National Community Solar Partnership

Municipal Utility Community Solar Workbook Launch Webinar

September 1, 2022 | 2:00 – 3:00 p.m. (Eastern)

Housekeeping

- This session is being recorded.
- Please put questions in the Q&A section (please do not put questions in the chat).
- Questions will be answered at the end of the webinar.
- Live transcript is enabled. It must be turned on manually by clicking on the “Live Transcript” button and selecting “Show Subtitles.”

Welcome & Overview

Agenda

Time	Topic	Presenter
2:00 – 2:05	Welcome & Overview	Anna Balzer, NCSP
2:05 – 2:25	Community Solar Workbook Overview	Joyce McLaren, NREL
2:25 – 2:45	Municipal Utility Case Studies • Longmont Power & Communications *Hannah Mulroy & Susan Bartlett* • Vernon County Energy District *Alan Buss*	Paul Zummo & Dan Cristinzio, APPA
2:45 – 2:55	Q&A	Paul Zummo & Dan Cristinzio, APPA
2:55 – 3:00	Next Steps	Carole Plowfield, APPA

National Community Solar Partnership Overview

Data Tracking

- Sharing the Sun is a market trends annual report that is managed by NREL through NCSP; partner commitments are tracked to the program and its goal, and program evaluation is done to determine success.

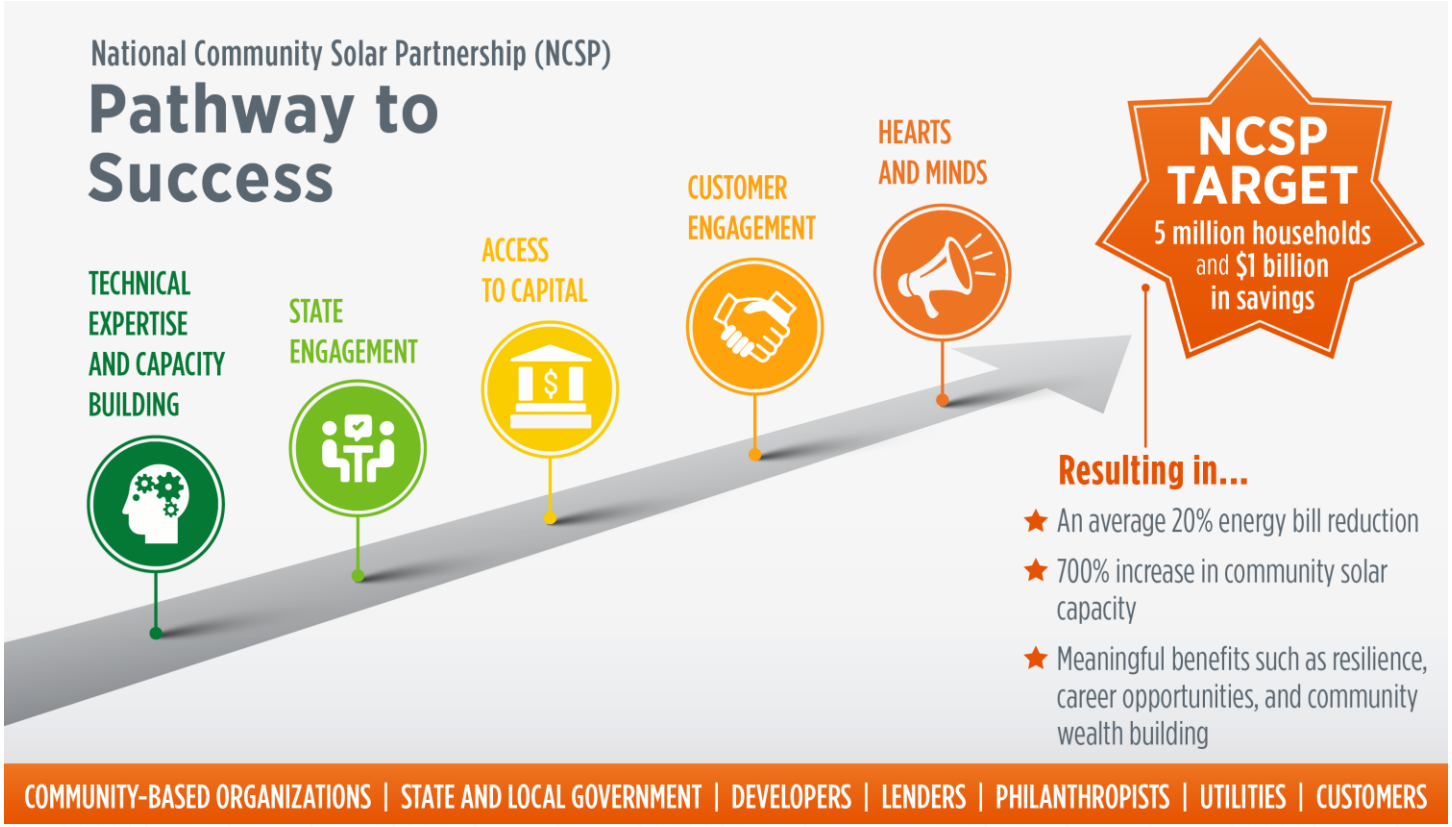
Collaboration

- Partners can access an online community platform, virtual/in-person meetings, webinars and other tools to engage with DOE, National Labs, and each other.

Technical Assistance

- Partners have access to resources and direct technical assistance from DOE, National Labs, and third-party subject-matter experts to support local challenges.

NCSP Pathway to Success



Community Solar Workbook Overview

History & Purpose of the Workbook

The workbook is a record of the information originally developed for a working group of municipal utilities interested in community solar.

Municipal Utility Community Solar Working Group

- led by APPA and NCSP staff
- 7 municipal utilities selected to participate
- April – December 2021
- monthly meetings with guest speakers and discussions

Although the information was originally developed for a municipal utility audience,

the information is relevant to anyone considering community solar project development.

Chapters lead readers through the project development process

Chapter 1
DEFINING COMMUNITY SOLAR PROJECT GOALS & OBJECTIVES FOR YOUR UTILITY
Using a set of starter questions, explore potential goals and objectives to serve as a framework for the design and implementation of your community solar project.

Chapter 2
GAUGING MARKET POTENTIAL & CUSTOMER APPETITE
Learn about methods and tools to use to better understand your customer base and their interest in and motivations for engaging in community solar.

Chapter 3
CHOOSING A COMMUNITY SOLAR PROJECT SITE
Evaluate potential sites for your community solar project by their physical characteristics, local regulations, and community preference.

Chapter 4
INVESTIGATING PROGRAM DESIGNS & SUBSCRIPTION MODELS
Explore different elements of community solar program and subscription design and understand how different design choices impact your project's goals.

Chapter 5
EXPLORING PROJECT ECONOMICS & FINANCIALS
Learn how to conduct an analysis of the technical solar potential of your project site and the economics of your chosen program design and goals.

Chapter 6
DEVELOPING REQUESTS FOR PROPOSALS & PROJECT TIMELINES
Learn how to develop a Request for Proposal (RFP) for your community solar project that prioritizes your program goals.

Chapter 7
CONSIDERING MARKETING, CUSTOMER ACQUISITION, & PROGRAM IMPLEMENTATION
Learn how to create a marketing plan for your community solar project to support subscriber acquisition in your service territory and how to set up billing and subscription management to support project financials and customer needs.

Appendix I
FACILITATOR QUESTIONS
Use these questions as a foundation for community solar workshops to facilitate discussions about the potential of community solar projects with participants.

Appendix II
FURTHER RESOURCES
Browse more resources, studies, websites, and toolkits sorted by chapter to help evaluate and design your community solar project.

Equity Considerations

In the Equity Callouts within each chapter of this workbook, you will find tools, resources, and information that you can use to create a community solar project that prioritizes equity and acknowledges the variety of backgrounds, needs, and preferences of LMI and BIPOC communities.

The Workbook points to best practices for designing community solar programs that:

- reduce energy burdens for low- to moderate-income (LMI) customers
- increase access to clean energy for Black, Indigenous, and People of Color (BIPOC) and under-resourced communities.

The Department of Energy's **Low-Income Energy Affordability Data (LEAD) Tool** allows users to explore which locations have the highest energy burden.

Chapter 1: Defining Goals & Objectives

- Questions to help define your goals & objectives
- Answers serve as guidelines through the project design process
- Additional resources:
  - HUD's Organizational Solar Readiness Assessment
  - Community Solar Case Studies

Chapter 2: Gauging Market Potential

"By understanding the sub-groups or market segments within the customer base, the savvy community solar program designer can improve customer satisfaction and lower solar customer acquisition and retention costs."

- *Market Research and Market Segmentation for Community Solar Program Success*
(Community Solar Value Project)

- ✓ **Survey Design Tips & Questions**
- ✓ Lessons Learned from Landscape Anayses
- ✓ Formats & questions for stakeholder engagement
- ✓ Resources to understand priorities of LMI households

Chapter 3: Project Siting

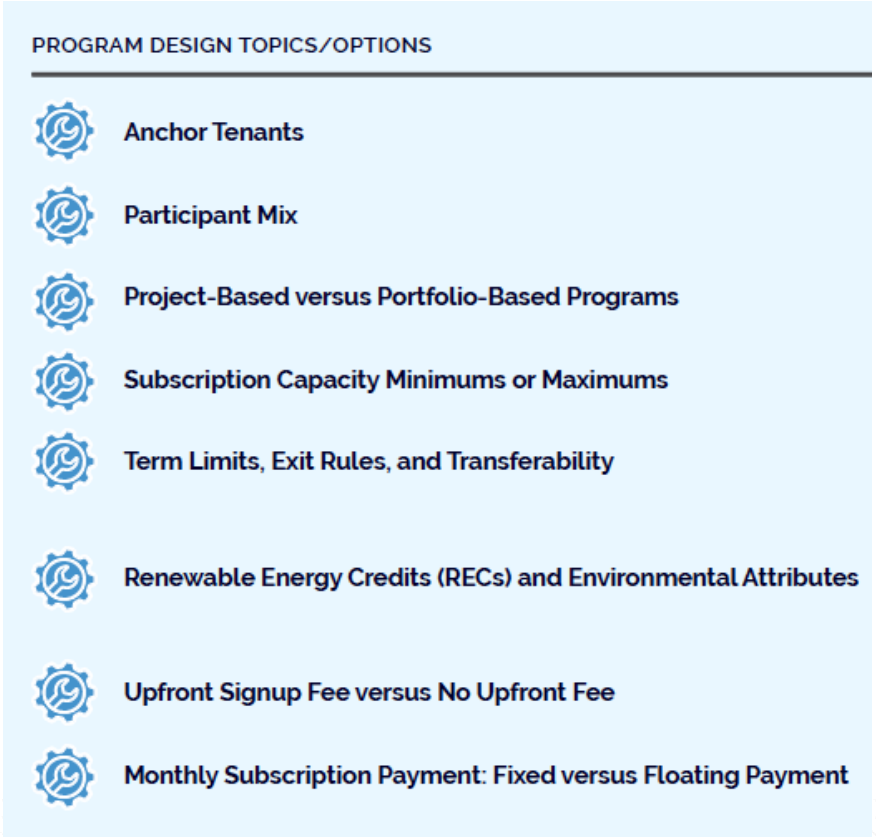
- Identifying suitable land and rooftops
- Using GIS, rooftop data, solar potential data
- Understand constraints from topography, soil conditions, habitats, buried infrastructure
- Clarifying the authority having jurisdiction (AHJ) over the land
- Interconnection costs and opportunities
- Siting on public property versus private property
- Creating public awareness and educational opportunities
- Prioritizing equity and inclusion in site selection

Studies have confirmed the importance of the "Peer Effect" in solar adoption. The effect is especially pronounced in low-income neighborhoods. You can encourage equitable adoption of solar by siting panels in areas where few already exist.

"Solar panels are contagious - but in a good way" by the Potsdam Institute for Climate Impact Research (2021)

Chapter 4: Program Design & Subscription Models

- Learn about program design elements and options
- Learn about different subscription models and pricing options
- Design a community solar program to enable participation by low- to moderate-income (LMI) households



Program Design: Project vs Portfolio

Project-based programs allow subscribers to sign up for a specific project:

- Permits subscribers to know exactly where their project is located.
- Improves marketing opportunities and customer identification with solar development in the community.
- Assures subscribers concerned about land use (or other issues) that their project meets their personal criteria.

Portfolio-based programs allocate subscriptions based on aggregated solar capacity across the utility's solar portfolio:

- Ties subscription costs to overall portfolio cost.
- Aggregates projects that have different installation costs.
- Distributes the advantage of falling solar prices across all program subscribers.

Subscription Models: Upfront Fees

Upfront Fees Pros:

- Can help the utility hedge against a community solar project's construction or financing costs.
- Can help with customer retention.
- Can be combined with monthly payments.

Upfront Fees Cons:

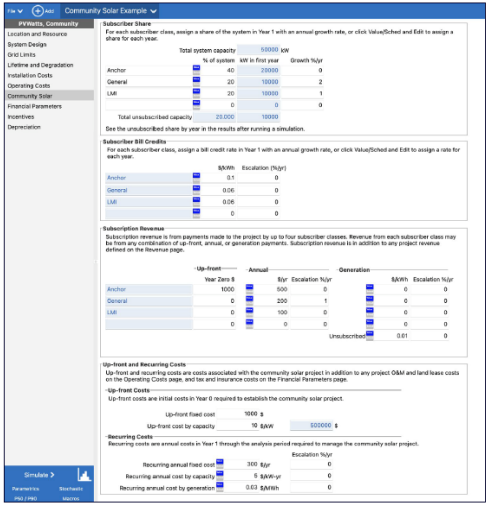
- Can present a barrier to entry for LMI households.
- Programs with no upfront fees (easy entry) typically have lower customer acquisition costs.

Best Practice: Low or no upfront fees reduce barriers to entry for LMI households.

Chapter 5: Economics & Financials

Learn to use NREL's PV Watts and System Adviser Model to estimate solar production and project cash flow under different scenarios.

- Model solar production at your proposed site
- Estimate technology capital costs
- Explore financial considerations
  - capital structure
  - cost of capital
  - policy & incentives
- Compare subscription costs for different customer classes



Projects with a diversified mix of customer types may realize more efficient project financing structures.

Chapter 6: Requests for Proposals

Section III: Additional Resources

Cities and Counties RFP Template (NREL)

Use this RFP template from NREL as a starting point for any grid-tied solar photovoltaic systems.

Download the template.

RFP Background

View this PowerPoint from the Community Solar Working Group (Session #7, October 6, 2021) to learn more background information about the RFP process.

View the presentation.

Community Solar RFP Tool

This database from the American Cities Climate Challenge includes many procurement resources, including a downloadable toolkit from the Rocky Mountain Institute for preparing a community solar RFP.

View the database.

Database of State Incentives for Renewables and Efficiency

Support strong proposals by including relevant policy information in your RFP. This DSIRE database maintains up-to-date information on all state policies and incentives for renewable energy and efficiency.

View the database.

Case Studies

Hear from the Fayetteville, North Carolina, Public Works Commission about their community solar and battery storage project: Fayetteville Solar + Storage Webinar (NOTE: You will need to log into your NCSP Mobilize account to view this webinar and download the slides.)

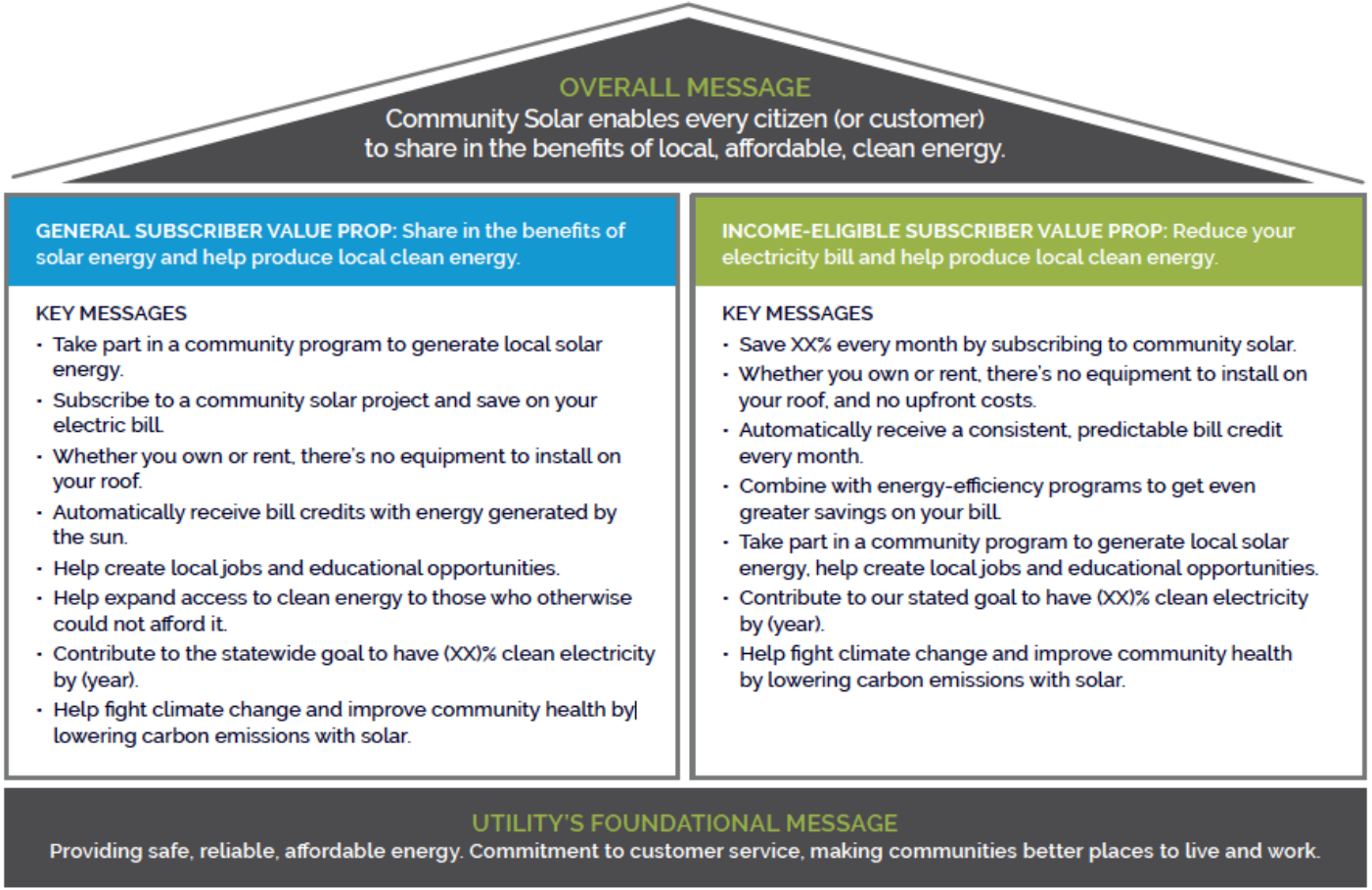
View the webinar.

The Community Solar Value Project collected RFPs from utility-driven solar procurements from 11 utilities representing various project sizes, siting choices, ownership models, and program offerings.

Download library.

Find more resources in Appendix II: Further Resources

Chapter 7: Marketing & Customer Acquisition



Next Steps

- ✓ Download the Municipal Utility Community Solar Workbook
  https://www.publicpower.org/resource/municipal-utility-community-solar-workbook

- ✓ Join the National Community Solar Partnership *https://ncsp.solarinyourcommunity.org*

- ✓ Apply for *Technical Assistance* through NCSP
  https://www.energy.gov/communitysolar/technical-assistance-opportunities

Coming soon:

- ✓ APPA Continuing Education (CE) Course on *Program Design & Subscription Models*
- ✓ Summary of the Working Group, highlighting participant goals and activities

Municipal Utility Activities

APPA Background

- The American Public Power Association is the voice of not-for-profit, community-owned utilities that power 2,000 towns and cities nationwide
- We represent public power before the federal government to protect the interests of the more than 49 million people that public power utilities serve, and the 96,000 people they employ
- We advocate and advise on electricity policy, technology, trends, training, and operations.
- To partner with members to promote public power, helping community-owned utilities deliver superior services through joint advocacy, education, and collaboration. About APPA

What Role APPA Plays in NCSP

- APPA works with stakeholders to identify and address common barriers to community-based solar
- We created the Community Solar Guidebook (2020) to serve as a roadmap for public power utilities to navigate community solar program design
  - Targeted towards low-to-moderate income and rural areas
- We facilitate the free Technical Assistance program that comes with joining the NCSP
  - Technical Assistance covers policy, legislation, and regulation research, project financing analysis, outreach and engagement strategies, program design, and technical issue support.
  - Consultation on program processes and policies, technical review of plans and models, etc.
- We work with DOE and NREL and the NCSP Working Group to identify and address common barriers to community-based solar. National Community Solar Partnership

LONGMONT INVOLVEMENT IN COMMUNITY SOLAR WORKGROUP

Presented by: Hannah Mulroy & Susan Bartlett
Longmont Power & Communications

September 1, 2022

Utility/City Goals

- 100% Renewable Electric by 2030.
- Local Supplemental Generation
- Equitable access to solar for low-moderate income (LMI) residents

Experience with Municipal Collaborative

Why We Participated:

- Learn how other municipal utilities are approaching community solar
- Leverage NREL expertise & resources
- Scope an actionable project

What We Found Helpful:

- Guidance to apply for technical assistance once we scoped a project
- Guidance on site selection

Experience with Municipal Collaborative

Influence on Community Solar Approach:

- It is okay to start small
- Practice on buildings we own
- Scale to other City-owned facilities or partner properties

Progress We've Made:

- Developed scopes for two projects
- Will go to RFP/bid for two projects:
  - City-owned parks facility
  - Multi-family affordable housing property

Experience with Municipal Collaborative

NCSP Technical Assistance (TA):

- Receiving TA on program design
  - ✓ Develop subscription model for City-owned facility
  - ✓ Determine benefit to be provided to LMI resident at multi-family affordable housing development

Proposed Project

Roosevelt Pavilion

- 75 kW
- 130,000 kWh
- $230,000
- South-facing roof
- Public access

Community Solar Potential

- Options:
  - City as direct offtaker
  - Subscriptions for LMI residents
  - Subscriptions for current renewable power purchase participants

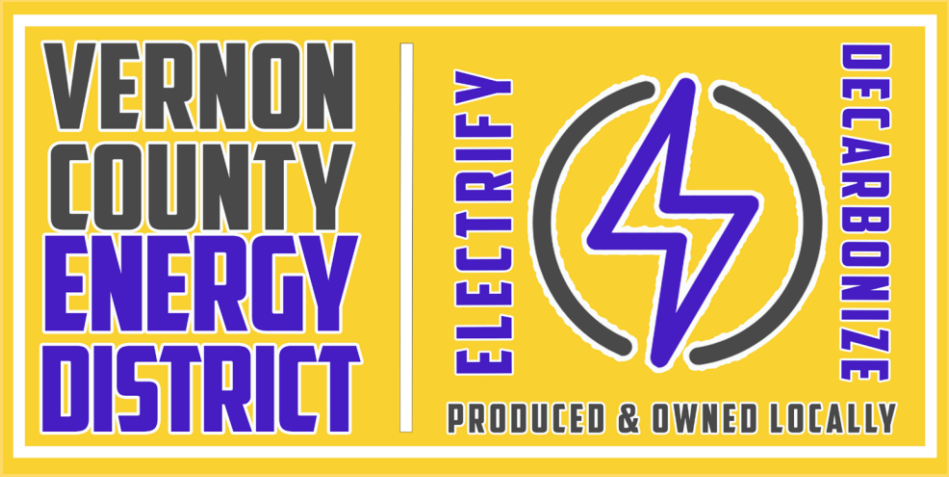
2022 - 2023 Actions

Next Steps

- Late 2022 – Work through TA on project design
- Late-2022 – Prepare RFP for solar installation
- Early-2023 – Execute contract with installer
- Late-2023 – Construct Community Solar project(s)
- 2024 – Launch demonstration community solar and LMI solar program(s)

CITY OF LONGMONT COLORADO

THANK YOU



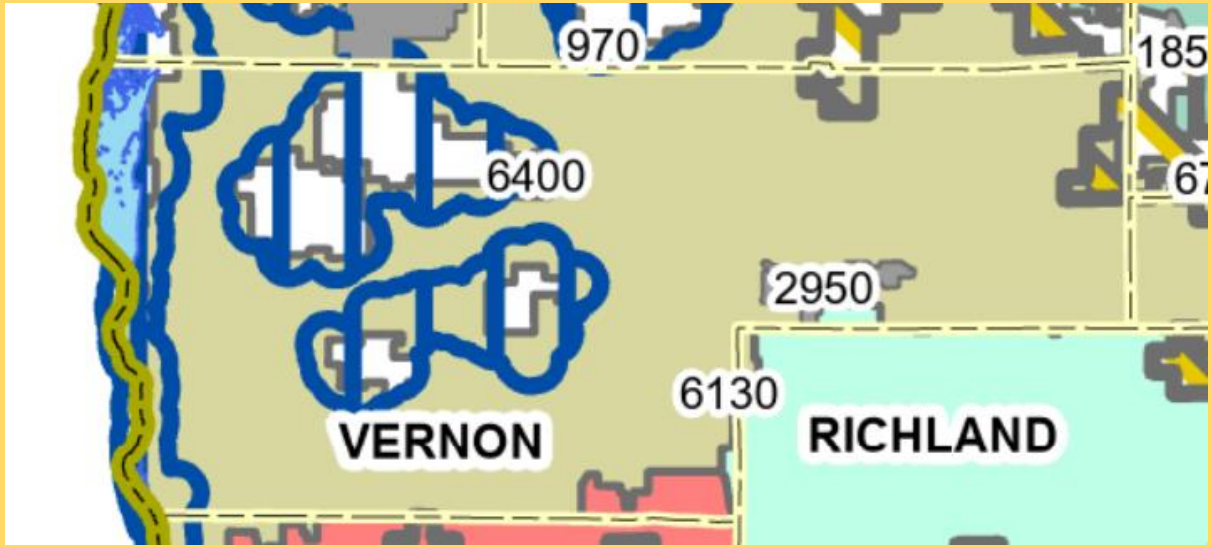
Vernon County Wisconsin

What is an Energy District?

- County level non profit organization modeled off of the soil and water conservation districts to support our shared energy resources
- Winneshiek County, Iowa formed the first energy district in 2010
- Today there are 11 total energy districts with more in formation
- Vernon County Energy District is the first in Wisconsin and formed in 2020
- Energy Innovation Grant Program (EIGP) award recipient in 2021 to launch 12-month energy planning (current)

Vernon County Energy Ecosystem

- 8 utilities
- 2 IOU, 3 Municipal, 3 Electric Co-op



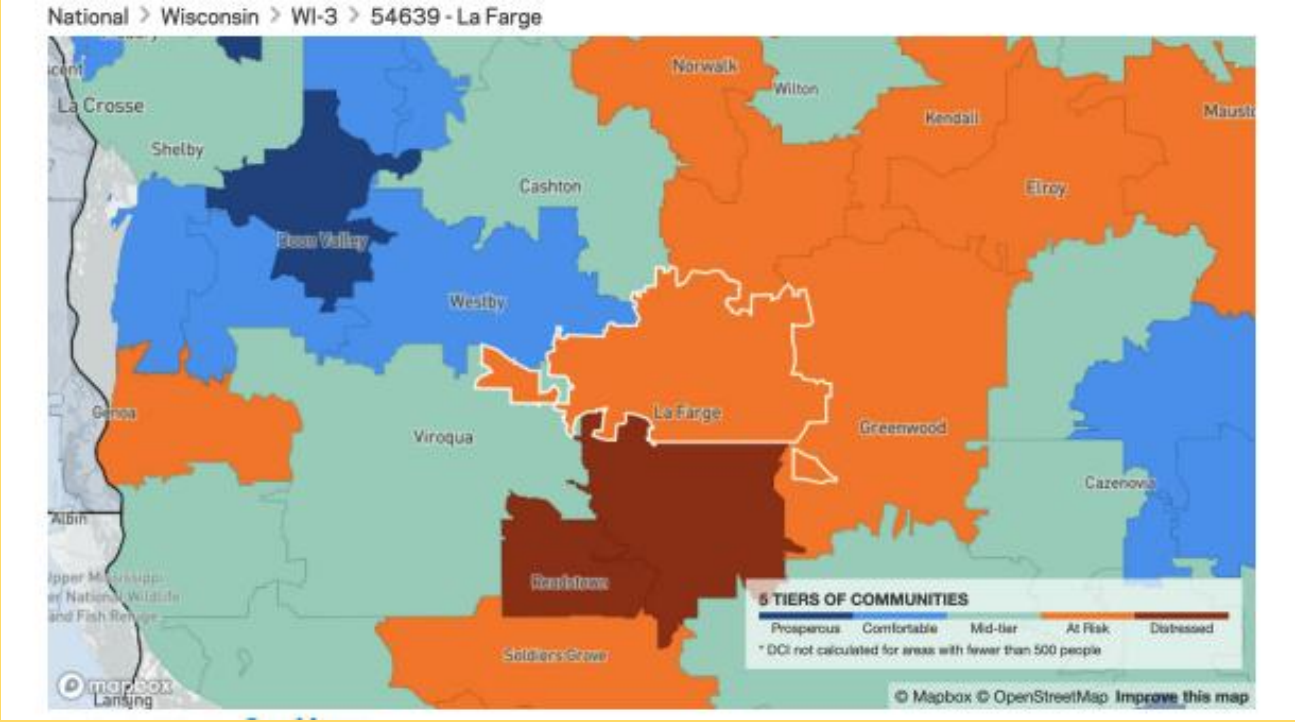
From our Mission Statement

Promoting the wise and efficient use of energy and encouraging the transition to locally owned and operated renewable energy sources

Village of La Farge

- Population of 730
- Municipal Utility
- Headquarters for Organic Valley
- A Community Solar Feasibility Study was done in 2014-2016
- Major flood events in 2016, 2017 and 2018
- 2018 flood broke previous record by 4 feet
- 2018 flood took out the substation leaving the village without power for 3 days

La Farge is considered an At-Risk Community



What we've done so far

- Community Solar Committee meeting every other Monday since September 2021
- Presentation to Village Utility Committee in February 2022
- Community Energy Independence event in April 2022
- Community Visioning event in July 2022
- Signed MOU with Village in August 2022

What's next

- Meeting with Village Utility Agency, UMMEG next week
- Community meeting to discuss options
- Interest in EV charging

How the Community Solar Workgroup helped us

- We hope to be able to support other utilities in our area too
- Clear and well organized steps
- Given us a great framework for discussions with the board, committees and the community
- Take our time and do it right


Q&A

Energy Transition Community (ETC) Background

What is it?

- A working group addressing grid operations, reliability, resiliency and recovery in a future low emission electricity delivery system, including advising APPA's work on its DOE cooperative agreements.

What is the objective?

- Envision and communicate how public power utilities will achieve low emissions goals and continue to deliver safe, reliable, and cost-effective electricity.

Who are participating on the ETC?

- Representatives from public power utilities, joint action agencies, and state/regional associations to provide real world input and experience.

ETC Background

- Roadmap serves as a guide for public power utilities looking to explore options and define their own path forward based on the needs of the communities they serve.
- Roadmap development will rely on public power utility input.
- Roadmap will be evergreen and updated yearly.
    - Defining the Public Power Landscape
    - Defining the Destination
    - Defining the Road Forward
    - Benchmarks and Milestones
    - Refining the Roadmap

Looking Forward

Download the Municipal Utility Community Solar Workbook

Register to join the National Community Solar Partnership to access events, resources, and peer networking opportunities

Apply for technical assistance to support your community solar efforts

Join NCSP:
https://ncsp.solarinyourcommunity.org/registrations/groups/39758

Thank You

Join NCSP: ncsp.solarinyourcommunity.org
Questions: community.solar@ee.doe.gov

Resources + Follow Up

Links to resources shared during Municipal Utility Community Solar Workbook Launch:

- Download the Municipal Utility Community Solar Workbook here: https://www.publicpower.org/resource/municipal-utility-community-solar-workbook
- Join the National Community Solar Partnership here: https://ncsp.solarinyourcommunity.org/registrations/groups/39758
- Learn more about technical assistance here: https://www.energy.gov/communitysolar/technical-assistance-opportunities

Additional Q&A:

Anything addressing "NIMBY", in particular from Environmental groups?

The workbook does not cover the NIMBY issue specifically, although the chapter on siting does speak to issues to be aware of, like environmental review processes and habitat considerations.

I assume that the SAM tool and other resources are not update yet to reflect municipal utility direct access to the ITC and other IRA incentives.

No, the updates related to the IRA are in progress and will be released in a future update. We do not have an anticipated timeframe for those, but staff are working hard on it, as you might imagine!