Jeffrey J. and Shah, Monish. Reducing Energy Burden with Solar: Colorado's Strategy and Roadmap for States. National Renewable Energy Laboratory. March 2018.
[101]Campbell, Shawn.
[102]Cook, Jeffrey J. and Shah, Monish.
[103]Dobbs, Hillary M., and Emily Artale. Analysis of the Fulfillment of the Low-Income Carve-Out for Community Solar Subscriber Organizations, November 2015. Lotus Engineering & Sustainability.
https://www.colorado.gov/pacific/sites/default/files/atoms/files/Low-Income%20Community%20Solar%20Report-CEO.pdf
[104]Shared Renewable Energy for Low- to Moderate-Income Consumers.
[105]Dobbs, Hillary M., and Emily Artale.

compliance, for example if a subscriber moves and terminates the subscription, the portal will signal the developer and the developer has 30 days to reach compliance or the solar garden is shut off. The developer must have a waiting list to return to compliance quickly. The non-profit or housing authority identifies low-income subscribers, verifies eligibility, and may help with outreach and marketing.[106]

Subscribers that are members of Energy Outreach Colorado, the Atmosphere Conservancy, Colorado LEAP, or a Municipal Housing Authority qualify as low-income subscribers. Customers must live in single-family homes and have the meter in their name.[107]

Research on the Solar Gardens found that many of the low-income subscribers do not qualify for financing so the developers are forced to give the panels away for free to maintain compliance with the low-income carve-out. The developers give the electricity generated by the panels directly to the low-income subscribers or to a non-profit or public housing authority who allocates the generated electricity to low-income households. The low-income subscribers can receive the credits for up to 20 years.[108]

The evaluator attempted to obtain information on additional performance metrics from the developers, as requested by CEO, but only partial data were available. The percent bill savings shown are lower than the percent electricity savings because of the fixed monthly charge and because the solar credit is less than the full retail rate.

Table VIII-2
CO Solar Garden Subscriber Benefits

Developer	Monetary Savings	Electricity Savings	% Bill Savings
SunShare	NA	30%-120%	NA
Lotus (one project)	NA	NA	20%-30%
Denver Housing Authority	$220 first year	NA	NA
GRID Alternatives	$520	120%	71%

Challenges that were faced fell into the categories of marketing and communication, demographic, financial, and programmatic, and are summarized below.

Marketing and Communication challenges included the following.

- Trust: It can take a large amount of time to become a trusted partner in the community. Therefore, without a prior relationship, it can be difficult to get the potential participants to sign a contract. The free subscriptions made potential participants question the value of the program.
- Privacy: Organizations were hesitant to share lists of low-income households with developers.

[106]Dobbs, Hillary M., and Emily Artale.
[107]Shared Renewable Energy for Low- to Moderate-Income Consumers.
[108]Dobbs, Hillary M., and Emily Artale.

- Paperwork: Large amounts of paperwork were required.
- Time: Many subscribers only received benefits months after signing up.
- Communication: There were a large number of parties included in the transaction. The developer and non-profit or housing authority need to make sure that they are both communicating the same information to potential subscribers.
- Environmental Benefits: Low-income households were focused on the cost savings and did not place much value on the environmental impact.
- Knowledge: There was a lack of knowledge about solar and energy terminology, including units of measure.
- Contact Method: Email and phone calls were not always effective. Low-income households don't always have access to email and phones were sometimes shut off or phone numbers were changed. Sometimes it was necessary to visit the home.

Demographic challenges included the following.

- Language and Culture: There were sometimes communication problems with multi-lingual and multi-cultural households.
- Mobility: The solar garden would fall out of compliance if the low-income subscribers moved. And tenants may not be as interested in long-term savings.
- Metering: Some of the multi-family buildings were mass-metered.

Financial challenges included the following.

- Cost: Higher costs were imposed on developers and non-low-income subscribers. These costs included partnering with non-profits, marketing to potential subscribers, and maintaining compliance with the five percent carve-out.
- Short-Term Outlook: Potential participants were focused on immediate cost savings.
- Cost Variability: The monthly credit, and therefore the utility bill, will fluctuate. This can cause difficulties for low-income households.
- Resources: A lack of upfront capital and an inability to obtain financing resulted in the developer needing to give the panels away for free to obtain the required low-income subscribers.

Programmatic challenges included the following.

- IOU territories: 42 percent of the community solar gardens are not in the IOU territories and have no requirement to serve low-income households.
- Artificial CAP: The five percent subscription capped low-income participation because the developers were forced to give away the panels for free.
- Cost Offset: Lost investments were offset with larger subscribers such as commercial and industrial customers. This means that fewer residential customers were served.
- Subscription Management: The developers were responsible for the majority of subscription management which increased their costs.[109]

[109]Dobbs, Hillary M., and Emily Artale.

As of 2015, Xcel was the only IOU with active community solar gardens and Black Hills Energy was working on a project for Pueblo residents. There were 20 solar gardens with 890 kW (5.03 percent) dedicated to low-income subscribers. There were 1,010 subscribers, and 349 qualified low-income subscribers. The average low-income households received 2.55 kW.[110]

An additional 18 community solar gardens are active in municipal and co-operative utility territories within CO, but they are not required to have the five percent low-income carve out, so it is not known how much is allocated to low-income subscribers.

CO Low-Income Community Solar Demonstration Project

CEO launched a low-income community solar demonstration project in 2015 to demonstrate the feasibility of 100 percent low-income community solar and to reduce household energy burden. GRID Alternatives was awarded a $1.2 million grant to develop eight demonstration models throughout Colorado with non-regulated utilities. The utilities contributed $2,018,415. CEO and GRID worked with eight utility partners that serve 19 of the 64 counties in CO. Subscribers saved 15 to 50 percent on electricity bills, averaging $382 per subscriber. As of October 2017, 380 households received benefits from 1,485 kW of community solar. The average subscription size ranged from 3.2 to 5.0 kW. Most projects will offset up to 100 percent of the subscribers' electricity usage.[111]

The table below provides information on each of the demonstration projects, including total and average cost, size, and savings across the projects.

[110]Dobbs, Hillary M., and Emily Artale.

[111]Insights from the Colorado Energy Office Low-Income Community Solar Demonstration Project. December 2017. Colorado Energy Office. https://www.colorado.gov/pacific/sites/default/files/Insights%20from%20the%20CEO%20Low-Income%20Community%20Solar%20Demonstration%20Project.pdf

Table VIII-3
CO Community Solar Demonstration Projects

Utility	Project Cost	Project Size (kW)	HHs	Mean Subscription Size (kW)	Average Annual Cost Savings Per HH	Targeted Savings - % of Utility Bills	Targeted Cost Savings as a % of Utility Bill	Subscription Period	Wholesale Provider
Delta Montrose Electric	$315,900	151.1	43	3.6	$312	Up to 100%	50%	5 Years	Tri-State Generation and Transmission
Empire Electric	$78,750	26.4	7	3.7	$485	Up to 100%	50%	5 Years	Tri-State Generation and Transmission
Fort Collins Utilities	$195,000	63.6	30	3.2	TBD	Up to 100%	50%	1 Years	Platte River Power Authority
Grand Valley Power	$55,250	36.5	10	3.2	$590	Up to 90%	50%	4 Years	Xcel Energy
Holy Cross Energy	$400,099	144.7	45	3.3	$411	Up to 75%	15-50%	2 Years	Xcel Energy
Poudre Valley Rural Electric	$1,375,000	700.0	140	5.0	TBD	Up to 100%	30%	4 Years	Tri-State Generation and Transmission
San Miguel Power	$465,000	197.2	60	2.0	$134	Up to 100% of 2 kW	50% of 2 kW	5 Years	Tri-State Generation and Transmission
Yampa Valley Electric Authority	$333,416	165.0	45	3.5	$360	Up to 100%	50%	5 Years	Xcel Energy, Western Area Power Administration
Total	**$3,218,415**	**1,485**	**380**		**$145,160**				
Average	**$402,302**	**186**	**48**	**3.5**	**$382**			**3.9 Years**	

Subscribers were solicited by GRID and the utility. They used flyers, brochures, direct calls, and in-person workshops, targeting households that had previously received weatherization services.

Utilities designed the projects to offset 100 percent of usage, resulting in cost savings of approximately 50 percent, or a pre-determined kW cap, where cost savings were more influenced by usage. Subscribers were charged the retail electric rate plus fixed monthly fees and received a credit on their utility bill for the solar electricity generated by the panels allocated to the subscriber's household.

Each utility had their own model. Some of the notable elements were as follows.

- Fort Collins utilities mandated that community solar participants also participate in energy efficiency upgrades and education.
- Fort Collins utilities only had their subscribers receive benefits for one year to ensure that the maximum number of different households could benefit from community solar.
- Grand Valley Power received equipment donations from solar manufacturers, financial contributions, and labor from job training programs and volunteers. They offered a zero-interest five-year on-bill financing option with no qualification requirement for $15/month.
- Holy Cross utilities found that in-person outreach was most successful to help people complete the application process.
- Holy Cross energy worked with GRID, CEO's weatherization assistance program, and local partners to ensure that clients received energy efficiency education and services.
- San Miguel Power Association administers an income-qualified energy efficiency rebate program. They called each participant and encouraged them to participate in community solar. Participants in community solar had to have gone through their weatherization program or through WAP.
- San Miguel's solar garden was constructed on a landfill.[112]

CO households decided to participate as subscribers in the demonstration project for the following reasons.

- Electric savings.
- Rooftop solar costs were too high, so this was a way they could afford to support solar.
- Environmental benefits.
- Supporting the utility to do more for the environment.
- Ease of signing up for community solar.

They had the following concerns.

- The program seemed too good to be true, because it provided high savings with little work. Customers still participated because they trusted their utility and/or the community partner.
- The paperwork required included their utility bill, a 1040 for each adult in the household, and their Federal Tax Return.
- Several participants were concerned about privacy.
- Some individuals lost trust because there was a large amount of time between when they filled out the paperwork and when they received the benefit.[113]

[112]Insights from the Colorado Energy Office Low-Income Community Solar Demonstration Project.
[113]Insights from the Colorado Energy Office Low-Income Community Solar Demonstration Project.

CEO is also providing an additional 20 MW of 100 percent low-income community solar in investor-owned utility territories beginning in 2017.[114]

Connecticut

Connecticut's Green Bank began providing the Residential Solar Incentive Program (RSIP) in 2012 and added an increased incentive for LMI homeowners in 2014. The LMI incentive was initially three times the level of the market-rate solar incentive. Additionally, the CT Solar for All Program, beginning in 2016, provides 20-year leased solar panels to individuals with income at or below 100 percent of AMI.

Only third-party owned systems are eligible for the lease incentive. The incentive is paid to the third-party owner and that owner reduces the customer's lease price. Customers benefit when the electric bill reductions exceed the cost of the solar leases.

As part of receiving the incentive, homeowners are required to have a Home Energy Solutions Program audit. While they are not required to install measures, they usually install measures such as low-flow faucets, efficient light bulbs, and air sealing. They can also purchase more extensive energy efficiency upgrades from PosiGen, the implementer, for $10 per month over the 20-year lease. About two thirds of participants choose this option.[115]

Solar installers submit proposed pricing, marketing, and qualifications to the Green Bank to qualify for the LMI incentive. This is required to ensure that the LMI homeowners benefit and have strong consumer protections. The Green Bank evaluates the pricing to ensure that the homeowner achieves adequate savings from the project. PosiGen was approved for the LMI incentive and received financing to enter CT's LMI solar market. The CT Green Bank provided an initial $5 million for PosiGen to use for the solar leases and an additional $5 million was provided in private debt investment.[116] This investment was provided by tax equity investors, corporations with significant tax liabilities that can obtain value from the tax credits and depreciations. [117]

The CT Green Bank provides the RSID incentives to the third-party owner for six years. The incentive was originally $0.11 per kWh and as of January 2020 was $0.081 per kWh, current approximately three times the incentive for non-LMI participants. The incentive payments enable the owner to charge lower lease payments for the system. These incentives will phase down over time and will end in 2022 or when solar PV installations reach a total capacity of

[114]https://energyoffice.colorado.gov/community-solar-0

[115]Solar for All. How Connecticut Green Bank Drives Solar and Energy Efficiency for Low-To Moderate-Income Households. Green Bank Network. July 2018. https://greenbanknetwork.org/wp-content/uploads/2018/07/GB-TT-Connecticut-18-07-A_05-1.pdf

[116]Building a State Solar Program for Low- and Moderate-Income Homeowners. Replicating Connecticut's Success. Clean Energy States Alliance. Montpelier, VT. January 2020.

[117]Solar for All. How Connecticut Green Bank Drives Solar and Energy Efficiency for Low-To Moderate-Income Households.

300 MW if earlier.[118] The Green Bank takes ownership of the RECs and sells those RECs to recover some of the program cost.[119]

The program provides consumer protections including no up-front payments, and a production guarantee on the lease so the homeowner is reimbursed if the system does not produce the estimated electricity production. PosiGen uses alternative underwriting that does not rely on credit scores to qualify customers.[120] They use other measures of credit-worthiness, such as the customer's utility bill payment history.[121]

From 2015 through 2019 PosiGen worked with CT's Green Bank to install over 2,700 projects and nearly 18 MW of solar capacity in seven underserved communities, 75 percent of which were in LMI census tracts.[122] From 2012 to 2017, participation by LMI households increased from two to 13 percent for households with income of less than 60 percent AMI, from four to 16 percent for households with 60 to 80 percent AMI, and from 14 to 19 percent for households with 80 to 100 percent AMI.[123] They have had particular success in reaching communities of color.[124]

Underserved municipalities submit letters of interest to participate in the program. If selected, they work with the CT Green Bank and PosiGen to implement a 16-week marketing campaign that includes door-to-door canvassing, community events and partnerships, peer-to-peer interactions, social media, and traditional advertising.[125]

District of Columbia

The District of Columbia has a Solar for All program and has also implemented Innovation and Expansion Grants to test various models.

D.C. Solar for All

The District of Columbia's Renewable Portfolio Standard Expansion Amendment Act of 2016 established the Solar for All Program. The program is funded by the Renewable Energy Development Fund (REDF), supported by compliance fees paid by electricity suppliers. The program aims to reduce the electric bills of at least 100,000 low-income households by 50 percent by December 31, 2032, where low-income is defined as less than or equal to 80 percent of area median income. They estimate that there are only 114,455 households that meet this definition, and fewer than 100,000 that receive electric bills because many live in

[118]Solar for All. How Connecticut Green Bank Drives Solar and Energy Efficiency for Low-To Moderate-Income Households.
[119]Building a State Solar Program for Low- and Moderate-Income Homeowners.
[120]Building a State Solar Program for Low- and Moderate-Income Homeowners.
[121]Solar for All. How Connecticut Green Bank Drives Solar and Energy Efficiency for Low-To Moderate-Income Households.
[122]Building a State Solar Program for Low- and Moderate-Income Homeowners.
[123]Solar for All. How Connecticut Green Bank Drives Solar and Energy Efficiency for Low-To Moderate-Income Households.
[124]Sharing Solar Benefits. Reaching Households in Underserved Communities of Color in Connecticut. Connecticut Green Bank. May 2019.
[125]Building a State Solar Program for Low- and Moderate-Income Homeowners.

master-metered buildings.[126] All applicants eligible for LIHEAP are eligible for Solar for All.[127]

The DC Solar for All Program pays for the installation of solar panels on single family homes through several programs. Solar Works DC leases panels to homeowners with income at or below 80 percent of AMI at no cost, providing them with 100 percent of the energy produced by the system.[128] Solar Works DC aims to train more than 200 District residents and install solar on up to 300 low-income single family homes in the District over three years, saving them approximately $600 per year.[129]

DOEE is implementing the program in five three-year phases. The first phase of the Solar for All Program, from FY17 through FY19, was expected to have a budget of $20 to $45 million annually and develop 30 to 60 MW of solar over the three-year period. The focus is on research and development to enable the completion of large-scale projects in upcoming implementation phases.

D.C. Innovation and Expansion Grants

The District awarded nine Innovation and Expansion Grants and planned several partnerships. The grants were to non-profit and for-profit organizations.

- Community Preservation and Development Corporation Grant: The project will install one MW of solar on 12 affordable housing properties and benefit approximately 4,800 households. They are in the process of developing 574 kW in Phase One and plan to develop 426 kW in Phase Two. Residents will receive new services, building improvements, and other shared amenities.
- Ethos Strategic Consulting, LLC Grant: They are installing one MW of rooftop solar and solar canopies on underutilized or difficult to develop spaces at affordable housing properties to benefit 300 low-income households over 15 years. They have determined sites for 710 kW and they are searching for the remaining sites. Low-income households will receive cash payments, utility credits, and other benefits.
- Groundswell Shared Power Project Grant: They will develop and manage 366 kW of community solar systems and allocated 100 percent of the generated electricity to 100 low-income households with no-cost community solar subscriptions for at least 20 years. They expect to complete construction at two of the four sites in 2019, totaling 168 kW. They are partnering with Elevate Energy to enroll and manage the low-income subscriptions.
- Neighborhood Solar Equity, LLC Grant: They will install 595 kW at a local university. The university will receive the electricity and the SREC revenue will benefit 100 low-income households for 15 years. They were developing deployment plans in 2018.

[126]Solar for All Implementation Plan, Government of the District of Columbia, Department of Energy and Environment. March 10, 2017.
[127]Renewable Portfolio Standard Expansion Amendment Act of 2016 & Solar for All Annual Report. October 1, 2017 – September 30, 2018. Department of Energy and Environment. January 30, 2019.
[128]Al-Shabbi, Hatham.
[129]https://doee.dc.gov/release/doee-and-does-launch-solar-works-dc

- New Partners Community Solar Corp Grant: They will install one MW of solar on rooftops and provide free 25-year community solar subscriptions to at least 325 low-income households. They have received preliminary approval for eight rooftops which will have at least one MW of capacity. They also designing a system for a DC public school, a metro station parking garage, and a playground canopy. They planned for three projects to be interconnected by December 31, 2017 and the remaining ones to be installed by mid-2019.
- Open Market ESCO Grant: They installed and interconnected 651 kW of solar in December 2017, with 548 kW to be provided to low-income households through no-cost community solar subscriptions. By the end of FY 2018, 84 households had signed up for credits.
- PEER Grant: They will develop 500 kW of solar capacity to benefit 100 households for 15 years at no cost. They had 209 kW under site control and were working to finalize an additional 291 kW. The benefits will include new resident services, energy efficiency improvements, and other shared amenities.
- Solar United Neighbors of D.C. Grant: They are developing 750 kW at no cost. They signed up 35 households in FY 2018 and installed the first system in November 2018. The clients will reduce their electric bills by 50 percent.
- Urban Energy Advisors Grant: They are building one MW of systems on affordable multi-family buildings to serve 402 households. They had authorization to install and projects were scheduled to be completed by February 2019.[130]

They have also developed the following partnerships.

- SolarWorks DC: DOEE partnered with the Department of Employment Services (DOES) on a low-income solar installation and job training program. They have trained 100 District residents, had 78 graduates from the program, 25 residents hired in solar-related fields, and 76 rooftop solar systems installed on single-family homes.
- Enterprise Community Partners: DOEE awarded Enterprise Community Partners and their co-project developers a $370,504 grant to develop a tool to assess the housing stock and identify opportunities to improve resilience, reduce energy use, install solar, and install battery storage systems. They developed the tool and assessed 20 affordable housing properties.
- DC Housing Authority: DOEE completed a solar and weatherization collaboration project with the DC Housing Authority (DCHA) that replaced the roof, installed energy and water conservation measures, and installed a 130 kW solar system which will serve 203 seniors and disabled residents. DOEE also awarded DHCA a $5 million grant to perform this work on DCHA's housing properties across the District. Expected installations by June 2019 will increase capacity to 1.7 MW and provide benefits to over 1,000 households.
- District of Columbia Public Library: DOEE is partnering with the DCPL to install a 50 kW solar system and energy storage system at a new library. They planned to begin construction in FY 2019.
- Department of General Services: DGS is contracting with GRID Alternatives to install a 2.65 MW community solar system to benefit 750 low-income households. Construction

[130]Renewable Portfolio Standard Expansion Amendment Act of 2016 & Solar for All Annual Report.

was expected to be completed by September 30, 2019. They are also analyzing solar storage solutions.
- University of the District of Columbia: DOEE is partnering with the UDC to repair a rooftop to install solar. They have identified other rooftops for solar installation and planned to implement projects in FY 2019.

They have also taken on other initiatives.
- Working with the Department of Consumer and Regulatory Affairs and the Office of Planning to evaluate changes needed to the solar permitting process that would simplify system design and facilitate rooftop solar PV.
- Assessment of the scope of available surface area for rooftop solar.
- Coordination with stakeholders, sister agencies, the Office of the People's Counsel, and CBOs to increase outreach to low-income households.
- Coordinated LIHEAP, SNAP, and community solar enrollment.
- Investigation of the development of a DC Green Bank.

Due to high prices for Solar Renewable Energy Credits (SREC), incentives (include SRECs and the Federal Tax Credit) were expected to cover more than 1.5 times the cost of a PV system, compared to 75 percent in New York and New Jersey.[131] However, the price for SRECs dropped significantly at the end of 2018, and some grantees may install lower capacities.[132]

Other challenges that they face are securing 15-year commitments from building owners, attracting low-income solar customers, and developing methods other than credits on energy bills for low-income households.

Hawaii

Hawaii's Green Energy Market Securitization (GEM$) On-Bill Repayment Program (GEM$), administered by the Hawaii Green Infrastructure Authority, offers fixed rate loans for solar panels and energy efficiency projects, paid back on the household's electric bill. The program was launched in 2015. Homeowners and renters who have had on-time payment of their electric bills over the past twelve months are eligible. The loan is attached to the electric meter, not to residents, so that it can be transferred to other residents. The minimum loan size is $5,000 and it must result in a ten percent utility bill savings, including the loan repayment fee.[133]

GEMS was funded with $150 million of state-issued rate-reduction bonds, through a fee imposed on utility customers. Customers pay $1.29/month, with semi-annual adjustments based on program performance. The customer loan is viewed as secure because customers

[131]Solar for All Implementation Plan, Government of the District of Columbia, Department of Energy and Environment. March 10, 2017.
[132]Renewable Portfolio Standard Expansion Amendment Act of 2016 & Solar for All Annual Report.
[133]Al-Shabbi, Hatham

are subject to losing their electric service if they do not pay their bills. The program has experienced default rates of only 0.1 percent.[134]
The participant household must be a Hawaiian Electric, Maui Electric, or Hawaiian Electric Light Company customer with at least a six-month history with the utility. Households must be at or below 140 percent of AMI. The contractor must be on the GEMS approved contractor list. Homeowners and renters can apply online or through the mail.[135]

Systems are designed so that the monthly energy savings are larger than the monthly repayment charges.

GEMS also provides the program to non-profits, small businesses, and commercial tenants.

Massachusetts

Massachusetts has a Solar Renewable Target Program (SMART) and a Massachusetts Solar Loan Support Program.

MA Solar Renewable Target Program

Massachusetts' Solar Renewable Target Program (SMART), which began in November 2018, pays owners an incentive rate for each kWh of electricity produced, with a bonus incentive for low-income property owners.[136] The program is expected to support 1,600 MW of new solar generating capacity.[137] As the amount of solar installed increases, the incentive level declines. In early 2020, the incentive level was about $0.102/kWh for ten years, equal to more than $800 for the average solar system in MA that generates around 7,900 kWh per year.[138] Each incentive block has a minimum of 20 percent and a maximum of 35 percent of capacity set aside for projects less than or equal to 25 kW AC.[139] The MA Smart program is funded by a volumetric charge as a separate line item on the customer's bill.[140]

The MA SMART Program defines three types of low-income solar units.

- Low-Income Community Shared Solar Tariff Generation Unit: At least 50 percent of the energy output is allocated to low-income customers in the form of electricity or net metering credits.
- Low-Income Solar Tariff Generation Unit: A unit with an AC rated capacity of less than or equal to 25 kW that serves low-income customers.
- Low-Income Property Solar Tariff Generation Unit: A unit with a rated capacity greater than 25 kW that provides all of its generation output in the form of electricity or net metering credits to low- or moderate-income housing.

[134]Leon, Warren. Clean Energy Champions – The Importance of State Programs and Policies. CleanEnergy States Alliance. June 22, 2015.
[135]http://gems.hawaii.gov/participate-now/for-homeowners/
[136]Al-Shabbi, Hatham
[137]Solar Massachusetts Renewable Target (SMART) Program. Department of Energy Resources.
[138]https://www.solarpowerrocks.com/massachusetts/#perf_payments
[139]Solar Massachusetts Renewable Target (SMART) Program. Department of Energy Resources.
[140]Solar Massachusetts Renewable Target (SMART) Program. Program Transition and Launch Presentation. October 31, 2018.

Low-Income Solar units of less than or equal to 25 kW AC received 230 percent of the Block 1 Base Compensation Rate. The MA Smart program also provides the following adders ($/kWh).

- Community Shared Solar (CSS): $0.05
- Low-Income Property Owner: $0.06
- Low-Income Community Shared Solar: $0.06
- Public Entity: $0.02

Massachusetts Solar Loan Support Program

The Massachusetts Solar Loan Support Program for low-income households with income at or below 80 percent of state median income reduces the participant's loan principal by up to 30 percent and up to $10,500, reduces loan interest rates by up to 1.5 percent, and provides a loan loss guarantee to lenders for residents with bad credit. The 10-year loans range from $3,000 to $35,000 and are available to home owners and renters, for rooftop solar or community solar. The program, launched in 2015, is funded by $30 million in Alternative Compliance Payments received by the Massachusetts Department of Energy Resources (DOER) under the Massachusetts Renewable Portfolio Standard (RPS).[141] They developed the program after commissioning a study that found that the benefits of a homeowner's direct ownership of solar projects are significantly greater than third-party owned projects.

System owners must verify their income eligibility by providing tax returns for all household members. The program has an income verification consultant that determines the system owner's eligibility.

System owners who have income above 80 percent of state median income are not eligible for loan support incentives, but they are eligible for technical project approval and support to obtain market-rate loans and to receive consumer protections such as the interest rate cap and closing caps.

System owners are eligible if they are Massachusetts residential property owners or residents, and intend to finance a solar PV project on their property or a share in a community solar project. Properties are eligible for the subsidized loan if they are a one to four-unit property with a utility residential rate code or they demonstrate that the property is residential. The system must be grid-tied with a Massachusetts investor-owned utility or a municipal electric utility. Third party owners are not eligible to participate.

Qualified projects must have a cost between $3,000 and $60,000. System production may not be greater than 125 percent of the owner's annual electricity consumption based on the previous 12 months of utility bills.

[141] Al-Shabbi, Hatham.

Community solar projects limit the member-system owner's portions to 25 kW each. They require direct ownership stakes but participants are not required to be homeowners.

The program requires a Turnkey Contract between the installer and the system owner. The contract must identify a project manager and include services for technical application preparation, equipment procurement and installation, site preparation, permitting and interconnection support, project completion paperwork, training, operations and maintenance, and compliance with all laws and requirements. The installer must meet all program requirements, including permits, inspections, and warranty services.

Participating households are required to have had a residential energy audit within the past five years or have one scheduled at the time of loan closing.[142]

Massachusetts provides an expedited status and a non-expedited status for solar installers. The installers receive the expedited status if they completed a certification process called "Crawl Before You Walk" or if they participated in an earlier MA Solar program. The installers with the expedited status can use the online portal for faster application and project completion processing. Installers need to maintain high-quality paperwork and abide by all code and program standards to maintain this status. First-time installers have non-expedited status and must initially submit only one application.

The program selects a sample of completed projects for inspection, with the rate of sampling dependent on the status of the installer and subcontractor and results of previous inspections. Non-expedited installers are initially subject to a 100 percent inspection rate, until they show that they have met the program requirements.

The Income-Based Loan Support (IBLS) is the lesser of the Program Loan Amount, System Costs, or $35,000. The 30 percent incentive is capped at $10,500. Lenders must complete and execute a Financing Program Agreement to be Lenders in the program and eligible for loan support. Lenders are only required to offer loans up to $35,000, and the maximum loan amount is $60,000.

The process steps for the Mass Solar Loan Program are as follows.

1. The system owner identifies an installer. Information on installers participating in the program is available on the Mass Solar Loan website. The installer will guide the participant through the process.
2. The installer should help the owner to determine the project feasibility, size, costs, and qualification for Income-Based Loan Support (IBLS).
3. The installer submits a technical application. The turnkey contract between the installer and the owner must be in place before the application is submitted. The installer should assist the owner in completing the income verification application.
4. MassCEC will review the application.

[142]Mass Solar Loan Program Manual Version 10.0 Effective 9-13-2019. Massachusetts Clean Energy Center.

5. After the system owner receives technical application confirmation, they may close the loan. Participating lenders are listed on the Mass Solar Loan website.
6. The lender conducts the loan underwriting process.
7. At closing, the lender inputs the loan information into the application portal. Entering information into the queue reserves the funds for the project. MassCEC will send an approval email to the owner and installer.
8. The installer completes the project and submits the project completion paperwork. There is a one-year deadline to complete the project, but extensions can be requested.
9. MassCEC reviews the paperwork, adjusts the loan support if applicable (if the final cost is lower than projected), and notifies the lender.
10. The lender requests loan support disbursement.
11. MassCEC pays the loan support and maintains the loan loss reserve. All payments are made to the lender.

System owners are required to report the project's electrical output every month to MassCEC's Production Tracking System. This may be done manually or automatically through a Data Acquisition System.

Minnesota

Minnesota's Xcel Energy Solar Rewards Program, launched in 2019, is overseen by the Minnesota Commerce Department Division of Energy Resources. The program provides an upfront installation incentive per installed kW and an incentive per kWh produced to customers with income at or below 50 percent of state median income or 200 percent of the FPL, the LIHEAP/WAP eligibility guidelines.[143]

- Single-family home owner eligibility is based upon LIHEAP/WAP guidelines or participation. They receive a production incentive of $0.07 per kWh and an up-front incentive of $2.00 per Watt.
- For multi-family, with two to four unit properties, 50 percent or more of the units must be occupied by LIHEAP/WAP eligible tenants. They receive a production incentive of $0.06 per kWh and an up-front incentive of $1.00 per Watt.
- For five or more unit properties, 66 percent or more of the units must be occupied by tenants with annual income less than or equal to 60 percent of AMI. They receive a production incentive of $0.06 per kWh and an up-front incentive of $1.00 per Watt.
- Non-profits and government agencies with 50 percent or more of constituents who meet LIHEAP/WAP criteria are eligible. Annual verification reporting is required for five years to show that the solar benefits continue to be passed on to qualifying income-qualified customers. They receive a production incentive of $0.06 per kWh and an up-front incentive of $1.00 per Watt.
- Income-qualified solar gardens receive an incentive of $0.06 per kWh and an up-front incentive of $0.50 per Watt.[144]

[143] Al-Shabbi, Hatham.

[144] https://www.xcelenergy.com/programs_and_rebates/residential_programs_and_rebates/renewable_energy_options_residential/solar/available_solar_options/on_your_home_or_in_your_yard/solar_rewards_for_income_qualified_customers

The incentive is provided for systems up to 40 kW or 120 percent of on-site consumptions for single-family households for a period of ten years after installation. Payout is not provided until installation is complete.[145]

The program is funded by Xcel's Renewable Development Fund, through a surcharge on electric rates. Up to $10 million is approved for 2019 and 2020, and $5 million for 2021. Ten percent is earmarked for low-income projects, but the program planned for 20 percent spent on low-income projects in 2019. Xcel receives the RECs produced by the panels and uses those RECS to meet its obligations under MA's Renewable Energy Standard.

MN does not provide a list of vetted installers, but does provide standards for the installers.

Other MN utilities have similar incentive programs, but Xcel is the only one that uses a portion to specifically target low-income households.[146]

Mississippi

Mississippi developed a program in 2015 to compensate households for electricity generation. Electricity used by the customer is credited at the retail rate. Additional generation is credited on an instantaneous basis at the utility's wholesale avoided cost plus a premium of $0.025 per kWh. This is lower than the retail cost of electricity. Low-income customers with income at or below 200 percent of the FPL whose utility is Entergy Mississippi or Mississippi Power, the two largest investor-owned utilities, receive an additional $0.02 per kWh. This is provided to the first 1,000 qualifying low-income customers for 15 years.

The residential system size can be up to 20 kW. The RECS for the additional generation that receive the adder are transferred to the utility. Third party ownership is permitted through leasing but not PPAs.[147]

New York

New York's Affordable Solar Program, launched in October 2015, provides incentives to installers to target households with income at or below 80 percent of AMI.[148] Rebate levels decline as installation landmarks are met, and vary by region. The program requires minor low-cost energy efficiency upgrades to the home. They also offer on-bill recovery loans and smart energy loans of $1,500 to $25,000 for terms of five, ten, or 15 years.

NY Sun's Quality Assurance process includes document review and field inspections for a sample of completed projects. Installers are recognized as "Quality Solar Installers" if they are in good standing and have achieved an average inspection score of four out of five for the previous calendar year. These installers are denoted on the NY-Sun website and are given a specialized logo that can be used in their marketing materials.

[145] Al-Shabbi, Hatham.
[146] https://www.solarpowerrocks.com/affordable-solar/affordable-solar-power-for-low-income-families-in-minnesota-the-2019-update/
[147] https://programs.dsireusa.org/system/program/detail/5841
[148] Al-Shabbi, Hatham.

In 2019, NYSERDA requested that $135 million be dedicated to Solar Energy Equity focused on low-to moderate income customers, affordable housing, environmental justice communities, and disadvantaged communities, to be defined at a later date. Coupled with additional funding, they expect that at least $200 million will be available to support these groups. With initial funds remaining, this results in annual commitments of at least $34 million through the end of 2025.
Through the end of 2019, 518 LMI residential onsite projects had been completed, and an additional 49 were in the pipeline. There are 85 solar installers that have used the added incentives to serve LMI homeowners.

The NY-Sun Program introduced the Multifamily Affordable Housing Added Incentive in June 2018. While 41 projects had been completed, an additional 51 were in the pipeline in 2019.

NYSERDA filed a plan for a Low-Income Community Solar initiative in December 2017. Solar for All provides no-cost community solar subscriptions to low-income New Yorkers for ten years. In 2018, eight projects began delivering electricity to almost 1,200 low-income households. An additional 1,200 households are enrolled and waiting for project availability.

An impact evaluation of the NY-Sun Program is under way and expected to be completed in the second quarter of 2018.[149]

Oregon
OR has two low-income solar programs.

- The Oregon Department of Energy Program launched in 2020 provides rebates to low-income households and to service providers.
- The Solar Within Reach Program provides incentives for rooftop solar to low- to moderate-income households.

Oregon Department of Energy Low-Income Solar Program
The Oregon Department of Energy (ODOE) launched a solar program in 2020 that provides rebates for low- to moderate-income residential customers and low-income service providers. Low- to moderate-income residential projects can receive up to 60 percent of the net cost, capped at $5,000 and can also receive up to $2,500 for energy storage. Households are eligible if they are eligible for an income-limited program offered by state or local public agencies or non-profit organizations. ODOE will verify eligibility with the administering agency.

Low-income service providers can receive up to 50 percent of net cost capped at $30,000 for solar and $15,000 for energy storage. These service providers include the following.

- Developers/owners of affordable multifamily housing that are eligible for public assistance administered by OR Housing & Community Services.

[149]NY-Sun Annual Performance Report through December 31, 2019. NYSERDA. Final Report, March 2020. https://www.nyserda.ny.gov/About/Publications/Program-Planning-Status-and-Evaluation-Reports/NY-Sun-Performance-Reports

- Community service organizations with the primary purpose of offering health, dental, social, financial, energy conservation, or other assistive services to households below state median income.
- A tribe or local government entity such as a city, county, or school district that uses public buildings to provide services to low- or moderate-income individuals, or to provide emergency shelter and/or communications in disaster situations.

Systems must be installed on Oregon property, by an ODOE-approved contractor.[150]

Oregon Solar Within Reach Program

Oregon's Solar Within Reach Program, administered by the Energy Trust of Oregon, provides incentives for rooftop solar to low-income homeowners (with specific income levels). The customer is defined as low- to moderate-income if eligible for an income-limited program offered by state or local agencies or nonprofit organizations. The program provides $1.50 per watt with a $9,000 maximum incentive per home.

The Energy Trust has qualified contractors for the program. Homeowners must contact the qualified contractors to obtain a bid and apply for the program. They also provide an online bid request form which Energy Trust will use to match the customer with qualified solar contractors in the customer's area.

The contractors submit the paperwork to the Energy Trust. Incentives are paid to the contractor, who deducts the incentive amount from the invoice.[151]

B. Program Elements

This section compares aspects of the programs where data were available.

Program Types

Tables VIII-4A through VIII-4C provide information on the types of programs offered – single-family, multi-family, community solar, and other non-profit and public facility type programs.

Table VIII-4A
LMI Solar Single and Multi-Family Programs

State	CA		CO	CT	DC	HI	MA		MN	MI	NY	OR	
Program	SASH & DAC-SASH	MASH	Rooftop	RSIP	Solar for All	GEMS	SMART	Solar Loan	Solar Rewards	Elec Gen	Afford-able Solar	ODOE	Solar within Reach
Single-Family	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Multi-Family		Yes			Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	

[150] https://envirocenter.org/going-solar-in-2020/
[151] https://www.energytrust.org/incentives/solar-within-reach/#tab-two

Table VIII-4B
Community Solar Programs

CO		DC	HI	MA		MN	NY
Solar Garden	Low-Income Community Solar	Solar for All	GEMS	SMART	Solar Loan	Solar Rewards	Solar for All

Table VIII-4C
Other Solar Programs

State	DC	HI	MA	MN	OR
Program	**Solar for All**	**GEMS**	**SMART**	**Solar Rewards**	**ODOE**
Type	Library	Nonprofits Small Businesses Commercial Tenants	Public Entity	Nonprofits Government Agencies	Community Service Organizations City County School District

Program Budget

Table VIII-5 displays the program budgets. Budgets are not included in the table where there was not a set amount of funding for the LMI programs. The ILSFA budget, with up to $20 million per year for seven to eight years and an additional $10 to $11.7 million in funding from utilities annually, is one of the better-funded programs as compared to those listed in the table.

With an annual budget of $6.52 per IL household and $21.6 per LIHEAP-eligible household in IL, the ILSFA has a higher per household budget than all of the other programs except DC. This is true even after subtracting the 15 percent allocated to the NP/PF sub-program.

The ILSFA DG budget is approximately $1.72 per IL household and $5.70 per IL LIHEAP-eligible household. If all of the 25 percent allocated for 1-to-4-unit buildings is used for that segment, this allocates $0.43 per IL household for single-family DG and $1.29 per IL household for multi-family DG, and allocates $1.43 per IL LIHEAP-eligible household for single-family DG and $4.28 per IL LIHEAP-eligible household for multi-family DG.[152]

[152]IL had 4.865 million households and 1.468 million LIHEAP-eligible households.

Table VIII-5
LMI Solar Budgets

State	CA			CO	DC	MA	NY
Program	**SASH**	**DAC-SASH**	**MASH**	**Low-Income Community Solar**	**Solar for All**	**Solar Loan**	**NYSERDA Solar Energy Equity**
Budget 1 (millions)	$108.3	$10 Annually	$108.3	$3.2	$20-$45 Annually	$30	$34 Annually
Time Period 1	2009-2015	2019-2030	2008-2019	2016	FY17 – FY19	2015-?	2019-2025
Budget 2 (millions)	$54		$54				
Time Period 2	2015-2021		2015-2018				
# of Households*	13,072,122			2,176,757	287,476	2,624,294	7,367,015
Annual Budget per Household in State	$0.59	$0.76	$1.03	$1.47	$113.05***	-	$4.62
# of LIHEAP Eligible Households**	3,708,530			573,289	82,290	849,796	2,355,971
Annual Budget per LIHEAP-Eligible HH	$2.08	$2.70	$3.64	$5.58	$394.94***	-	$14.43

* Source: 2018 ACS Single-Year Estimates
** Source: LIHEAP Data Warehouse FY 2018
*** The annual budget is set at $32.5 million for this cell, the midpoint of $20 and $45 million

Funding Source

Table VIII-6 displays the funding source for each program.

Table VIII-6
LMI Solar Funding Source

State	CA		CO		DC	HI	MA		MN
Program	**SASH & MASH**	**DAC-SASH**	**Low-Income Comm. Solar**	**Rooftop**	**Solar for All**	**GEMS**	**SMART**	**Solar Loan**	**Solar Rewards**
Source 1	PG&E, SCE, SDG&E Ratepayers	Utility Greenhous Gas Allowance Revenues	CO Energy Office	WAP	Renewable Energy Dev. Fund. Electric Supplier Compliance Fees	Hawaiian Electric, Maui Electric, Hawaiian Electric Light Company Rate-payers	Eversource, National Grid and Unitil Ratepayers	MA RPS Alt. Compliance Payments	Xcel Ratepayers
Source 2	Grid Fundraising		Utilities	Excel Rate-payers					

Eligibility Requirements

Table VIII-7 displays the income, home ownership, and home type eligibility requirements for each program where data were available. Some of the programs have more extensive

eligibility requirements which are summarized in the section above, but are not included in the table.

- Most of the programs have income eligibility set at 80 percent of Area Median Income (AMI) or 200 percent of the Federal Poverty Level (FPL).
- Less than half of the programs require home ownership.
- Some of the programs are only for single-family or multi-family homes.

Table VIII-7
LMI Solar Eligibility

State	CA			CO	CT	DC	HI	MA	MN	MS	NY	OR
Program	**SASH**	**MASH**	**DAC-SASH**	**Rooftop**	**Solar for All**	**Solar for All**	**GEMS**	**Solar Loan**	**Solar Rewards**	**Gen Credits**	**Afford-able Solar**	**Solar Within Reach**
Income	80% AMI	80% below 50% AMI	200% FPL	WAP/ 200% FPL	100% AMI	80% AMI	140% AMI	80% SMI	200% FPL	200% FPL	80% AMI	--
Home Owner Required	Yes		Yes	Yes	Yes							Yes
Home Type	Single	Multi	Single	Single	Single			1-4 unit	Single, Multi			

Environmental Justice Communities

The only reviewed program other than the ILSFA to specifically limit eligibility to Environmental Justice communities is the CA DAC-SASH program. This program requires that 25 percent of the proceeds from CA's Cap and Trade program are allocated to improve environmental issues and increase the use of renewables in communities most burdened by public health, housing, and economic crises. CalEPA is responsible for identifying those communities. They use the CalEnviroScreen to determine the census tracts that are included in the Disadvantaged Communities list.[153]

The CalEnviroScreen Model uses 20 statewide indicators of pollution burden and population characteristics that are believed to be related to increased vulnerability to the health impacts of pollution. The indicators relate to exposure to pollution, environmental conditions caused by pollution, populations that are sensitive to pollution exposure, and community characteristics that result in increased vulnerability to pollution.[154]

[153]Al-Shabbi, Hatham.
[154]CalEnviroScreen 3.0 Factsheet.
https://oehha.ca.gov/media/downloads/calenviroscreen/fact-sheet/ces30factsheetfinal.pdf

Job Training

As in the ILSFA Program, the California programs and the DC Solar Works program, specifically require job training opportunities.

- CA SASH and DAC-SASH: Job training is required at every installation.
- CA MASH: The contractor must provide at least one student or graduate of a job training program with at least one full paid day of work for each 10 kW of system size up to 50 kW.
- DC Solar Works: Aims to train more than 200 District residents.

Utility-Specific Programs

Several of the states whose programs are IOU ratepayer-funded limit eligibility to customers of the IOUs. Depending on the percentage of the state's population that is served by non-IOU utilities, such a limitation can result in ineligibility for a potentially significant part of the LMI population. The programs below provide utility-specific eligibility.

- CA SASH, MASH, and DAC-SASH: Electrical service from Pacific Gas & Electric (PG&E), Southern California Edison (SCE), or San Diego Gas & Electric (SDG&E)
- CEO Rooftop: Xcel Energy
- CO Community Solar Garden: Xcel Energy and Black Hills Energy
- CO Low-Income Community Solar Demonstration: Conducted with eight non-regulated utilities.
- HI GEM$: Hawaiian Electric, Maui Electric or Hawaiian Electric Light Company
- MA SMART: Eversource, National Grid, and Unitil
- MA Solar Loan: IOU's or Municipal electric utilities
- MN Xcel Energy Solar Rewards: Xcel Energy
- MI: Entergy Mississippi and Mississippi Power

Incentives

Table VIII-8 displays the incentives for each program where data were available. Some of the programs have more complicated incentive designs which are summarized in the section above, but not included in the table. The ILSFA pays $143.09 per REC (1,000 kWh) for a 15-year period on a 1-4 unit DG system sized up to 10 kW. This is a higher rate per kWh and a longer time horizon than the other documented programs.[155] However, the participant benefit also depends on the state's net metering policies and the electric costs. IL has lower electricity costs than many of the other areas examined, so the energy value for the electricity produced by the systems in IL will be lower.

[155] A 7.5 kW system with a 16.42 percent capacity factor would generate 10.7 RECs per year or 161 RECs over 15 years (not factoring in degradation). With an incentive of $143/REC, this is a subsidy of $23,023 or $3,069 per kW. This rate compares favorably to the other incentives recorded in the table.

Table VIII-8
LMI Solar Incentives

State	CA		CO	CT	MA	MN	NY	OR	
Program	**SASH & DAC-SASH**	**MASH**	**Rooftop**	**Solar for All**	**SMART**	**Solar Rewards**	**Affordable Solar**	**ODOE Rebate**	**Solar Within Reach**
Per kW	$3,000	$1,800	$2,000			$2,000			$1,500
Max	5 kW	1,000 kW				120% of usage			6 kW
Per kWh			$0.034	$0.081	$.102	$.07			
Fixed			$3,545					$5,000	
Time Period				6 Years	10 Years	10 Years			

Minimum Savings Goal/Expected Savings

The ILSFA Program specifics the minimum customer savings from the project. Table VIII-9 summarizes the minimum or expected savings for the reviewed programs.

Table VIII-9
LMI Solar Minimum or Expected Savings

State	CA	CO			DC	HI
Program	**SASH & DAC-SASH**	**Rooftop**	**Solar Gardens**	**Community Solar Demonstration**	**Solar for All**	**GEMS**
Minimum	50% of Bill				50% of Bill	10% of Bill
Expected		$400 Annually		50% of Bill		
Estimated			20%-70% of bill			

System Ownership

Table VIII-10 displays the types of system ownership that are permitted for each program where data were available.

Table VIII-10
LMI Solar System Ownership

State	CA		CO	CT	DC	MA
Program	**SASH & DAC-SASH**	**MASH**	**Solar Garden**	**Solar for All**	**Solar for All**	**Solar Loan**
Applicant	Yes	Yes				Yes
Third-Party	Yes	Yes	Yes	Yes	Yes	
Utility			Yes			

System Size

Table VIII-11 displays the system sizes that are permitted for each program where data were available and the average size or system share for community solar.

Table VIII-11
LMI Solar System Size

State	CA		CO		
Program	**SASH & DAC-SASH**	**MASH**	**Rooftop**	**Solar Garden**	**Community Solar Demonstration**
Min	1 kW	1 kW			
Max	5 kW	1,000 kW	3.5 kW		
Average Installed	3.1 kW		3 kW	2.55 kW	3.5 kW

Energy Efficiency Requirements

Table VIII-12 summarizes the energy efficiency requirements for LMI participants. The ILSFA enabling legislation required that the ILSFA Program integrates with existing energy efficiency initiatives but the Long-Term Plan only states that the IPA and Elevate Energy will educate Approved Vendors about programs and sources of funding.

Table VIII-12
LMI Solar Energy Efficiency Requirements

State	CA		CT	MA	NY
Program	**SASH & DAC-SASH**	**MASH**	**Solar for All**	**Solar Loan**	**Affordable Solar**
Education	Yes	Yes			
Program Referral	Yes	Yes			
Audit	Yes	Yes	Yes	Yes	
Installations	Yes	Yes			Yes

Additional detail on these requirements is provided below.

- CA SASH/ DAC-SASH: SASH applicants participate in energy efficiency education and training sessions provided by GRID. GRID works with the Energy Savings Assistance Program (ESA) to streamline enrollment for SASH clients. Customers must enroll in ESA if they are eligible. GRID is responsible for ensuring that incentives are not paid until feasible ESA Program measures are completed, the participant is on the waiting list for the ESA, or an energy efficiency training and education session is completed.
- CA MASH: Required that properties have an energy efficiency walkthrough audit or enrollment in an energy efficiency program, completion of an Energy Efficiency disclosure form, and referral of tenants to ESA.
- CO CS Demonstration: Fort Collins utilities mandated that community solar participants also participate in energy efficiency upgrades and education. Holy Cross energy worked with GRID, CEO's weatherization assistance program, and local partners to ensure that

clients receive energy efficiency education and services. San Miguel Power Association required community solar participants to have gone through their weatherization program or through WAP. Yampa Valley Electric Association will work with GRID, WAP, and local partners to ensure that clients receive energy efficiency education and services.

- CT Solar for All: Customers are required to have an audit to receive the incentive. PosiGen provides low-cost energy efficiency services in conjunction with solar installations through the utility's Home Energy Solutions program. The cost of more extensive energy efficiency measures can be included in the solar lease.
- MA Solar Loan Program: Homes are required to have had a residential energy audit within the past five years or have one scheduled at the time of loan closing. They also require that the project owner receives an owner's manual and that owners are provided with at least a basic training orientation that includes maintenance instructions, troubleshooting, meter reading, and electric production reporting instructions. Owners should also be informed of opportunities to sell SRECs or to participate in any successor program.
- NY Affordable Solar Program: Requires minor low-cost energy efficiency upgrades to the home.

Quality Control

A few programs specified the quality control requirements in the available materials.

- CA SASH: One in 12 installations must be inspected by an independent third party.
- CA DAC-SASH: One in 12 installations must be inspected by an independent third party. Initially, all subcontractor installations will receive a third-party inspection.
- CA MASH: All systems must be inspected.
- MA Solar Loan: The program has a sampling protocol to select specific completed projects for quality assurance. Inspection frequency is based on the status of the installer and subcontractor and the results of any previous inspections. Non-expedited installers have 100 percent of their jobs inspected until they show they have met program requirements.
- NY Affordable Solar: NY Sun's Quality Assurance process includes document review and field inspections for a sample of completed projects. Installers are recognized as "Quality Solar Installers" if they are in good standing and have achieved an average inspection score of four out of five for the previous calendar year. These installers are denoted on the NY-Sun website and are given a specialized logo that can be used in their marketing materials.

C. Advantages and Disadvantages

This section provides a discussion of the advantages and disadvantages of various design parameters employed in LMI Solar Programs.

Offering Types

Several types of programs can furnish benefits to low- and moderate-income households. Programs that provide multiple offerings are more likely to provide an opportunity for a greater percentage of LMI households to receive the benefits of solar.

- Single-Family Distributed Generation / Rooftop Solar: Program implementers have found that it can be extremely challenging to obtain participation by LMI households in single-family rooftop solar programs. Barriers that are unique to this program type include housing issues that prevent or impede installations. These barriers can include roofing issues, other structural problems, electrical barriers, shading, and orientation. Due to these problems, many LMI households cannot participate in rooftop solar. Additionally, because of the relatively small scale of these installations, participants cannot benefit from the economies of scale that are seen in large multi-family projects or large community solar projects.

  The advantages of this program type is that it provides a tangible benefit to participants and concretely demonstrates that solar is accessible to households at all income levels. The panels can add to the home value and provide an ongoing stream of savings to LMI households. However the programs should require that installers take responsibility for system performance and maintenance to ensure that benefits continue to flow to LMI participants.

- Multi-Family Rooftop: Programs that provide incentives for multi-family installations extend benefits to a wider range of LMI households. If households receive individual electric bills (rather than mass-metered), they can receive a share of the benefits based on their electric usage. However, even if the building is mass-metered, multi-family building tenants can still benefit from solar through a rent credit or other amenities provided by the building management. Large buildings and installations can provide economies of scale needed to reduce program cost and have a large impact on the grid.

  Benefits from multi-family solar may be less direct for participants because they are unlikely to have a direct relationship to specific panels. They may view the project as just another building amenity and not have a complete understanding of how the panels impact their bills if they do not have direct electric billing. Additionally, if the building is an affordable housing project, the tenants may not be able to benefit if their utility and housing credit is required to remain at 30 percent and any reductions in utility costs will result in rent increases.

- Community Solar: Community solar programs are valuable because they can provide the benefits of solar to any household whether they are in single-family homes, multi-family homes, are homeowners, are renters, pay their bill directly, or live in mass-metered properties. Because of the variety of approaches that can be employed, practically any LMI households can reap the benefits from this model. Additionally, large community solar projects can benefit from economies of scale. A disadvantage of this model is a less direct connection to solar, especially if the arrays are not located in the same community as the participants.

- Non-Profits and Public Facilities: Only a few programs were reviewed that provide incentives to organizations that serve LMI households. Providing installations on these buildings reduces the energy cost for the organization and frees up additional resources to provide more services to LMI households. These organizations may have an easier time adopting solar than low-income households because they have long-term occupancy, more financing options, and can host larger solar systems with benefits resulting from the economics of scale. These organizations may be more likely to have the capacity to invest in building improvements if needed prior to solar installations. They can also partner with a third party to obtain the benefits of federal and state tax credits.[156] However, the connection to LMI households is less tangible as compared to programs that provide credits directly on customers' electric bills.

Funding Source

Most of the programs used ratepayer contributions to provide the funding for the LMI incentives. However, other programs received funding from LIHEAP or WAP, corporate donations, and through in-kind volunteer labor.

- Ratepayer Funding: This source can provide a large and lasting base for long-term and sustained LMI solar incentives to develop the market and have a large impact on affordability and environmental concerns. However, the funding can be subject to raids when state budgets are facing challenges.

- Bill Subsidies: Another method for using ratepayer funding to subsidize LMI solar is for utilities to use their low-income bill subsidies to fund community solar subscriptions. While funding held by the utilities can be more difficult to transfer to the state, this method may make it more difficult for customers to understand the benefit that they are receiving from the solar installation.

- LIHEAP/WAP: LIHEAP and WAP funding can ensure that benefits are directed to the lowest income households, typically at or below 200 percent of the FPL. The programs can benefit due to cross-program referrals that provide automatic income verification. Additionally, they can use pre-screened lists of eligible households with solar-ready homes (screened during WAP installations), or may be able to provide additional funding for health and safety repairs that are needed for rooftop solar installations.

  However, LIHEAP and WAP can face significant challenges in developing a plan that is accepted by the state and federal programs. For WAP, DOE must also approve each project. These programs also usually cannot provide sufficient funding for an LMI household to participate without additional types of support. DOE WAP benefits were capped at $3,598 per PV system in 2017. These funds have not yet been used for installing solar on multi-family housing.[157]

[156] Bringing the Benefits of Solar Energy to Low-Income Customers.
[157] Cook, Jeffrey J, and Lori Bird.

- Community Reinvestment Act: Banks may be willing to use their Community Reinvestment Act (CRA) funds to invest in community solar and donate subscriptions to LMI customers. The bank can take a tax deduction for the donation while meeting their CRA requirements.

- New Markets Tax Credit: Project developers can use this tax credit to lower the cost of community solar subscriptions. The 39 percent tax credit is realized over a seven-year period. This credit applies to investments in businesses where the poverty rate is at least 20 percent or where median family income does not exceed 80 percent of the AMI.

Administration

LMI solar programs are typically run by a state office or by a utility company. There are advantages to each approach.

- State Office: Programs run by a state office can provide equal opportunities to all LMI households throughout the state and have a clear focus on the success of the program without conflicts of interest that may appear if run by other entities. State offices may have data on other LMI energy program participation that can be used to target LMI households for participation. However, they will not have the level of data that the utility has and the office may be unknown to potential program participants.

- Utility: Utilities have the advantage of knowing their customers, their energy usage, their participation in other LMI energy programs, and their bill payment history. As such, they can target the desired customer segments with program marketing and qualify LMI households based on other program participation. Utilities have often developed trusted and long-lasting relationships with their customers and the households are used to receiving energy information from their utility. When the utility runs the program, it can be seamless for the company to provide on-bill financing or consolidate community solar subscriptions onto the utility bill, creating convenience for the customer, as well as a better understanding of how the solar program impacts the electric bill. The utility can also serve as a backup subscriber for community solar programs if some of the LMI subscribers move or drop out for other reasons.

  However, the utility can potentially have conflicts of interest that can prevent the program from generating the greatest success. For example, depending on how interconnection costs are structured, the utility may encourage installations where additional grid investment is needed and charge the participant for high interconnection costs.

Program Driver

LMI solar programs can be designed so that they are market-driven or so that they are program-driven.

- Program-Driven Designs: This type of program would be implemented by a company or organization that was responsible for recruiting customers to participate, and possibly for sourcing solar installers. For example, GRID Alternatives enrolls customers in the SASH program and either installs the system or contracts with another installer to do the construction. While this model has been successful in building awareness of the program

and completing thousands of installations, it has not contributed to the development of a low-income solar marketplace where solar vendors independently market their services to the LMI market segment.

- Market-Driven Designs: The ILSFA Program is a market-driven program. Vendors must be approved by the program administration. However, once approved, they are responsible for marketing their services to LMI households, property managers, or non-profit institutions. The initial program experience has shown that it is challenging for solar vendors to market to individual LMI households for rooftop installations. However, if successful, the program will help to develop solar vendors who have experience and knowledge in marketing and installing solar for LMI households. While this program may be more challenging to get off the ground, it may have greater long-term potential if it successfully transforms the LMI solar market.

Marketing

Marketing solar to LMI households, property managers, non-profits, and potential community solar subscribers can be a challenging aspect of the program. There can be a lack of trust among LMI households, especially when a program benefit appears too good to be true. Various strategies have proven to be successful.

- Trusted Partners: Working with partners that have already earned the trust of LMI households can be an important component of marketing success. Such partners include organizations that have provided other benefits to these households such as local Community Action Agencies or neighborhood organizations.

- Utility Marketing: Utilities are also trusted by their customers and have the data on LMI energy programs that can be used to generate leads and verify eligibility. However, the utility may not have experience marketing to the LMI segment if they don't have other LMI programs or if they contract marketing for the LMI programs to other organizations or contractors.

- Solar Vendors: These companies should have the most in-depth understanding of the program and how customers can benefit. Unless they are a new company, they also will have had experience marketing solar energy, explaining how it works, and describing all of the potential benefits. However, these companies may not have experience marketing to LMI households, will not have access to households' income eligibility, and may not have sufficient resources to market the programs. Additionally, they may not be known or trusted in the LMI community.

- Affordable Housing Property: Property managers could host a solar array and coordinate tenant subscribers to ensure that the solar array has the required percentage of LMI subscribers. When tenants move out, the manager may be able to recruit new tenants to replace the departing subscribers.

Community Solar Project Siting

There are many factors to consider when determining optimal locations for community solar installations.

- Utility Service Territory: If the siting is only restricted to the utility's service territory, the developer has greater flexibility for choosing a location that can provide needed partnerships, community buy-in, and other sought-after characteristics. However, if the siting is not within the LMI community, the community solar installation may be less visible and tangible to potential subscribers. As a result, it may have lower subscription rates, and have greater costs for obtaining LMI subscribers.

- LMI Neighborhoods: Projects that are sited within LMI neighborhoods can improve the visibility of the project, increase the LMI community's sense of ownership, and encourage LMI household job training and employment. Locating in an LMI community can create greater benefits for the community. Additionally, siting in the LMI neighborhood can also create environmental benefits by reducing the use of gas-fired plants near LMI communities.

- Brownfields: This land does not have many other potential uses, and locating community solar on these locations can preserve existing green fields and potentially reduce costs. However, the permitting for the project may take longer and the project development costs could be higher.

- Grid-Focused: The project could be sited in a way to maximize grid benefits by avoiding congestion or in conjunction with other grid improvements.

- Public or Donated Land: This can reduce costs, but may have other restrictions.

- Affordable Housing: Rooftop siting on these buildings can reduce costs for leasing or purchasing land, but installation costs could be higher if roof repairs are needed.

Income Eligibility

Most of the programs that were reviewed set eligibility at 80 percent of AMI (as does the ILSFA Program) or 200 percent of the FPL. The 80 percent of AMI standard usually allows higher-income households to participate, whereas the 200 percent of FPL standard is more limited and similar to the LIHEAP and WAP eligibility levels. Other programs set eligibility based on participation in other programs.

- Income: Lower income standards will ensure that the households with the greatest need for assistance benefit from the program. However, these households may not receive as much benefit if they cannot claim the federal tax deduction because they lack enough tax liability. Additionally the lowest income households that participate in electric bill payment assistance programs that reduce their cost per kWh will not benefit as much from credits towards the kWh produced by the system. Additionally, limited participation to the lowest income group may make it more difficult to find participants who have suitable roofs or who are willing to participate in community solar.

- Program Participation: When LMI solar program eligibility is based on participation in other LMI programs, there is clear direction on who is eligible without additional verification required. As mentioned above, however, customers who participate in electric bill discount programs that reduce their retail rates will receive a lower benefit from the savings per kWh produced or credited for through net metering.

Ownership

Some of the programs restricted project ownership to applicants or to third parties, while other programs did not restrict the ownership type.

- Applicant Ownership: When the LMI applicant is the owner, the LMI household can potentially receive greater benefits from the installation if they take advantage of the program incentive or RECs, net metering, and the Federal tax credit. However, LMI households may not have enough tax liability to benefit fully from the tax credit. Additionally, more responsibility may be placed on the LMI household for system maintenance.

- Third Party Ownership: Under this type of ownership, the LMI household has system maintenance taken care of and is not responsible for equipment risk. Additionally, the LMI household can have no upfront investment and can transfer the service to the new owner if the home is sold. The third-party owner may have the ability to more fully benefit from the tax deduction and can share that benefit with the LMI participant. However, the participant may not receive as much benefit from the installation and the program should ensure that sufficient benefit is provided to the LMI household.
    - Third-Party Leasing: Under this system, the third party leases the roof from the LMI household and pays the household for the electricity that is produced. More security can be provided to the LMI household if the third party provides a guarantee that the LMI household will be paid for at least a minimum amount of power.

    - Power Purchase Agreements: Under this type of agreement, the developer arranges for the design and installation of the system and sells the power that is generated to the customer at a fixed rate below the retail rate.

Community Solar LMI Carve-Out

Community Solar programs sometimes specify the minimum percent of subscriptions that must be owned by or benefit LMI households.

- Minimum Target: Providing some minimum level ensures that at least some LMI households will benefit from the solar installation. However, it can be difficult for subscription managers to maintain a set level of participation, as LMI households may default or move. Additionally, a minimum requirement may serve as an artificial limit on LMI subscribers if developers treat that target as the maximum as well. This may be the case because it can be significantly more expensive for developers to obtain and maintain LMI subscribers. A flexible anchor tenant that can increase or reduce its share as needed can help to overcome this problem. For developers that have multiple projects, a portfolio-

level requirement rather than a project-level requirement can provide more flexibility and make it easier for the developer to meet or exceed the target.

- 100 Percent LMI Subscriptions: Requiring that the project is fully subscribed by LMI households can result in greater linkages with other LMI programs and marketing can be targeted toward those customers. However, this can create greater risk and higher costs for the developer who cannot have anchor tenants or other non-LMI tenants absorb some of the higher cost of recruiting LMI subscribers. Anchor tenants can reduce risk and cost and may be able to provide land or rooftop space for the system.[158]

Savings Level/Incentive Amount

Program designers need to assess the level of incentive that LMI households require to participate in solar. Some programs target a minimum participant benefit level, such as 50 percent of the LMI household's electric bill. Others specify a set annual benefit level. The savings needs to be high enough to encourage LMI households to participate. Yet, the total benefit must be sufficient to encourage vendors to participate if it is a market-driven program. Higher benefits should yield faster and higher participation, but will reduce the total number of systems, number of LMI participants, and amount of solar energy that can be produced.

Incentive Types

Incentives are sometimes structured as a flat incentive per system or per kW installed, a production-based incentive, or a subsidized loan, potentially with a loan loss reserve.

- Direct Cash Incentives: A flat incentive amount that may be related to the size or cost of the system can fill the gap between the system cost and what the LMI household can afford. Such a structure may allow the LMI customer to take direct ownership of the system. However, an upfront payment by the program does not provide for ongoing monitoring of the system production or ensure that the system is maintained and continues to produce. These requirements would need to be specified separately.

- Production Based Incentives: These incentives pay an amount per kWh produced for a set period of time. Owners may be required to demonstrate actual production to receive payments. Such a system provides an incentive to maintain the system and furnishes a better understanding of actual power produced over time as the system degrades.

- Low-Interest Loans: Programs can be more accessible to LMI households if they offer no money down options. However, LMI households may not have the credit score necessary to obtain the loan and may be wary of taking on debt given their uncertain financial situation.

- Loan Down Payment Reduction: Programs may also provide a reduction in the down payment required by the participant or structure the loan so that no down payment is required. However, there may still be challenges for LMI households.

[158]Heeter, Jenny et al. Design and Implementation of Community Solar Programs for Low- and Moderate-Income Customers. National Renewable Energy Laboratory. December 2018.

- Loan Loss Reserves: Some loans set aside funds to cover losses incurred over the life of the loan. This element can reduce the credit risk associated with LMI customers, increase the probability that these customers will receive loans, and help these customers to develop better credit histories.

Customer Contributions

Customers sometimes have no contribution to the solar installation, sometimes have no upfront payment but have payments once the system starts producing, and have various ongoing repayment structures.

- On-Bill Financing: This payment method can be coordinated with various incentive structures. It provides the participant with one bill for the energy costs and any solar installation costs or contributions. Participants' bill savings can offset the additional charges and result in a net bill reduction. However, utilities may need to update their billing systems to provide this option.

- Upfront Payments: Many programs structure the project financing so the LMI participant has no upfront payment for the system or subscription. LMI customers are expected to be more interested in these types of payment structures.

- Alternative Underwriting Criteria: Some programs have used methods other than the traditional underwriting use of the credit score to determine creditworthiness. One example is the utility bill payment history. This could expand the number of LMI customers who are approved for a lease, loan, or as potential community solar subscribers.

Community Solar Turnover

One of the challenges in LMI community solar is subscribers dropping out and the need to find additional LMI subscribers. Various methods have been implemented to reduce subscriber turnover.

- Prepaid Subscriptions: Funding that pays for LMI subscriptions for a set period of time, such as 15 years, can reduce subscriber nonpayment, default, and turnover. However, these subscriptions would need to be reassigned if the customer moved out of the subscription territory.

- Housing Authority Management: The housing authority can manage subscriptions and pass benefits on to tenant subscribers. When there is turnover in renters, the management can reassign benefits to new tenants. This also addresses the default issue, but there can be challenges with crediting customers, and this imposes a burden on housing authority staff.

- Anchor Tenant: The anchor tenant could increase its share intermittently when needed to make up for the loss of LMI subscriptions. For example, utilities, churches, and cities could serve as backup subscribers.

- Longer Subscriber Contract: Longer contracts can potentially reduce turnover and subscription management costs. However, they may pose barriers to marketing as LMI customers may be wary of a long-term commitment.

- Eligibility Renewal Requirement: This requirement ensures that the community solar installation continues to have a certain percentage of LMI subscriptions, but it poses additional costs on the manager and can cause the project to lose subscribers, even if the subscribers remain eligible but fail to provide verification when requested.

D. Best Practices

This section provides an assessment of best practices for LMI solar programs. Only a few of the reviewed programs have had comprehensive evaluations and the programs differ on many parameters, so it can be difficult to compare the programs' effectiveness. However, where possible, we provide our assessment of best practices based on experiences described, knowledge of low-income energy issues, and research on low-income energy efficiency programs. There are several areas where alternatives have advantages and disadvantages, and it is not possible to draw a conclusion about best practices with the information that is currently available on LMI solar programs.

Many low-income solar programs are new and it is not clear what will work best in different jurisdictions. Therefore, it is important for programs to have the flexibility to adapt based on experiences in the specific market where they are implemented.[159] Programs that have significant details or requirements written into the law or into a plan that must be modified prior to changes being made will have less flexibility to make adjustments. The ILSFA Program has limited flexibility because of the detail written into the Future Energy Jobs Act and into the Long-Term Plan that requires modification for program revisions to be made.

Program Types

Each program type reviewed – single-family, multi-family, community solar, and non-profit and public facility – has benefits for different segments of the LMI population. They each serve different segments of the LMI population and meet different goals. Therefore a program that offers all of the different program types can most effectively serve the full LMI population.

The ILSFA Program has all of these program types and provides the potential for all LMI households to participate.

Budget and Funding Sources

Most of the programs are funded through ratepayer charges, and these sources generally provide large and sustained program funding. The programs take time to develop and get traction in the market from the perspective of solar installers and participating customers. Therefore significant and sustained funding can create the confidence needed for installers to invest in understanding rules and developing systems, and for customers to develop

[159]Bringing the Benefits of Solar Energy to Low-Income Customers.

information over time and know others in their community who have participated. Examples of programs with significant and sustained funding are the CA SASH and MASH programs, and they have succeeded in achieving significant LMI solar installations.

The ILSFA Program plans to provide up to $20 million per year for seven to eight years from the RERF and there is an additional $10 to $11.7 million in funding from utilities annually. This funding level and time period compare favorably to the other large and successful programs that have been implemented around the country. This remains true even after subtracting the 15 percent allocated to the Non-Profit and Public Facility sub-program. For example, the CA SASH Program invested an average of approximately $18 million per year from 2009 through 2015 and installed 5,266 projects totaling 16 MW. Potential solar vendor and household participants should be confident in the sustainability of the ILSFA Program.

Marketing

One common theme throughout the literature on LMI solar programs is the need to work with organizations that have already developed trust in the community. This is important because of the skepticism toward energy suppliers based on previous experience with unscrupulous firms and because LMI households may be uneasy about solar if they don't feel they have sufficient knowledge to make an informed decision.

Partnering with trusted organizations in targeted low-income communities for marketing and outreach is important. This can include groups that conduct low-income outreach and advocacy, community action agencies, utilities, community groups, municipalities, weatherization or efficiency programs, job training programs, housing authorities, local businesses, volunteers, or solar developers.

Because trusted relationships are so important, word-of-mouth marketing can be extremely helpful. Friends and relatives may be more trusted than any other potential marketers. The CA SASH program found that such word-of-mouth testimonials were often the best marketing tool for finding new clients and they used a model where past SASH participants host neighbors and GRID's outreach staff in their homes to promote SASH in their neighborhood.

Another potential best practice is to segment the market based on the households' characteristics. Instead of providing information on all options to all households, this can allow the potential participants to understand how they can specifically benefit from the program.[160]

Adult education research has found that it is important to understand the individual participant's motivation for participation. Whether the motivation is cost savings, consumer protections, or environmental impact, it is important to make that connection and provide the information on specific priorities of the potential participant. Another point is that information should include costs and potential risks as well as benefits, to reduce customer skepticism.[161]

[160]Bringing the Benefits of Solar Energy to Low-Income Customers.
[161]Heeter, Jenny et al.

With respect to community solar, the Colorado Community Gardens program found that it was helpful to get households to sign up for community solar when they moved into their new home. The CO Community Solar Demonstration Project asked potential subscribers to bring income statements and tax returns to informational workshops so that they could sign up while attending the workshop, and this resulted in a high sign-up rate.

The ILSFA has not placed enough emphasis on partnerships with trusted organizations and should increase these relationships in ongoing implementation. This refinement should not require any changes to the law or Long-Term Plan.

Partnerships

Partnerships can be helpful for finding eligible and solar-ready households. Habitat for Humanity has been shown to be a good partner because they are building new homes for the target LMI market and solar can be incorporated into the design of these new homes. Or solar can be installed on previously developed homes that Habitat has constructed.

For example, PG&E in California has worked with Habitat for Humanity since 2005 to incorporate solar into homes built by Habitat in their service territory. PG&E donated $10.6 million in equipment and PG&E staff volunteered 12,000 hours to help build over 600 solar homes. Each house is estimated to save the occupant $500 per year in energy costs.

The Habitat chapter in Traverse City, Michigan built a neighborhood of ten affordable net zero homes. The all-electric homes have 7.4 kW solar systems. Volunteers and future homeowners helped to build the houses, where "sweat equity" is a condition of ownership. The homes were designed with high-performance building envelopes and efficient equipment to significantly reduce energy usage. The design included solar with a south-facing roof, and all obstructions built on the north-facing side. These homes are expected to cost a total of $106 per year in energy bills.[162]

Income Eligibility

Income eligibility that is based on other energy program participation can reduce costs and privacy concerns because income verification is not required, increase marketing success because households have had positive experience with past programs, and serve households in need who have applied for other energy programs.

The ILSFA allows participation in other LMI programs to serve as the income eligibility verification.

Targeting

Program participation can be a good method for targeting solar incentives to households in need, as noted above. LMI households with high electricity consumption are also a good target for LMI programs, but participants should receive energy efficiency services to reduce their consumption prior to the solar installations.

[162]Habitat for Humanity, Grand Traverse Region. U.S. Department of Energy. Energy Efficiency and Renewable Energy. https://www1.eere.energy.gov/buildings/residential/pdfs/doe_ch_case_studies/2016hiawinner_habitatgtr_013017.pdf

The ILSFA could provide guidance to Approved Vendors about potentially good targets for program participation. They could also facilitate more coordination between the ILSFA Program and utility low-income energy efficiency programs and the Weatherization Assistance Program. This would not require a change to the law or the Long-Term Plan.

Environmental Justice Communities

One of the goals of LMI solar can be to benefit communities that have been harmed by energy production contaminants. If this is a goal for a particular program, a best practice is to define and target these communities for LMI solar participation. Two programs, CA DASH and the ILSFA Program were the only two programs found in the literature to include an environmental justice provision.

Consumer Protections

It is important to explicitly state the protections that must be provided to LMI participants to both hold vendors accountable and increase LMI participant trust. Some of the important benefits noted in the literature are summarized below.

- No Upfront Customer Payments: Required payments or fees cannot begin until the project is producing value for the participant.
- Cash Flow Positive: The customer should be cash flow positive throughout participation.
- Meaningful Benefits for Participants: The program should provide a significant reduction in energy cost and/or energy burden. This could be accomplished through a requirement that the participant receives a percentage of the produced energy value after all costs are paid, a percentage reduction in the electric bill, an amount saved per month, or a resulting energy burden.
- No Hidden Fees: All costs are explicitly stated up front.
- Price Escalation: Participants' payments cannot increase over the term of the contract or not by more than a certain percentage.
- Loan Collateral: Any loans cannot be secured by the program participant's home or home equity.
- Financial Capacity: The loan's terms must be based on an assessment of the participant's ability to repay the debt.
- Forbearance: Loans must offer terms that include repayment relief in lieu of foreclosure.
- Marketing Materials: They must be accurate and not contain any misleading statements. They must be provided in the customer's language.
- Disclosure: The program provides a disclosure form or content that must be provided to participants. This includes a clear statement of costs and the right to cancel the agreement for a reasonable period of time, such as a week.
- Suitability: The vendor is responsible for ensuring that the site is suitable for solar installation and providing documentation of such suitability.

The ILSFA Program has one of the most extensive explicitly stated set of customer protections, including all of those noted above.

Job Training and Use of Job Trainees

Workforce development requirements can help to ensure that members of the local community benefit from job training, new trainees have opportunities to further develop their skills, and greater economic benefits are realized. The CA SASH, DAC-SASH, and MASH programs, the DC Solar Works Program, as well as the ILSFA Program explicitly state job training goals.

- CA SASH requires that every installation includes a team of volunteers for the local community or graduates from job training programs. GRID partners with more than 90 local job training programs and provides hands on installation experience to the trainees. Approximately 20 percent of GRID's internal installations are completed by these trainees. The trainees earn up to 11 different certificates by demonstrating competency on specific skills while working on the installations. Each of GRID's subcontractors must hire at least one eligible job trainee for each SASH project. Many job trainees come from the same communities that the program aims to serve.

- CA SASH also works with volunteers. GRID requires volunteers to participate in a solar orientation program that provides education about solar PV and energy efficiency. The education promotes the use of PV technology and helps to build community support for solar and energy efficiency. GRID gives job trainees priority to participate on volunteer installations, and they can participate in GRID's Team Leader Program that provides leadership roles on GRID's volunteer installations.

Best practices for job training and creation include partnerships with local job training programs, requirements for the use of job trainees, and specific goals for a certain percentage of hours worked by trainees. The ILSFA has required all of these as part of the program.

The ILSFA does not have requirements for types of jobs provided and whether the jobs can be temporary for the ILSFA installation or must continue. Those requirements could strengthen the job training and creation portion of the ILSFA Program, but may require changes to the Long-Term Plan or the enabling legislation.

Volunteering

GRID Alternatives work was unique in CA in that they partnered with volunteers to perform solar installations. While this method has potential risk, would require good supervision, and may require a centralized program installer, it has many advantages. These include reducing the installation cost, providing additional job training and community service opportunities, publicizing the program, and providing opportunities to recruit more low-income participants.[163]

The ILSFA Program does not utilize volunteers and this model is probably not consistent with the approach that ILSFA Program has undertaken.

[163]Bringing the Benefits of Solar Energy to Low-Income Customers.

Participant Financial Qualifications – Alternatives to Credit Ratings

Programs that use alternative methods to evaluate financial stability rather than credit scores may provide greater access for potential program participants. This can include use of utility payment histories.

System Ownership

Programs that take advantage of all available subsidies and tax deductions can provide the greatest benefits for LMI participants. Many low-income households do not have a high enough tax liability to realize the full benefits of federal tax credits for solar power. The Federal Residential Energy Efficiency Property Tax Credit provides tax credits for solar of 30 percent from 2017 through 2019, of 26 percent from 2020 through 2021, and of 22 percent from 2021 through 2022.[164] Therefore, higher benefits can be realized when an entity that can take advantage of those credits owns the system.[165]

The ILSFA priced RECs for non-profits and public facilities with the assumption that they would not take the tax credit. If the project did take the tax credit, this could create a large benefit for the developer if there is no requirement to pass that value on to the customer. For this reason, the ILSFA increased the minimum savings requirement for that situation from 50 percent to 65 percent. The ILSFA Program may need a change to the law and to the Long-Term plan to require a form of system ownership that can take advantage of the Federal Tax Credit.

Community Solar Subscriptions

Community Solar projects have faced challenges maintaining the required percentage of LMI subscribers. Several strategies have been found to be helpful with respect to this issue.

- The CO Community Solar Demonstration Project created waitlists so that a list of potential new subscribers who were qualified LMI households were available when one of the current subscribers dropped out.

- The Just Community Solar Coalition, a network of NGOs in Minnesota, encouraged churches and other groups to purchase energy needed each month to compensate for changes in low-income customer subscriptions. With such "anchor tenants" developers may be more willing to work with customers with lower credit scores.[166]

These are project-level design options that could be implemented by individual community solar projects that participate in the ILSFA.

Energy Efficiency Requirements

LMI Solar programs should require energy efficiency work to be completed prior to solar installations, as energy efficiency is more cost-effective and reduces the total amount of energy consumed.

[164] https://www.irs.gov/newsroom/energy-incentives-for-individuals-residential-property-updated-questions-and-answers
[165] Bringing the Benefits of Solar Energy to Low-Income Customers.
[166] Bringing the Benefits of Solar Energy to Low-Income Customers.

The Future Energy Jobs Act required that the ILSFA integrate with existing energy efficiency initiatives. The Long-Term Plan states that the IPA and Elevate Energy will educate Approved Vendors about utility programs, weatherization programs, and other alternative sources of funding.

The ILSFA could provide stronger requirements for energy efficiency, but this may require changes to the Program Administrator contract or the Long-Term Plan.

Quality Control

Quality control should be required as part of the program to ensure that installers are meeting program requirements, installing systems as specified, and providing safe and high-quality system installations. The inspections should occur frequently on installers at first and decline in frequency once they have shown that they are consistently meeting all requirements. Installers who do not meet requirements should have more frequent inspections, remedial training, and be removed from the program if they do not improve.

The ILSFA has implemented quality control procedures that meet these best practice recommendations.

Evaluation

LMI Solar Programs should include evaluation to assess how program design and implementation can be improved, measure program impacts, and recommend refinements to create more efficient and effective programs. Such evaluation can also result in greater support for continued program operation.

The ILSFA was designed to include ongoing and comprehensive evaluation.

E. Findings and Recommendations

This section summarizes key findings and recommendations for the ILSFA from this review of best practices. Many of the best practices that were reviewed in the previous section have already been incorporated into the ILSFA Program design.

Key Findings

1. Distributed Generation Challenges: Program implementers around the country have found that it can be extremely challenging to obtain participation by LMI households in single-family rooftop solar programs due to barriers including roofing issues, other structural problems, electrical barriers, shading, and orientation. This issue is not unique to the ILSFA, and programs are still assessing how to overcome these barriers.

2. Market Driven Design: The ILSFA Program is a market-driven program. While this type of program may be more challenging to get off the ground, it may have greater long-term potential if it successfully transforms the LMI solar market.

3. Consumer Protections: The ILSFA Program has one of the most extensive explicitly stated set of customer protections, compared to other low-income solar programs reviewed.

Recommendations

1. Marketing/Partnerships: The ILSFA Program has not placed enough emphasis on partnerships with trusted organizations and should increase these relationships in ongoing implementation. This refinement should not require any changes to the law or Long-Term Plan.

2. Targeted Households: The ILSFA Program could recommend that solar installers target households that participate in other LMI programs and those with high electricity usage. They could also facilitate more coordination between utility low-income energy efficiency programs and the Illinois Home Weatherization Assistance Program. This would not require a change to the law or the Long-Term Plan.

3. Job Training and Job Creation: The ILSFA does not have requirements for whether the jobs can be just for the ILSFA installation or must continue. Those requirements could strengthen the job training and job creation portion of the ILSFA Program, but may require changes to the enabling legislation.

4. Alternatives to Credit Ratings: The ILSFA Program does not require use of alternative credit assessments (e.g., an assessment other than a credit score). If credit assessments are conducted for community solar subscribers, distributed generation leases, or power purchase agreements, Approved Vendors who use credit scores to qualify participants should be required to offer alternative qualification options. This requirement would necessitate a change to the Long-Term Plan.

5. System Ownership and Federal Tax Credit: The ILSFA priced RECs for non-profits and public facilities with the assumption that they would not take the tax credit. If the project did take the tax credit, this could create a large benefit for the developer if there is no requirement to pass that value on to the customer. For this reason, the ILSFA increased the minimum savings requirement for that situation from 50 percent to 65 percent.

   Programs that take advantage of all available subsidies and tax credits can provide the greatest benefits for LMI participants. Requiring ownership of projects by entities that can take advantage of the Federal Tax Credit because they have the necessary tax liability may require a change to the law and to the Long-Term plan.

6. Community Solar Subscriptions: Project-level recommendations to improve community solar LMI subscription levels include waiting lists and flexible anchor tenants (that stay within ILSFA anchor participation requirements but can take on additional share for a period of time if needed to cover for individual subscribers that dropped out). These are recommendations that can be made to projects without changes in the law or Long-Term Plan, as these changes are only recommendations for how the AVs can implement the program.

7. Energy Efficiency Requirements: LMI Solar programs should require energy efficiency work to be completed prior to solar installations as energy efficiency is more cost-effective and reduces the total amount of energy consumed. The ILSFA could provide stronger requirements for energy efficiency, but this would require changes to the Long-Term Plan and/or the legislation.

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IX. Findings and Recommendations

This section provides a summary of findings and recommendations from all of the research summarized in this report.

A. Key Findings

The key findings are summarized below.

- Revised Long-Term Plan: Many revisions were included in this version to address issues that had been faced in the program. Key programmatic changes should address some of the concerns that AVs expressed in the first two program years.
  - Up-Front Costs: The Revised Plan allows owners of multi-family buildings with more than five units and Non-Profit/Public Facilities to be charged upfront costs. This will allow more flexibility for these projects.
  - DG Improvements: The Revised Plan noted that the IPA will continue to work with the Environmental Law and Policy Center, the Natural Resources Defense Council, Vote Solar, and other interested parties to develop improvements to address challenges to participation in the DG sub-program. Such discussions and collaboration may help to overcome barriers and identify potential participants for the DG sub-program.
  - Connecting Income-Qualified Customers with AVs: The Revised Plan stated that the IPA and the Program Administrator will explore implementing a process to connect interested income-qualified customers with ILSFA AVs in a competitively neutral fashion. This process may also help AVs to identify good candidates for the DG sub-program.
  - Income Verification: The Revised Plan stated that the subscriber may request income verification directly through the Program Administrator. Several AVs expressed concerns about conducting the verification and felt that participants would be more comfortable with a third-party process.
  - Non-Profit and Public Facilities Value from Tax Credit: The Revised Plan added that AVs who can utilize the Federal ITC will be required to show that additional value is being passed on to the project host. This will ensure that more benefits are passed on to participants when they are accrued.
- Revised Project Selection: The revised guidelines were designed to address the following issues.
  - Lack of Size Diversity in Submitted and Selected Projects: The change awards higher points for the smallest projects under 100 kW.
  - Lack of Balance by Utility Territory for Selected Projects: The change rebalances at one point in the selection process.

  - Lack of MWBE AVs with Selected Projects: The change awards points to contractors working with MWBE subcontractors. It proposed to allow minority-run non-profits to be classified as MWBEs, but this was not adopted and will be considered for future implementation. This may be an important change to create more MWBE involvement, as no MWBE projects have been selected to date.

- AV Participation: The ILSFA Program has achieved good participation by solar vendors.
  - As of April 2020, there were 45 AVs.
  - Twenty-six different AVs submitted projects and 14 different AVs had selected projects.

- DG Projects: After no eligible DG projects in the first program year, there were ten projects selected in the second program year, nine for single-family homes and one for a multi-family project.

- Project Diversity and FEJA Goals: The second program year resulted in more diverse projects and the program is meeting some of the important program goals regarding EJ communities and low-income communities.
  - Urbanity of Project Locations: Twenty-seven selected projects were characterized as being in urban locations, 11 in suburban locations, and 11 in rural locations. Ten percent of the REC value was in urban areas, 23 percent was in suburban areas, and 67 percent was in rural areas.

  - Minority Composition of Project Locations: The census tracts that had selected projects were comprised of an average of 63 percent minorities (non-white), compared to an average of 30 percent minorities in census tracts that did not have selected projects.

  - EJ Communities: Thirty-Five of the 49 selected projects were in EJ communities. Fifty-one percent of the REC value was in EJ communities.

  - Low-Income Census Tracts: Forty-six of the 49 selected projects were in low-income Census Tracts. Almost all of the REC value was in low-income Census Tracts.

- DG Participant Projected Savings and Energy Burden Impact: Customer first year projected savings ranged from $355 to $747, and averaged $540 and 56 percent of the energy value. The projects reduced energy burden from one percentage point for the higher income households to over 36 percentage points for the lowest income household, with an average reduction of 5.8 percentage points.

- Job Trainees: It is still early in the implementation process to assess the impact of the ILSFA Program's job training requirements. Most of the AVs plan to have job trainees fill installation/construction roles. Some of the AVs reported that they plan to continue to work with the job trainees following completion of the ILSFA project and some said it depended on performance.

- Elevate Energy Assessment: Elevate implemented the complicated ILSFA Program in a short time period; developed numerous materials, the website, and portal; recruited and supported numerous solar vendors; and selected projects in all sub-programs. They focused on core responsibilities and ensured that program requirements were met. To achieve greater program success, they need to take proactive steps and actions to address challenges and achieve greater impacts.
  - Outreach: The previous ILSFA Program evaluation report noted that Elevate's outreach did not reach many potentially important stakeholder groups.[167] This evaluation included a specific focus on low-income energy efficiency providers and found that these organizations had little or no knowledge about the ILSFA Program. While Elevate reports that they plan for more outreach and coordination with other low-income programs and organizations, they have not yet taken the level of action needed to significantly expand these connections.

  - Call Center: Elevate Energy has a call center to field questions about the ILSFA and provide guidance and information. Elevate's call center metrics report does a very good job of providing information on the volume and type of calls handled.

  - Program Materials: Elevate developed many guidelines and materials for the ILSFA Program before and shortly after the ILSFA Program launch within a short period of time. Users of these materials, including stakeholders, AVs, and GEs, have noted that the materials are complicated, unclear, and difficult to navigate.[168] Elevate has worked to improve many of these documents.

  - ILSFA Website: Elevate Energy created the ILSFA website and works to ensure that all ILSFA Program information is on the website and up-to-date. Initial response to the website acknowledged the vast amount of information that is available, and the usefulness of that information. However, there was agreement that the website was not well-organized and information can be difficult to locate.
    Elevate has implemented several recommendations to improve the organization and readability of information on the ILSFA website. However, significant additional improvement in the website organization and information could make the program more accessible to the public, potential participants, and vendors.

  - Approved Vendor Portal: Elevate Energy maintains a portal that includes information on AVs, projects, participants, and Grassroots Education. They had a short window to design and implement the portal before the program went live, and some of the details and internal checks in the system were still being improved at that time.

[167] Elevate relied on the ILSFA Working Group which serves as an umbrella organization of stakeholders including many key community organizations.
[168] These documents were created in collaboration with the IPA. The IPA has been cautious and thorough in editing these documents and that has contributed to the complexity of the materials.

The AVs reported many challenges with the portal and Elevate's vendor managers spent a great deal of time supporting AVs in using the portal and responding to their questions and problems. Elevate made several improvements to the portal since its initial introduction and made additional improvements in 2020. Elevate appears to be doing more advance planning to provide for a smoother transition to Part Two Submission.

- Grassroots Education: Elevate Energy is responsible for coordinating the distribution of funding for Grassroots Education by CBOs and overseeing the GEs work. Elevate recently worked with the IPA to develop and release a second GE RFP.

  Interviews with participants found that the GEs were rated highly and provide information on the ILSFA Program to households who were previously unaware of the program. However, several findings point to the need for more focused information that clearly presents the benefits and eligibility guidelines for the program.

- Energy Efficiency: Elevate has developed a resource guide for AVs and trained their team on the ILSFA Program, but has not implemented support or coordination beyond that resource.

- Vendor Administration and Support: Elevate Energy has responsibilities for administering and supporting the vendor registration and project submission process. Interviews with Elevate staff and AVs show that Elevate has provided extensive support to the AVs throughout the registration and project submission process. AVs spoke favorably about their experience with Elevate and the tremendous assistance that Elevate provided.

  While Elevate has provided excellent support to AVs in the registration and project submission process, they have not taken an active role in providing more proactive assistance to AVs in needed areas including provision of information on the interconnection process, support for MWBEs, and assistance overcoming DG barriers. Such support may be needed for the ILSFA to achieve its potential.

- Environmental Justice Communities: Elevate was responsible for working with the IPA to develop the EJ community determination process and the self-designation process. They developed a rigorous and well-documented process for determining the EJ communities, and the map and list of EJ communities is provided on the ILSFA website. Elevate continues to work with the IPA and community groups to score incoming EJ self-designation applications. They have also developed a systematic process for this scoring and meet with the scoring group on a regular basis to score EJ self-designation applications as they come in.

- Reporting: Elevate is responsible for providing quarterly reports to the IPA and the ICC on the status of the program, including number of applications received, number

of applications approved, number of projects completed, REC payments, payments for Grassroots Education efforts, status of Grassroots Education, and technical assistance provided. Elevate submitted the first report to the IPA on February 28, 2020, and it was approved in May 2020. This report could be streamlined to provide program statistics in a more accessible manner.

Elevate has developed comprehensive and useful reports on call center metrics, technical assistance, newsletters, and use of the ILSFA website.

- Quality Assurance: Elevate is responsible for developing a process for quality assurance, including photos of projects under construction and on-site inspection of a random sample of installations. Projects have not yet reached the stage when quality control will be undertaken. However, Elevate has developed an Onsite Inspection Checklist and contracted with a subcontractor to conduct the inspections. The Onsite Inspection Checklist is a comprehensive form that will systematically collect important information on the quality of the installation and the AV's work.

- Best Practices for Low-to-Moderate Income (LMI) Solar Programs: This report included a review of LMI solar programs implemented around the country. Many of the best practices that were reviewed have already been incorporated into the ILSFA Program design, but the next section includes a few recommendations based upon findings from the review.

B. Recommendations

Recommendations from the Phase II Second Interim Evaluation are summarized below.

ILSFA Program Design

Recommendations relating to the ILSFA Program design are summarized below.

- ILSFA Program Materials: Prioritize development of a step-by-step list for the AVs to develop projects, as has previously been requested. (Note: This was posted in July 2020.)

- ILSFA Website: Work with a professional website designer to re-organize the website to make the program more accessible to the public, potential participants, and vendors.

- ILSFA Portal: Continue to advance and test Part Two Submission modules so that the system is working well prior to the start of Part Two Submission.

- Job Training and Job Creation: The ILSFA Program does not have requirements for whether the jobs can be just for the ILSFA installation or must continue. Those requirements could strengthen the job training and creation portion of the ILSFA Program, but may require changes to the enabling legislation.

- Alternatives to Credit Ratings: The ILSFA Program does not require use of alternative credit assessments (e.g., an assessment other than a credit score). If credit assessments are conducted for community solar subscribers, distributed generation leases, or power

purchase agreements, Approved Vendors who use credit scores to qualify participants should be required to offer alternative qualification options. This requirement would necessitate a change to the Long-Term Plan.

- Energy Efficiency Requirements: LMI Solar programs should require energy efficiency work to be completed prior to solar installations as energy efficiency is more cost-effective and reduces the total amount of energy consumed. The ILSFA Program could provide stronger requirements for energy efficiency, but this would require changes to the Long-Term Plan.

Program Implementation

Recommendations relating to the ILSFA Program implementation are summarized below.

- Outreach: Prioritize outreach to low-income organizations and energy efficiency program implementers.

- Grassroots Education: Provide more guidance and support to GEs to ensure that the presentations clearly furnish information on the benefits of ILSFA participation and the eligibility guidelines for the program.

- Energy Efficiency: Work to coordinate the ILSFA Program with income-qualified energy efficiency programs in Illinois, both to provide leads for the ILSFA Program and to ensure that ILSFA participants undertake beneficial energy efficiency actions prior to ILSFA Program participation.

- Approved Vendor Support: Reach out to AVs to provide additional needed support in addition to project submission support. Key areas where support is needed are in the interconnection process, MWBE participation, and assistance overcoming DG barriers.

Appendix: ILSFA Program Changes

Major policy and administration changes made in the Revised Long-Term Plan are summarized below. Some changes that relate to minor program administration issues or technical details are not included in this summary.

ILSFA Resources

Several changes relating to program funding were included in the Revised Long-Term Plan.

- Renewable Energy Resources Funding
  - The Revised Plan furnished an update on RERF funding as of August 14, 2019.
    - RERF Funding Available: $162.9 million
    - Supplemental Photovoltaic Procurement Commitments: $13.9 million
    - RERF Available for ILSFA: $149 million

- ILSFA Funding
  - The Original Plan indicated that the IPA planned to allocate up to $20 million per year from the RERF for use in the ILSFA Program, and that funding for the main three sub-programs would be available for seven to eight years if the entire $20 million is used each year. CS Pilot funding was estimated to be available for a ten-year period.
  - The Revised Plan indicated that the IPA will now allocate $16.5 million per program year for the DG, CS, and NP/PF sub-programs, with the following clarifications.
    - Allocation will be based on an accrual basis, whereby the agency recognizes that allocated funds will not always be spent immediately and therefore will need to be set aside to ensure they are available in the future as project construction continues.
    - Unallocated RERF funds from any program year for a given sub-program will roll over and increase the balance available for the subsequent program year for that sub-program.
    - At the current planned allocation rate, the Agency expects the RERF will be entirely depleted by the 2024-2025 program year.
    - The budgets stated are the gross budgets before deducting administrative, evaluation, and Grassroots Education costs.

- RERF Allocation by Sub-Program
  - The Original Plan indicated that the four ILSFA sub-programs would receive the following percentages of RERF funding.
    - DG: 22.5 percent
    - CS: 37.5 percent
    - NP/PF: 15 percent
    - CS Pilots: 25 percent (with an all-time cap of $50 million)
  - The Revised Plan maintains these percentages, but notes that 25 percent of the RERF is only projected to be $37.5 million of the $50 million cap set for CS Pilot Projects. The first CS Pilot competitive procurement was allocated $20 million and is expected to cover the full 15-year value of the contracts resulting from that process.

- Utility Funding
  - The Original Plan laid out the projected amounts of utility funding that would be available in Program Years 2018-2019, 2019-2020, and 2020-2021.
  - The Revised Plan provides new projections.

- Utility Funding Allocation to Sub-Program
  - The Original Plan allocated utility funding to the three non-competitive sub-programs at the same rate as the RERF.
  - The Revised Plan noted that this allocation of utility funding to the sub-programs is not required by law, and the Agency may adjust utility funding between those sub- programs on an as-needed basis during the program year if there are available funds in one sub-program and higher demand in another sub-program. However funds for the DG sub-program will not be reallocated.

- Order of Contract Execution
  - The Original Plan stated that contracts would draw from the RERF each year until it was completely depleted and would then start drawing from the Utility Renewable Resource Budgets.
  - The Revised Plan reverses the order. This change was made because utility funds will be returned to ratepayers if not spent at the end of each program year starting after 2020-2021, while unallocated RERF funds within a sub-program will roll over to the following program year.

- Sub-Program Funding Use
  - The Original Plan did not mention any procedures for dealing with unused funds or waitlisted projects in a program year.
  - The Revised Plan stated that if there are funds available following each program year's initial project submission window, project applications will be accepted and reviewed on a first-come, first-served basis for the remainder of the program year, and rolled over to the next program year if they remain at the end of the program year.

<u>Customer Costs and Benefits</u>

This section summarizes changes made to up-front cost requirements, participant payments, and savings requirements.

- Up-Front Costs
  - The Original Plan stipulated that participants in the DG and CS sub-programs should not be charged upfront costs.
  - The Revised Plan clarified that owners of multi-family buildings with more than five units and Non-Profit/Public Facilities may be charged upfront costs.

- Participant Payments
  - The Original Plan stated that any ongoing annual payments charged to program participants must be less than 50 percent of the annual first year estimated production and/or net metering value to be received by the customer.
  - The Revised Plan added a footnote indicating that the calculation of annual costs must be disclosed to the customer and reviewed and approved by the IPA.

- Savings Requirements for Multi-Family Buildings
  - The Original Plan required the building owner or manager to pass on at least 50 percent of the energy savings from net metering to the tenants through reduced rents or other means.
  - The Revised Plan added that the benefits must be passed on to all tenants, regardless of income level.

Distributed Generation Projects

- DG Program Improvements
  - The Revised Plan noted that the IPA will continue to work with the Environmental Law and Policy Center, the Natural Resources Defense Council, Vote Solar, and other interested parties to develop improvements to address challenges to participation in the DG sub-program.

- Multi-Family Building Income Eligibility
  - The Original Plan did not specify requirements for the percentage of low-income residents in the building over the lifetime of the project.
  - The Revised Plan stated that DG projects in residential buildings with two or more units will be required to maintain at least half of the units as affordable housing for ten years.

- Connecting Income Qualified Customers with AVs
  - The Original Plan did not discuss this process.
  - The Revised Plan stated that the IPA and the Program Administrator will explore implementing a process to connect interested income-qualified customers with ILSFA AVs in a competitively neutral fashion. The IPA will conduct a stakeholder feedback process to work through key implementation details prior to implementation of such a process.

Low-Income Community Solar Projects

- Community Solar Subscriptions Portability and Transferability
  - The legislation and the Original Plan indicated that ABP and ILSFA projects needed to be portable, meaning that subscribers can continue to receive the benefits if they move, and transferable, meaning that subscribers can sell their subscription to another eligible subscriber, as long as the new residence or subscriber lives within the same utility territory.
  - The Revised Plan states that subscribers who move or transfer their subscription may be subject to certain adjustments or restrictions.
    - If the subscriber moved to a much smaller residence and had a corresponding reduction in usage, this should result in a reduction in the size of the community solar subscription.

    - The transfer may not be workable, such as if it poses a more significant non-payment risk.

- Small Community Solar Subscriptions
  - The Original Plan provided additional REC dollars for projects with 25 percent to 50 percent, 50 percent to 75 percent, and greater than 75 percent of subscriptions less than 25 kW.
  - The Revised Plan keeps small subscriber adders but consolidates the over 50 percent and over 75 percent categories to the adder for over 50 percent small subscribers. The Revised Plan indicates that this change was made due to an analysis that found that the highest incentive level for small subscriber adders was too high relative to the subscriber acquisition and management costs that those projects would face.

- CS Performance Evaluation
  - The Original Plan stated that subscription levels must be maintained to remain eligible for REC payments.
  - The Revised Plan added that if projects fall below 50 percent subscribership, no payment would be owed to the project for that delivery year.

- Low-Income Community Solar Partnerships
  - The Original Plan did not include public entities as partners for the community-based organization partnership requirement.
  - The Revised Plan allows public entities to qualify as the community-based organization for the partnership, provided that the public entity meets the following requirements.
    - The public entity must represent a municipality or county (or school district, park district, etc.) in the bottom 25 percent of the state by population.
    - The public entity must certify that no local community-based organizations exist that are capable of filling this role.
    - The public entity must provide the same showing of robust community engagement as a nonpublic entity would be required to show.
    - Public entities that have failed to act as community-based partners in a past project certification would be ineligible.
    - The public entity would be qualified as a "community-based organization" only in the context of one project application, and would have to demonstrate the same factors in any future project application.
    - The public entity must provide ongoing reporting of its engagement approach, including public participation opportunities and disclosure of its approach to the project location selection (if applicable).

- Non-Income-Eligible Anchor Tenants for CS Projects
  - The Original Plan stated that CS Projects with an anchor tenant that did not qualify as low-income would have their ILSFA incentive reduced to account for the share of the benefit

going to that non-eligible anchor. However, if the non-eligible anchor was a NP/PF, then the reduction did not occur.
  - The Revised Plan reduced the incentive for all non-residential anchor tenants including NP/PFs.
  - The Revised Plan created a prioritization of projects by the type of anchor tenant.

- Income Verification
  - The Original Plan stated that the AV is responsible for tracking subscribers and documenting income eligibility for CS projects
  - The Revised Plan stated that the subscriber may request income verification directly through the Program Administrator and, if approved, that verification would remain valid for six months. The Program Administrator would provide the potential subscriber with a verification letter that could be provided to the Approved Vendor.

Non-Profit and Public Facility Projects

- Non-Profit and Public Facilities Eligibility
  - The Revised plan stated that project must demonstrate community engagement **and** be a critical service provider.

- Non-Profit and Public Facilities Value from Tax Credit
  - The Original Plan recognized that NP/PF entities may be at a disadvantage to private entities because they cannot capture the tax benefits that would come from the Federal Investment Tax Credit (ITC). To help offset this imbalance, the plan provided higher incentive levels for NP/PF projects.
  - The Revised Plan added that AVs who utilize the Federal ITC will be required to show that additional value is being passed on to the project host (65 percent versus 50 percent for projects not using the ITC).

Low-Income Community Solar Pilot Projects

There was one change to the payment period for Low-Income Community Solar Pilot projects.

- Low-Income Community Solar Pilot Projects Payment Period.
  - The Original Plan stated that CS Pilot projects would deliver RECS for 15 years but the payments for those RECS would be made over first 10 years of the contract.
  - The Revised Plan stated that the payments for the Second Pilot Projects Procurement (to be held in 2020-2021 or 2021-2022) will be made over the first 15 years of REC deliveries.

Job Training and Employment

- Employment Opportunities
  - The Original Plan stated that the ILSFA shall provide employment opportunities for all segments of the population and workforce including MWBEs.
  - The Revised Plan adds language to specify that AVs should hire graduates from FEJA-approved job training programs and report on the utilization of such graduates.

- Job Trainees
  - The Original Plan indicated that the IPA will encourage the hiring of job trainees for ILSFA projects.
  - The Revised Plan added that the Program Administrator will include a request for information about hiring as part of each AV's annual report.

- Projected use of Qualified Job Trainees
  - The Original Plan stated that AVs must use at least one qualified trainee on 33 percent of all projects.
  - The Revised Plan states that this requirement only applies to Low-Income Distributed Generation projects.

- Annual Job Trainee Hours
  - The Original Plan stated that AVs must have ten percent of hours worked on all projects done by job trainees in Year One, 20 percent in Year Two, and 33 percent in Year Three.
  - The Revised Plan adds that the timeline starts with the beginning of construction of the AV's first project constructed under the program.

<u>REC Payments</u>

- Final REC Payment Adjustment
  - The Original Plan indicated that REC payments could be reduced if the final capacity factor of the system was less than was originally proposed.
  - The Revised Plan clarifies that if the project has a higher capacity factor, then the REC payments would not increase, as this would make it difficult to properly budget the allocations in each program year.

<u>Contracts and Collateral</u>

- Standard Delivery Contract
  - The Original Plan indicated that the original standard contract would be used through the end of the 2018-2019 program year. Then, on an annual basis the IPA was to review and update the contracts through a process that included stakeholder feedback.
  - The Revised Plan indicated that the Standard Contract needs significant changes to reduce complexity and increase flexibility. The IPA will be holding stakeholder workshops to discuss contract changes, and revisions will be made to the contract based on the results of the workshops. The IPA recommended that projects approved by the ICC after the new version of the contract is released be given the new version of the contract regardless of the date of application. Projects that have already applied, but no longer feel they can deliver on their projects with the implementation of the new contract will be given an opportunity to withdraw their project with no penalty.

- Contract Execution
  - The Original Plan stipulated that, once a project had been approved, the AV would be required to sign a contract within seven business days and would post collateral for the project within 30 business days of the Commission approval.
  - The Revised Plan added language that AVs who fail to sign the contract within seven business days will have the projects attached to that contract/product order removed from the program and will be subject to further disciplinary measures if deemed appropriate.

- Collateral Requirements
  - The Original Plan allowed AVs to forgo posting collateral if the project had already been built and energized.
  - The Revised Plan requires all projects to post collateral because the IPA determined that the option to forgo collateral was incentivizing vendors to build and energize projects before submitting them to the ILSFA, making it much more difficult to enforce consumer protection standards and ensure the use of job trainees in construction.
  - The Revised Plan added that failure to post collateral after contract signing could be cause for suspension or removal from the program.

- Collateral Forfeited
  - The Original Plan indicated that AVs had one year to develop DG projects and 18 months to develop CS projects from the time the contract was signed. If vendors failed to meet those deadlines, their projects were subject to removal from the program and they would have to forfeit their collateral.
  - The Revised Plan further indicates that any collateral forfeited as a result of a failure to meet the project deadline will be returned to the utility's Renewable Resources Budget.

- Additional Customer Protections
  - The Original Plan did not mention a grace period before late fees are charged or a system warranty.
  - The Revised Plan states that contracts must provide a grace period of at least seven days after the customer payment date before late fees are charged and that all contracts must include a full system warranty and an operations and maintenance guarantee.

<u>Customer Information</u>

- Customer Information Requirements
  - The Original Plan indicated that the IPA was developing a standard brochure for AVs to distribute to potential program participants in both a print and electronic format.
  - The Revised Plan indicates that the brochures have been developed and are available for distribution. The brochure has been provided in both English and Spanish, and the IPA is considering translating the materials into other languages as well.

<u>Approved Vendors</u>

- Approved Vendor Suspensions
  - The Original Plan stated that the AV system is important because it helps program participants feel secure that the vendors they are dealing with are legitimate. It also

recognizes that AVs that fail to live up to the standards of the ABP could do long-term damage to the reputation of the program.
  - The Revised Plan indicates that a "bad actor" could be especially harmful to the ILSFA Program and determines that any vendor who is terminated or suspended under the ABP will also be terminated or suspended under ILSFA.

- Approved Vendor Responsibilities
  - The Original Plan indicated that AVs must provide and maintain credit and collateral requirements.
  - The Revised Plan removes the agreement to provide and maintain credit and collateral requirements but adds a new agreement to comply with all terms of contracts with utilities under the Program.

- Approved Vendor Designees
  - The Original Plan did not require Approved Vendor Designees to register with the ABP.
  - The Revised Plan notes that some AV Designees have violated program guidelines, sometimes without the knowledge of the relevant AV. Therefore, the new plan requires AV Designees to be officially registered with the ABP and ILSFA Programs and be listed on the ILSFA website along with the AV they are working with. It also further defines a "designee" as third-party entities that have direct interactions with end-use customers such as installers, marketing firms, lead generators, and sales organizations.

<u>Technical Requirements</u>

- Technical System Requirements
  - The Original Plan system requirements included a description of the shading percentage, and said that systems over 25 kW required a signed interconnection agreement.
  - The Revised Plan made changes to the requirements.
    - It removed the requirement for a description of shading percentage.
    - It added that the interconnection agreement must be signed by both the utility and the customer.
    - It added that ground mounted systems over 250 kW require a land use permit or written confirmation that no permit is required.
    - It added that systems that include a battery must provide a detailed schematic showing that either only solar generated power can be used to charge the battery or that the battery's output does not run through the meter used to measure solar output.

- Non-Ministerial Permits
  - The Original Plan required systems over 25 kW to provide evidence that they had obtained all non-ministerial permits that are necessary to the project at the time of the application to the ILSFA. Examples of non-ministerial permits include, but are not limited to, wetlands

Order of Conditions, Special Permit, Zoning Variance, Endangered Species, and MEPA Certificate.
  - The Revised Plan removes this requirement, but warns that a failure to acquire the proper permits prior to application may put developers at risk, without the ability to invoke force majeure, if they are unable to meet contractual obligations in a timely manner.

Project Applications and Selection

- Duplicate Project Submissions
  - The Original Plan indicates that projects may be submitted for the ILSFA Program and separately for the ABP.
  - The Revised Plan adds that a project may not apply to the ILSFA Program if it is included in a batch of ABP projects that have been submitted to the ICC for approval (or subsequently approved), and that the application will have to be withdrawn at the time the ABP sends its approval recommendation to the ICC. Additionally, a project may not apply to two ILSFA sub-programs within the same program year.

- CS Project Selection by Type of Anchor Tenant
  - The Original Plan did not prioritize CS projects with anchor tenants that met certain conditions.
  - The Revised Plan proposes prioritization in the following order.
    - Projects with an NP/PF anchor tenant that IS a critical service provider and ALSO the project host.
    - Projects with an NP/PF anchor tenant that is NOT a critical service provider but IS the project host.
    - Projects with an NP/PF anchor tenant that IS a critical service provider but NOT the project host.
    - Projects with an NP/PF anchor tenant that is NEITHER a critical service provider NOR the project host.
    - Projects with an anchor tenant that is NOT an NP/PF.

- Waitlisted Projects
  - The Original Plan did not discuss waitlists.
  - The Revised Plan provided the following information about waitlists.
    - If the entire budget for a project year is used up, all remaining projects will be placed on a waitlist.
    - The waitlist for the 2019-2020 program year will not be used after May 31, 2020.
    - For the 2020-2021 and 2021-2022 program years, projects placed on a waitlist will not be given preference in project selection for upcoming years.

Environmental Justice Self-Designation

- Environmental Justice Self-Designation Process
  - The Original Plan stated that a community may request consideration to be defined as an EJ community.
  - The Revised Plan added that requests must be from community-based organizations, local units of government, or community residents and that the request must be approved prior to an application being submitted as an EJ community.

Quality Assurance

- Quality Assurance
  - The Original Plan stated that the Program Administrator will develop and implement a process for quality assurance including photo documentation of all projects while under construction and on-site inspection of a random sample of installations.
  - The Revised Plan added that the Program Administrator will assess the suitability of sites for solar installation and/or proper planning for mitigating site deficiencies before installation.

Grassroots Education

- Grassroots Education Funding
  - The Original Plan noted that the IPA should allocate up to five percent of the ILSFA funds to Grassroots Education.
  - The Revised Plan indicates that the funds available are interpreted to be the annual contribution of approximately $11.7 million from the Renewable Resources Budget plus $16.5 million allocated annually from the RERF for the three noncompetitive sub-programs, plus $2.5 million allocated annually from the RERF for the Low-Income Community Solar Pilot Projects. Therefore, the maximum available annual budget for Grassroots Education is $1.53 million for 2020-2021 and 2021-2022 and the IPA reserves the right to allocate less than this amount.

- Grassroots Educator Eligibility, Selection, and Contracting
  - The Original Plan did not define.
  - The Revised Plan stated that community-based organizations must be registered non-profit entities, excluding trade or political non-profits. Qualified organizations should work within the communities in which they will be providing Grassroots Education. Grassroots Educators will be chosen through competitive RFPs issued periodically, and selected Grassroots Educators will be subcontractors of the ILSFA Program Administrator.

- Grassroots Education Topics
  - The Original Plan did not define.
  - The Revised Plan added that the Grassroots Education topics could include solar basics, program requirements, consumer protection, program benefits and opportunities, job training opportunities, Environmental Justice community issues, or community engagement, among many others. The Revised Plan added that one objective of the

Grassroots Education strategy will be to ensure that campaigns collectively reach a diversity of households and communities, topics, and geographies over time.

- Grassroots Education and Approved Vendors
  - The Original Plan did not mention.
  - The Revised Plan added that the Grassroots Education must not serve the interest of any AV or other solar developer above any other. No organization providing Grassroots Education services should have a financial relationship with an ILSFA AV at the time of performing those services, and any past relationships should be clearly disclosed when submitting proposals.

Changes to Project Selection

The Revised Long-Term Plan included changes to the ILSFA project selection process. The proposed revised guidelines were designed to address the following issues.

- Lack of Size Diversity in Submitted and Selected Projects: All submitted projects up to 250 kW were selected in the first program year because most submitted projects were larger. No small projects were submitted in the second program year, so only large projects were selected.

- Lack of Balance by Utility Territory for Selected Projects: Awarding points based on utility territory in the first selection stage resulted in prioritizing the territory with fewer EJ community submissions, but not balancing the total selection of projects by utility within the sub-program. Balancing by utility territory occurred in the third stage, but few funds remained to adequately balance projects at this point.

- Lack of MWBE AVs with Selected Projects: No MWBEs had selected projects in the first two program years.

The ILSFA Program posted a Draft ILSFA Project Selection Protocol Guidance Document on April 21, 2020 to solicit feedback on how to implement the changes. The IPA and Elevate Energy held a webinar on May 1, 2020 to review the proposed changes and request stakeholder feedback. Comments on the document were due by May 8, 2020. The 2020-2021 program year will follow the revised Project Selection Protocol that was posted on June 12, 2020.
The proposed changes to project selection are summarized below.

All Sub-Programs

- Initial Submission Window
  - Original Window: 30 days for CS projects and 45 days for DG and NP/PF projects.
  - Revised Window: 10 days for all sub-programs. If funding remains after the initial submission and selection process then a rolling submission window will begin.

- Batch Submission Requirements
  - Original Requirement: All AVs were required to submit projects in batches of 50 kW or more.
  - Revised Requirement: Only AVs that have not had a previous contract approved by the ICC are required to submit in batches of 50 kW or more. Returning vendors can submit individual projects.

DG Projects

- Funds Reserved for 1-to-4 Unit Buildings
  - Original Protocol: Did not include provisions to balance selections based on project size.
  - Revised Protocol: Reserves 25 percent of the DG funding for 1-to-4 unit buildings for the first nine months of a Program Year. After nine months, the reserved funds are dispersed and can be used on 5 or More unit building projects.

- Separate DG Selection For 1-to-4 Unit and 5 or More Unit Buildings
  - Original Protocol: Selection was not separated.
  - Revised Protocol: Selection will be done within two sub-categories. Project selection will be considered necessary if the incentive value of 1-to-4 unit projects exceeds 25 percent of the total sub-program budget and/or if the incentive value of 5 or More unit projects exceeds 75 percent of the total sub-program budget.

- DG Project Selection During Rolling Submission Period
  - Original Protocol: Criteria for selection during the rolling submission window was not specified.
  - Revised Protocol: Projects submitted during the rolling submission window will be considered on a first come, first served basis while DG sub-program funds are available based on the following criteria.
    - 1-to-4 unit projects in EJCs will be approved if eligible.
    - 1-to-4 unit projects in non-EJCs will be approved if eligible EXCEPT if 75 percent of the DG budget has been allocated to projects in non-EJCs.
    - 5 or More unit projects in EJCs will be approved if eligible EXCEPT if the incentive value of 1-to-4 unit projects is below 25 percent of the DG budget and it is within the first nine months of the program year, in which case they will be placed on a waitlist. Projects on the waitlist will be approved after the ninth month if DG budget remains.
    - 5 or More unit projects in non-EJCs will be approved if eligible EXCEPT if the incentive value of 1-to-4 unit projects is under 25 percent of the total sub-program budget AND the incentive value of projects in non-EJCs is 75 percent of the total budget.
    - 5 or More unit projects in non-EJCs are put on a waitlist if the incentive value of eligible 1-to-4 unit projects is under 25 percent of the total budget AND the incentive value of eligible projects located in non-EJCs is under 75 percent of the total budget AND it is the first nine months of the program year. Projects on this waitlist can be approved after the ninth month up until 75 percent of the budget is reached by projects located in non-EJCs.

- 5 or More unit projects in non-EJCs are put on the waitlist if the incentive value of eligible 1-to-4 unit buildings is under 25 percent of the DG budget and the incentive value of eligible projects located in non-EJCs is 75 percent. They would only come off the waitlist in the case of a previously eligible 5 or More unit project which is in a non-EJC not moving forward in the program.

Eligible projects will be approved or added to the waitlist until the DG budget capacity has been reached and the rolling submission period is closed.

CS Projects

- Additional Points for MWBE, EJC, and LI Designations
  - Original Protocol: Awarded one point for each designation.
  - Revised Protocol: Awards two points for each designation.

- Utility Service Territory Balancing Moved to Prioritization Two
  - Original Protocol: Awarded points for projects on a variable scale to balance the percentage of incentives located in utility territory Group A and Group B in all three prioritizations.
  - Revised Protocol: Applies utility territory balancing only in Prioritization Two. Awards two points to projects located in utility service territories that were not selected in Prioritization One.

- Project Size Scoring Scale
  - Original Protocol: Awarded points on a variable scale to balance the number of projects that were greater than or less than 250 kW.
  - Revised Protocol: Awards points in the following manner.
    - ≤ 100 kW: 1.5 points
    - 101 – 500 kW: 1 points
    - 501 – 1,000 kW: 0.5 points

- Project Anchor Scoring Scale
  - Original Protocol: Awarded one point if the anchor was an NP/PF.
  - Revised Protocol: Awards points for various anchor types.
    - Anchor is an NP/PF Critical Service Provider and Project Host: 3.25 points
    - Anchor is an NP/PF that is not a Critical Service Provider, but is Project Host: 2.75 points
    - Anchor is a NP/PF Critical Service Provider, but not the Project Host: 2.5 points
    - Anchor is a NP/PF, but not a Critical Service Provider or Project Host: 2.0 points
    - Anchor is not a NP or PF: 0 points

NP/PF Projects

- Original Protocol: The project must pass on 50 percent of the savings to participants to receive points in project selection.
- Revised Protocol: If the project claims the Income Tax Credit, it must pass on 65 percent of the savings to participants to receive points for participant savings in the project selection.
- No major changes were made to project selection for NP/PF projects.

MWBE Points

AVs who demonstrate the inclusion of MWBE subcontractors will receive MWBE points. The ILSFA is considering an expansion of the MWBE points to include AVs who are non-profits that meet criteria similar to those used in MWBE certification programs, however that approach was not adopted and may be considered again in a future program year.