

## Community Solar for the Southeast: Technical Services

The goal of the Community Solar the Southeast project is to support community scale solar development in service areas of cooperatives and municipal utilities in the southeast states. NC Clean Energy Technology Center in collaboration with its project partners provide a broad range of technical services to develop new as well as existing community-scale solar arrays and programs. Community solar or community-scale solar are defined as 500kW to 10 MW solar arrays connected to the distribution grid. This includes community solar as well as similarly sized arrays where the utility is the single off-taker

1. **Economic and technical modeling (150 hours)**
  - a. Model annual production and economic cash flows that incorporates utility's coincident peak, energy, demand rates, PV costs, battery storage costs, PV system orientation, tracking options, battery storage with adjustable power and energy capacity, and storage controls. The goal of this analysis is to show the economic viability of community-scale solar, in terms of NPV, annual savings, and IRR.
  - b. Investigate available storage options: products, charge/discharge rates, capacities, hard and soft costs, availability, lifespan, PV system integration requirements.
  - c. Conduct market research for availability and cost for the system.
  - d. Model dispatching of solar and storage system, develop an operation plan for storage that optimizes the system production taking into consideration system load and PV generation
2. **Community Solar Program Design Guidance (100 hours)**
  - a. Support design of community solar program including
    - i. Community solar program design including credit rates, participant fees, tariff design, and other considerations.
    - ii. Research applicable state, federal, and local regulations
    - iii. Review of securities law compliance assistance
    - iv. Review of available financing options
3. **Demand aggregation (Not relevant)**
  - a. Aggregate demand from multiple co-ops and munis, to realize the cost savings from asking for prices for multiple community-scale solar arrays at once.
    - i. Model economic benefit of aggregating demand
    - ii. Presentations to GMs, CEOs, and boards to explain the benefits of community-scale solar
4. **Competitive procurement (Not relevant)**
  - a. Assist in development of RFQ/RFP to be released by the utility including
    - i. Provide project specifications for RFQ/RFP
    - ii. Write and release RFQ/RFP
    - iii. Provide structure for bid requests
    - iv. Send out RFQ/RFP to leading national and regional solar developers
    - v. Evaluate RFQ/RFP bids and suggest top vendor(s)
    - vi. Provide standard PPA document to reduce legal costs
5. **Outreach and Education (100 hours)**
  - a. Support development of communication strategy to promote community solar
  - b. Assist in conducting survey of the member customers to understand market
  - c. Create storyboard video, graphics, and brochures to engage member customers in the community solar program.

Please contact [communitysolar@ncsu.edu](mailto:communitysolar@ncsu.edu) for additional information.