A Guidebook

to Increasing Low-to-Moderate Income Households' Access to the Benefits of Rural Public Power Community Solar Programs

DEED PUBLIC POWER
RESEARCH & DEVELOPMENT
American Public Power Association

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Getting Started

Timeline

The sequence of stages illustrated in Figure 2 is meant to emphasize the iterative nature of the community solar project development process. Public power utilities should plan for the process to take about two years; however every community is different and this timeframe can vary. While integrating robust research into the project development process does take time, it is an important means to understand the local context and to give communities a say in the ultimate project design.
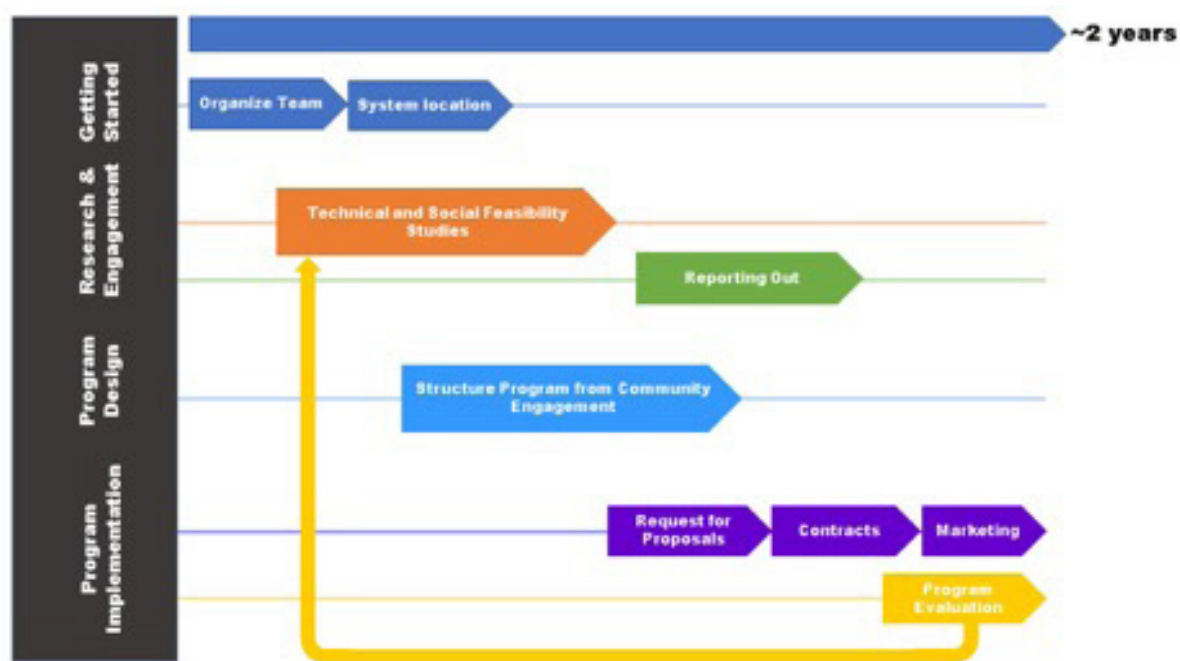
Community Engagement & Building a Team

Unlike many utility energy programs, a successful community solar project requires the support of a wide array of community stakeholders and decision makers. In addition, a community solar program requires a combination of technical, economic, social, legal and policy considerations in order to work. The public power utility should develop a team and determine a shared understanding of the project goals, which can help shape the community solar program type as well as team needs. Once goals are established, the team can seek out and extend partnerships to others (i.e. local government, nonprofits, research institutions, etc.) who possess the knowledge, networks, resources, or skills to help achieve program goals.

Assembling a team with the right mix of skills and expertise is an important step in the project development process. Including stakeholders early in the development process can also help to achieve support for the project and identify key challenges and considerations when considering the program's design. Leadership

teams can take different shapes and sizes. A helpfulful strategy to identify key team members is to consider the following:

⟨⟩ **What community members and/or organizations have relevant skill sets?:**
- Energy, electrical engineering, and solar technology
- Financing
- Tax law
- Public outreach
- Public zoning and permitting
- Public housing and other social programs serving LMI households
- Marketing and communications
- Environmental sustainability
- Utility operations and programs
- Other relevant skill sets

⟨⟩ **What community members and/or organizations represent different segments or key stakeholders in our community? Examples include:**
- Local government
- Service and philanthropic groups
- Local businesses
- Educational and research institutions
- Religious and faith-based organizations
- Environmental and conservation groups
- Economic development organizations
- Tribal organizations
- Other relevant groups

⟨⟩ **What community members and/or organizations serve in a decision making capacity that facilitates or impedes the development of the community solar program?**
- The utility administrator
- Local elected officials
- Community administrators
- Appointed individuals to boards such as planning commissions, zoning boards; permitting officials, etc.
- Other relevant departments or organizations

Once the team is in place, it is important to define partner roles. A program manager or equivalent will be helpful in keeping the team on track to meet incremental goals, satisfy deadlines, and orchestrate external meetings to help the team meet their needs. Other team member roles can include liaison between the team and broader community leaders, media outlets, or the entire community. Conducting social and technical feasibility studies will require adding experienced researcher(s) to the team. Researcher roles and goals must align with the team's needs and interests, so that the project remains community driven. Researchers who follow a community-based participatory research model[1] will be most appropriate.

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1   Burns et al, 2011. A short guide to community based participatory action research. Available at: https://hc-v6-static.s3.amazonaws.com/media/resources/tmp/cbpar.pdf

Decision-making process

Discussing and defining the decision-making process and decision-making power early can improve clarity and understanding throughout the project. There will be multiple levels of decision-making within the core team, among the utility management, and extending out to the community on issues ranging from whether and when to move forward, to system design components, research design, project timeline, pricing structures, and more. Teams should start a dialogue about this process when they first form. They may choose to follow any number of decision-making models[2]. There may be one team member or a small portion of the team who ultimately decides if the project should and can move forward, or it may be a unanimous decision. Some decisions may require one type of process, while others require a different process. The key is to discuss how this will be handled and to remain transparent about how decisions are made both within the team and with the broader community. In many energy projects, the community is left out of decision-making, which can defeat one of the goals of a community solar project- to have local ownership over the energy system. Engaging the community in decision-making where possible and remaining transparent throughout the process for how decisions will be made can increase trust and buy-in.

THE UPPER PENINSULA SOLAR TECHNICAL ASSISTANCE AND RESEARCH TEAM:

UPSTART formed in March 2017 to respond to a Department of Energy Solar in Your Community Challenge. The idea was to bring together knowledge, resources, and skills to help design and develop a community solar program in two rural Upper Peninsula Communities. The team began as a partnership between the Villages of L'Anse and Baraga Administrators, WPPI Energy, the Western Upper Peninsula Planning and Development Region (WUPPDR), and researchers at Michigan Technological University. As the project evolved, UPSTART membership and resources expanded to include marketing and contract development with Michigan Energy Options, energy efficiency studies with LOTUS Sustainability & Engineering, development of a cost-benefit analysis tool with the University of Michigan Dow Sustainability Fellows Program, and media development with a team of Michigan Tech students learning documentary production (CinOptics). All of these team members worked together to design and build a community solar program for L'Anse and Baraga.

Where will the system go?

Determining potential sites for the community solar array can be tricky. The utility has to find a viable site for energy production that is acceptable to both participating and non-participating community members. The site needs to be large enough to install the system, be free of obstacles creating shade, and have access to the utility distribution system. It can be helpful to work with the community to determine potential locations. Some community members may not appreciate the aesthetics of a solar PV system in their neighborhood while others may want to see the panels in which they have subscribed. Some locations may be more susceptible to vandalism or theft. While having some site locations in mind prior to engaging with the broader public is a good idea for generating conversation, teams should keep these potential sites preliminary, and draw upon the social feasibility study to determine final system size and location.

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2   DEFG. 2019. Low Income Consumer Solar Working Group Final Report. Available at:http://defgllc.com/publication/low-income-consumer-solar-working-group/