



COALITION FOR
COMMUNITY
**SOLAR
ACCESS**

Incorporating Solar into Agricultural Landscapes – Workshop for Virginia Farmers

March 2022



Who is CCSA?



The Coalition for Community Solar Access is the business voice for community solar in the United States.

- Our mission is to expand customer choice & access to solar for all households & businesses through local, clean, and affordable community solar.
- We work with customers, utilities, local stakeholders, and policymakers to develop and implement policies and best practices that ensure community solar programs provide a win, win, win for all, starting with the customer.

www.communitysolaraccess.org



Shared Solar (Community Solar) Overview



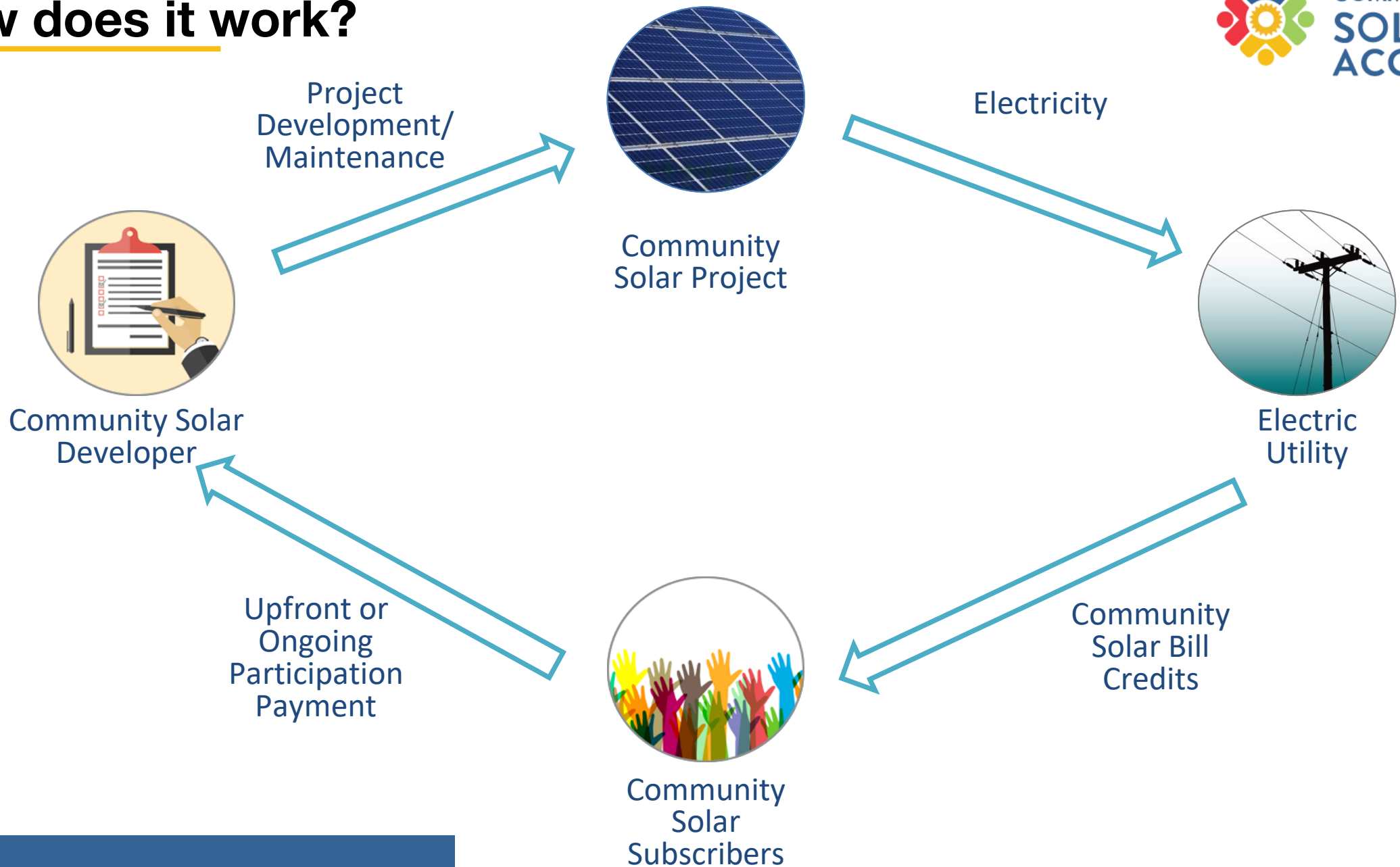
What is Shared Solar (AKA - Community Solar?)



- Projects are typically 2-5 MW and connected to the distribution system and are statutorily limited to 5 MW.
- Locally sited projects in and around your community
- Multiple subscribers receive the energy output from a single solar array
- Participants receive a credit on their electric utility bill for portion of power produced



How does it work?



Benefits of Shared Solar?



LOWER ENERGY BILLS.

Locally produced solar provides homeowners, renters and businesses equal access to the cost-saving benefits of solar energy.



LOCAL JOB CREATION & ECONOMIC IMPACT.

Local energy creates good-paying jobs in communities across the United States. Local solar also provides economic opportunities for farmers through land leases and provides significant tax revenue to local municipalities, which in turn can fund local public services and infrastructure improvement projects.



REDUCED GRID COSTS.

By generating energy closer to the consumer, local solar reduces demand for costly, large-scale utility and distribution infrastructure.



A MORE RESILIENT GRID.

Local solar energy, especially when paired with battery storage, will make the electric grid more resilient to weather, climate, and large-scale disruptions. Instead of relying on giant power plants and the poles and wires to transmit power hundreds of miles, a distributed grid of local solar facilities can even out the electric load and reduce outages.



CONTINUED INNOVATION.

Expanding the market creates opportunities for competition, innovation and equitable access to the benefits of renewable energy. This will lead to more efficient products, faster deployment of renewables, increased savings for customers and greater economic benefits, especially for low- and moderate-income communities.



MORE EQUITABLE PARTICIPATION.

Everyone with an electric bill can directly participate in and benefit from rooftop and community solar. With intentional action including policy and programming support, local energy includes low-wealth communities who have been most impacted by pollution from traditional power plants.

National Experience with Shared Solar

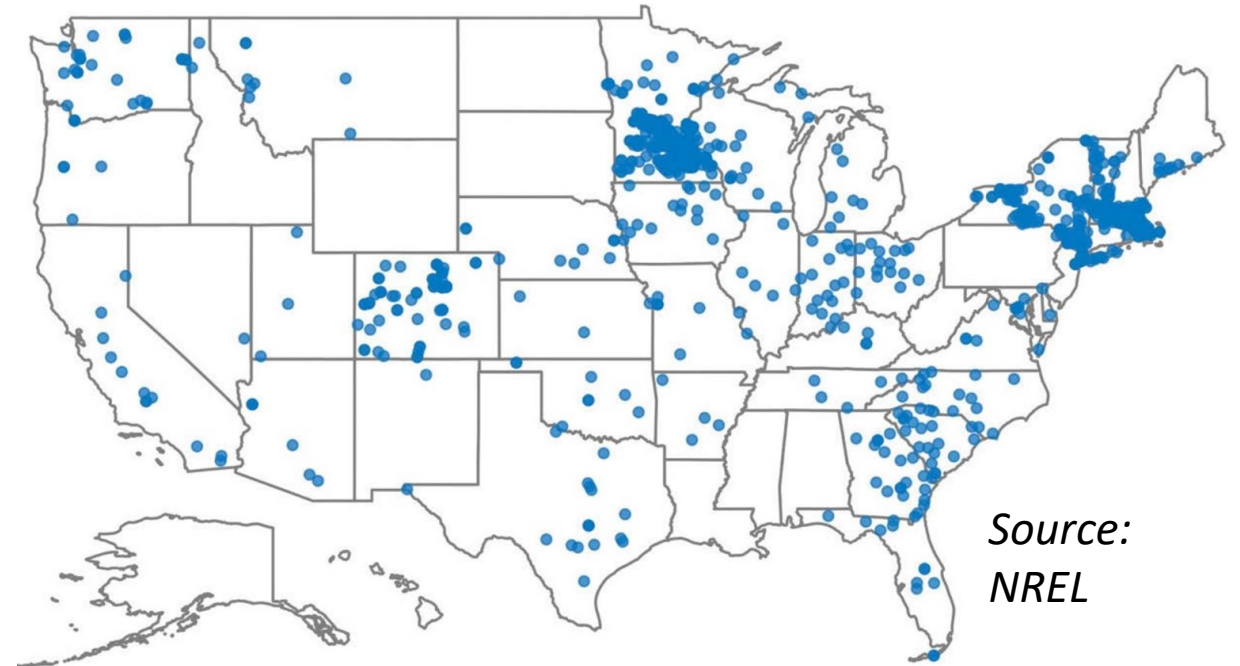


- **By the Numbers**

- NREL/SEIA estimate there are over 2,500 megawatts installed
- At least 40 states with at least one project online
- At least 19 states (and DC) with state-enabling policies

- **Shapes & Sizes**

- Shared Solar is also referred to as Community Solar, Community Distributed Generation, Solar Gardens, Shared Renewables, other?
- Programs (and projects) can be utility-led, third-party led, community/nonprofit led, hybrids, other?



Source:
NREL

Shared Solar in Virginia



Shared Solar Programs in Virginia



- In Virginia, there are two programs associated with Shared Solar:
 - Shared Solar Program; and
 - Multi-Family Shared Solar Program
- These programs were enabled through legislation and regulations established in 2020 and are now being refined in implementation processes before launching.
 - Shared Solar Program – Subscriber Organization and Project Registration open on July 1, 2020, however actual customer enrollment cannot begin until Dominion develops a customer information platform, or by July 1, 2023 (whichever comes first).
 - Multi-Family Shared Solar Program - Subscriber Organization and Project Registration open on July 1, 2020.
- Note that these should not be confused with Virginia’s Community Solar Pilot program, which legislation established as a utility-led program in Dominion and APCo territories, or with programs established by electric cooperatives.
 - The Shared Solar Programs will be available to third-party led and community-led or other projects
 - Electric cooperatives in Virginia have the ability to establish community solar programs in their territory.

Shared Solar - Virginia Program Basics



- **Territory** – Dominion Energy (Virginia)
- **Program size** – 150 MW, which is expanded by additional 50 MW (200 MW total) upon satisfying the initial low-income participation requirement (30% of capacity).
- **Project requirements** – A solar facility (or co-located facilities) up to 5,000 kW, on any single parcel of land, and connected to the distribution system.
- **Participant requirements** – At least 40% of project capacity subscribed by customers with subscriptions of 25 kW or less; and at least 30% comprised of low-income customers
- **Economics** –
 - Minimum bill determined by the Commission (low-income are exempt)
 - Applicable bill credit rate is a \$/kWh rate calculated annually by dividing revenues (to the class) by sales (measured in kilowatt-hours), i.e., retail rate

Shared Solar in APCo and Co-op territories?



- The Co-ops and solar industry have been in discussions regarding the potential for shared solar in those territories
- [SB 659](#) – originally proposed creation of shared solar in Phase I utility territories (e.g., APCo and Old Dominion)
- [SB 660](#) – originally proposed creation of shared solar in electric cooperative territories
- *These bills have been essentially combined and turned into proposed stakeholder workgroups to evaluate shared solar programs in APCo and co-op territories – and to produce a report summarizing the findings by Nov. 30, 2022

Opportunity for Farmers



Video About Community Solar & Farming

<https://www.youtube.com/watch?v=LuZlpZjmNYU&t=5s>



Why Some Farmers Choose Community Solar



Revenue and Planning

- Diversification strategy
- Protect against fluctuating commodity prices
- Land leases often pay more \$ per acre than crops
- Economic reliability with monthly source of revenue

Keep Land Local

- Create value on underperforming land
- Helps keep land in family for generations
- Help power local communities with renewable energy
- Avoid selling land to more intrusive forms of development (strip mall, subdivision, etc.)



How Community Solar can Integrate with Existing Farming Operations



- Land can be quickly put back into production after lease due to non-intrusive development
- Dual-use capability
 - Agrivoltaics
 - Beekeeping
 - Pollinator-friendly development
 - Onsite grazing of certain animals



Land Leasing: Overview



Overview

- Property owners receive an annual lease payment for hosting community solar projects. The average project lifespan is 25 years.
- Systems have typically been installed on agricultural land not in production, but dual-use systems are increasing steadily. This practice allows land to stay in use even while hosting a solar system.
- Projects are planned in partnership with solar developers, farmers, and local communities.
- Projects create lasting economic, environmental, and community benefits while maintaining and improving the integrity of the land.

Land Leasing: Best Practices



Dual Use Projects

- Solar projects that enable agricultural activity to continue on the same land (such as low-growing crops or animal grazing).
- Planned in partnership with solar developers and farmers to enable continued agricultural use under and around the solar arrays.
- Generates economic benefits for farmers for the project lifetime
- Provides opportunity for sustainable land management
- Used in several states including NJ, PA, and MA.

Examples of Dual-Use PV Systems (Agrivoltaics)



Land Leasing: Best Practices



Protections for Farmers and Landowners

- Bond requirements to insure your land
- Your solar developer should recommend that you find legal support to understand documents and terms
- Environmental and building permits

Bond Requirements

- Dependent on state requirements, solar developers must post a bond to receive permits for a local solar facility.
- A bond acts as a form of insurance for the farmer or landowner in case of any issues with the solar facility or decommissioning process.
- Bonds are required by the state and some counties.

Land Leasing: Best Practices



Land Conservation

- Pollinator-friendly PV advocates for dual-use projects that support native plants on underlying land, **providing a habitat for vital pollinators.**
- We aim to **minimize soil impacts** during construction, operation, and decommissioning. CCSA members follow environmental best management practices on site hydrology and often create farm management plans with certified consultants.
- The community solar industry chooses to build in a manner which **protects the land and restores it** at the end of the project life.

Land Leasing: Best Practices



What CCSA members look for when siting projects:

- 1. Accessibility:** Close access to public roads for utilities, construction crews, and maintenance providers.
- 2. Location:** Proximity to utility infrastructure to minimize costs.
- 3. Open and clear space:** Ensures minimal shading from trees or crops.
- 4. Contiguous:** rectangular or square parcels with no streams, wetlands, or easements running across.
- 5. Size:** One megawatt of solar needs 5-6 acres of land. A 5 megawatt project will require 20-25 acres of land.
- 6. Topography:** land should have less than a 15 degree slope, and ideally faces south.

Land Leasing: Best Practices



Project Maturity and Standard Documents

- **Site Control:** a signed land lease agreement with a farmer or landowner.
- **Required Non-Ministerial Permits:** evaluates the land for conservation requirements and project viability.
- **Utility Procedures:** application to connect to the utility's electric grid, and approval letter with cost estimates for any infrastructure upgrades.
- **Financial:** bonds or security deposits.

Typical Lifecycle of a Community Solar Facility



Pre-development (1 - 3 months)

- Initial contact with the developer
- Negotiation of lease option or letter of intent

Development (6 months - 3 years)

- Payment(s) for site control rights
- Initial project diligence (survey, title, soils, etc.)

Construction (3 – 12 months)

- Solar plant is built by the developer
- Utility builds out electric infrastructure to the site

Operations (20 – 30 years)

- Consistent and ongoing payments per lease agreement
- Periodic site maintenance by the system owner

Decommissioning (3 – 12 months)

- Removal of all above and below ground equipment
- Land is effectively returned to its prior condition



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