

Tribal Community Solar Development Frequently Asked Questions

Q: What defines a Community Solar Project?

A community solar project is essentially a shared solar energy project that benefits multiple participants in a local area and is an affordable way for Tribal communities, renters and homeowners, local businesses, farmers, schools, and others to have access to solar energy.

Participants of a community solar array are often called “subscribers,” and a single community solar array can provide power for a mix of different subscribers. One project could provide power to a Tribal administration building, education center, health clinic, casino, and individual households. The solar panels are usually located in a central area, rather than on individual homes or buildings. This could be a community garden, a field, or even a rooftop of a suitable structure.

Through this program, subscribers can expect 10-20% in savings on their utility bills. Those who join a community solar program by subscribing to the facility have access to the electricity created by a shared solar array within or near a community, offering access to clean energy without individual solar installations on each building.

Tribal community solar offers Tribes the potential for self-sufficiency, community development, and alignment with Tribal values.

Community Solar Act

Q: What is the New Mexico Community Solar Act? How does it apply to Tribal Nations?

Community solar programs are typically enabled through state policy. A total of 24 states have statewide programs through legislation, and in 2021, the New Mexico Community Solar Act created the policy foundation to support community solar in New Mexico. The Act has unique provisions for “Native community solar projects” in recognition of the sovereign status of Tribal Nations. Projects off Tribal land are subject to the restrictions outlined in the state program, but projects *on* Tribal land remain exempt from state limitations. New Mexico is the only state having these unique Tribal exemptions.

As defined by the Community Solar Act, a "native community solar project" is “a community solar facility that is sited in New Mexico on the land of an Indian nation, tribe or pueblo and that is owned or operated by a subscriber organization that is an Indian nation, tribe or pueblo or a tribal entity or in partnership with a third-party entity.”

Q: How do community solar projects on Tribal land differ from projects off Tribal land?

Community solar projects on Tribal land and off Tribal land share the core concept of shared access and benefits of a solar project, but there can be some key differences.

	Community Solar Projects <u>on</u> Tribal land	Community Solar Projects <u>off</u> Tribal land
Project Size & State Oversight	<ul style="list-style-type: none"> - Excluded from the statewide capacity cap - Facilities can be any size - Renewable Energy Credits (RECs) and environmental attributes are owned by the owner of the project. RECs can be monetized as an additional source of income for the Tribe 	<ul style="list-style-type: none"> - 200 MW statewide capacity cap - 5MW facility size - Renewable Energy Credits (RECs) and environmental attributes are owned by the electric utility
Involvement of the New Mexico Public Regulation Commission (NMPRC)	Due to the Tribal provisions in the legislation, Tribal projects do <u>not</u> need to be approved and selected by the NMPRC.	Projects must be selected through the competitive RFP process administered by the NMPRC.
Ownership & Governance	Projects on Tribal land are overseen by Tribal law. Projects could be owned and managed by either the Tribe or a private developer or company. Decisions regarding the project's purpose, profit sharing, and land use prioritize Tribal needs and cultural considerations.	Projects off Tribal-land are subject to state jurisdiction, require approval by the PRC and are owned and managed by a private developer or company. Profits are distributed according to the ownership structure. The NMPRC provides the framework and facilitates the continuation of the community solar program.
Focus & Goals	Often driven by a desire for energy sovereignty, reducing reliance on external utilities, and creating economic opportunities within the Tribal community. May prioritize environmental sustainability and cultural values alongside cost savings for subscribers.	Primarily focused on fulfilling the legislative intent of the Community Solar Act and providing cost-effective renewable energy options to subscribers, specifically low-income customers. .
Funding & Incentives	May qualify for additional federal grants and tax credits specifically designated for renewable energy projects on Tribal lands. These incentives can help offset upfront costs and make the project more financially viable.	Relies on traditional financing methods and competes for general community solar incentives offered by the state or federal government.

<p>Subscribers</p>	<p>Projects on Tribal land have no restrictions on the amount of subscribers or who the projects must serve. A Tribe can determine who they want the facility to serve. For example, 50% of the community solar array can provide energy for Tribal residences, 30% for Tribal administration, and 20% for Tribal enterprises, or whatever is most appropriate for the community.</p> <p>Projects can provide energy for subscribers on or off Tribal land as long as they are in the same utility service territory.</p> <p>The Tribe can determine how to allocate subscriptions to maximize community benefit and cost savings for the Tribe and Tribal members.</p>	<p>Projects must have a minimum of 10 subscribers. Each project must have 30% percent of electricity produced is reserved for low-income customers and one subscriber cannot have access to more than 40% of the energy produced.</p> <p>Projects can provide energy for subscribers on or off Tribal land as long as they are in the same utility service territory.</p>
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Q: Why elect to do a community-scale solar project?

Community-scale projects allow for the following:

- Advancing Tribal energy sovereignty
- Savings on electricity bills
- Profit generation
- Reduce carbon emissions and reliance on fossil fuels
- Diversify energy supply with local and renewable sources
- Job development (construction and maintenance)
- Improve the reliability and resiliency of the energy grid

Q: Weren't Tribes able to do community solar before the passage of the New Mexico Community Solar Act?

Tribes are sovereign nations and are not under the jurisdiction of state or local authorities. However, many Tribes rely on electric utilities that fall under state oversight, adhering to state-directed policies and regulations. Until the inception of the Community Solar Act, Tribes could only embark on community solar projects with support from their utility providers.

With the enactment of the Community Solar Act, net-metering regulations were introduced, establishing a framework for utilities, consumers, and businesses to operate under. This framework ensures stable financial conditions for evaluating the economic viability of projects. Net metering involves a billing mechanism that credits utility customers for surplus electricity they generate and export to the grid.

The Community Solar Act mandates the participation of investor-owned utilities (IOUs) such as PNM, Xcel Energy, and El Paso Electric in the community solar program. The rulemaking process for community solar

was overseen by the New Mexico Public Regulation Commission, requiring each utility to submit their proposed energy valuation for approval. These rates are now monitored by the NMPRC to ensure that utilities accurately assess the value of the energy produced.

Q: Can the Tribe pursue a community solar project if our rural-coop has not opted into the program?

Rural co-ops may opt-in to the community program, but they are not required to support community solar projects because they are not state-regulated in the same way as other investor-owned utilities. Rather, the co-op regulatory board is responsible for rule-making to self-regulate the co-op. When a co-op utility is not state-regulated, the Tribe may have little ability to participate in or influence decision processes and co-op planning without going to the Federal Energy Regulatory Commission.

Rural distribution co-ops do not own any generation assets but instead buy power from other “generation and transmission” providers. Most rural distribution cooperatives in New Mexico are members of Tri-State Generation & Transmission, Inc. The contractual relationship with Tri-State limits the amount of self-generation an individual co-op can do, and each co-op member can only generate up to 5% of their own electricity needs.

There are a few possibilities for your Tribe to pursue a community solar project even if your rural cooperative hasn't opted into a formal program. Check with your rural electric cooperative about their policies on self-generation and if there is a possibility to develop more generation to serve the distribution network. This might allow your Tribe to install a smaller community solar project to offset some electricity usage. In addition to negotiating directly with the co-op board, Tribes can connect with experts at the National Rural Electric Cooperative Association (NRECA) for additional support.

While rural electric co-ops may not be subject to state regulation, they are under the jurisdiction of the Federal Energy Regulatory Commission, and Tribes can appeal to FERC on issues relevant to Tribal solar deployment. Tribes can also negotiate using their rights of way for access to their lands.

In the long run, the Tribe can explore additional strategies to encourage the cooperative to participate in the community solar program. One approach could involve Tribal members running for election to serve on the cooperative's board of directors. This would provide an opportunity to directly influence decision-making within the cooperative and advocate for the adoption of community solar initiatives.

Utility	Tribes in Service Territory	Participation in the Community Solar Program
Continental Divide Electric Cooperative, Inc. (Tri-State Member)	Acoma Pueblo Laguna Pueblo Navajo Nation Zuni Pueblo	Opt-in Participation
Jemez Mountains Electric Cooperative, Inc. (Tri-State Member)	Jemez Pueblo Jicarilla Apache Nambe Pueblo Navajo Nation Ohkay Owingeh Pueblo of Pojoaque San Ildefonso Pueblo Santa Ana Pueblo	Opt-in Participation

	Santa Clara Pueblo Zia Pueblo	
Kit Carson Electric Cooperative, Inc.	Picuris Pueblo Taos Pueblo	Opt-in Participation
Navajo Tribal Utility Authority	Navajo Nation	Not included as part of the Community Solar Act since they are outside of state jurisdiction
Northern Rio Arriba Electric Cooperative, Inc. (Tri-State Member)	Jicarilla Apache Navajo Nation	Opt-in Participation
Otero County Electric Cooperative, Inc. (Tri-State Member)	Mescalero Apache	Opt-in Participation
PNM	Isleta Pueblo Jicarilla Apache Pueblo de Cochiti Sandia Pueblo San Felipe Pueblo Kewa (Santo Domingo) Pueblo Tesuque Pueblo	Mandatory Participation as part of Annual Capacity Cap – “Native Community Solar Projects” are not included in the annual capacity cap.

Q: If a Tribe is considering pursuing community solar, what are the first steps that can be taken? What does completing a community solar project look like?

Step 1: Strategy & Goal-Setting

- Identify Tribe’s goals for solar development. This may happen through discussions with Tribal leadership, community members, and other involved stakeholders
- Have initial discussions with its utility to determine if there are any policies or regulations that may prevent the feasibility of solar projects
- Gather all relevant data and understand Tribal role options to make a first pass at a potential project in line with the Tribe’s strategic economic, energy, and climate goals

Step 2: Planning & Pre-Development

- Determine the Tribe’s desired role in the project, which can range from acting as the owner/operator of a facility or leasing the land to a third-party developer
- Reach out to the respective utility to determine project and siting viability
- Explore project scenarios and estimated values
- Consider adopting a Tribal resolution outlining the Tribe’s support of community solar to be used shall a grant opportunity arise or in the event of governance turnover
- Vet community solar companies and select a business partner(s)
- Outline permitting and siting process
- Begin to identify which subscribers the project is intended to serve

Step 3: Development & Business Arrangements

- Finalize economic assumptions and Tribal roles
- Determine financial partnerships and ownership structure
- Finalize project siting and permitting
- Submit interconnection application to the utility interconnection
- Finalize offtake agreements (if applicable)
- Identify workforce development goals

Step 4: Construction

- Begin project construction
- Implement workforce development goals
- Begin signing up subscribers

Step 5: Operations & Maintenance

- Project is interconnected to the grid and begins operating
- Maintenance plan implementation

Q: How can a Tribe determine whether to pursue rooftop solar, community solar, or utility-scale is the right project?

A Tribe may pursue multiple types of solar projects depending on their goals. Some factors that a Tribe may consider in assessing which type of project to pursue include:

- Goals of the project
- Project cost and economics
- Land availability
- Federal incentives
- Jurisdiction and utility regulations, including net metering and interconnection rules
- Available infrastructure (transmission, distribution lines, substations, feeders)

	Rooftop/Facility Solar	Community Solar	Utility-Scale Solar
Definition	Project serves <u>one</u> household/Tribal facility/building	Project serves a mix of <u>multiple</u> households/Tribal facilities/buildings	Project power sold to a third-party off-taker and used by the broader energy grid
Cost for Energy	Retail electricity price	Retail electricity price	Wholesale electricity price (Tribe receives less \$/kWh)
Project Size	Average around 6 kilowatts (kW)	Typically ranges from under 1 megawatt (MW) to less than 5 MW in capacity. 1 MW typically expands 5 acres of land	Can be hundreds of MW or even over 1 gigawatt (GW) and span hundreds to thousands of acres
Value Proposition	-Cost avoidance/savings on electric bills -Energy security -Energy resiliency -Energy Independence	-Revenue Streams -Cost avoidance/savings on electric bills -Energy security -Energy resiliency -Energy independence	-Revenue streams from sale of power at competitive market terms

Community Solar Project Ownership & Project Finance

Q: How does third-party ownership work?

Third-party financing and ownership of community solar is typically structured through a lease or power purchase agreement (PPA). A community solar developer will install a solar array with little to no upfront cost for the Tribe.

- In a lease, the community solar developer leases the land from the Tribe and maintains ownership of the system.
- With a PPA, the customer pays a set rate for the electricity generated by the community solar array.

For Tribes seeking to avoid upfront expenses, third-party ownership and financing can be appealing. With third-party ownership, the owner and operator of the project bears the project and financial risk. The company also manages system upkeep, which is an essential consideration if a Tribe is short staffed or does not have the capacity to manage the system on their own.

Project financing is extremely complex, and each solar developer has their own internal financial models. It's advisable for Tribes considering third-party ownership to evaluate proposals from multiple community solar developers to identify the most advantageous arrangement.

While many solar companies prefer sole ownership and operation of projects, partnership flips or ownership transfers may occur, transferring ownership from the third party to the Tribe in certain cases.

Sovereign Energy has compiled a list of "Questions to Ask Community Solar Companies" to provide additional assistance to Tribes in navigating discussions or evaluating project proposals.

Q: What does Tribal ownership of community solar arrays entail?

Many Indigenous communities view project ownership as pivotal in advancing Tribal sovereignty. However, each Tribe maintains its distinct perspective on Tribal energy sovereignty, with the determination to pursue project ownership ultimately lying within the Tribe's discretion. Numerous factors influence the assessment of whether project ownership aligns with a Tribe's objectives. Ownership entails increased responsibility and risk for the Tribe, necessitating consideration of factors such as risk tolerance, economic objectives, internal staffing capacity, asset protection, and long-term project management. With the availability of new federal tax incentives and grant funding, owning community solar arrays has become more economically feasible for Tribes.

Q: What is the typical return on investment (ROI) of a community solar array?

It's important to understand that the ROI (Return on Investment) for a community solar array can vary depending on several factors.

The average ROI for a solar farm often falls somewhere between [10% and 20%](#), and we can speculate that community solar would provide the same ROI. While community solar projects function differently than traditional solar farms, both involve generating solar energy. This suggests similar potential returns, though it's important to consider factors that might affect community solar specifically.

Key factors affecting ROI: Location (sunlight hours), electricity prices, project size, system efficiency, and available incentives all play a role.

Here's why the range exists:

Different companies have different ROIs that must be met to draw their interest to a project. Tribes also have their own ROIs that must be met to fulfill the Tribe's goals and objectives.

The location of the community solar project also makes a difference. A project in a sunny region with high electricity costs might see a higher ROI (closer to 20%). Conversely, a less sunny area with lower electricity rates might have a lower ROI (closer to 10%). Overall, community solar offers financial benefits through electricity cost savings and generates profit, but the specific ROI will depend on your location and project details.

Q: Can Tribes take advantage of federal solar tax credits?

Yes, Tribes can now take advantage of federal solar tax credits thanks to the Inflation Reduction Act (IRA) of 2022. Previously, their tax-exempt status prevented them from directly claiming these credits. The options include:

Direct Pay Option: The IRA introduced a "direct pay" option for Tribes. This allows them to receive a cash payment from the IRS equivalent to the amount of the tax credit they would have otherwise received.

Increased Accessibility: The IRA also expanded the two main solar tax credits, the Investment Tax Credit (ITC) and the Production Tax Credit (PTC), making them more accessible to Tribes. These credits can significantly reduce the upfront costs of installing solar panels.

Bonus Credits: Tribes may also be eligible for additional bonus credits depending on factors like project location and community served.

Development Process & Other Considerations

Q: How can Tribes receive technical assistance to assess the viability of a community solar project?

Tribes have a couple of options to receive technical assistance for assessing a community solar project's viability:

- **Department of Energy's START Program:** The U.S. Department of Energy's Office of Indian Energy offers the Strategic Technical Assistance Response Team (START) program. This program provides on-site technical expertise from the National Renewable Energy Laboratory (NREL) to federally recognized Tribes for renewable energy projects, including community solar.
- **Tribal Energy Organizations:** Several Tribal energy organizations offer technical assistance programs specifically focused on renewable energy development on Tribal lands. These organizations can help Tribes assess technical feasibility, conduct feasibility studies, and navigate permitting processes

Q: What is the lifetime of a community solar array?

The community solar program ensures that projects receive compensation for the energy they generate over a 25-year period. While the warranty lifespan of projects commonly aligns with this duration, it may

vary based on manufacturer specifications and performance warranties provided by solar installers. Beyond the initial 25 to 30 years, solar panels may experience a gradual decline in power output. Nevertheless, diligent maintenance practices can enable projects to sustain power generation for up to 40 years.

Q: What are the operations and maintenance of a community solar project?

The operations and maintenance (O&M) of a community solar project are crucial for ensuring it delivers its maximum benefits over its lifespan. Here's a breakdown of the key aspects:

Goals of O&M:

- **Optimize Performance:** Regular maintenance keeps the solar panels and system components functioning efficiently, maximizing electricity generation.
- **Preventative Measures:** Proactive inspections and cleaning identify and address potential issues early on, preventing major breakdowns and costly repairs.
- **System Longevity:** Proper care extends the lifespan of the solar panels and equipment, ensuring the project delivers clean energy for a longer period.
- **Safety:** O&M procedures prioritize safety by checking for electrical hazards, loose connections, and potential fire risks.
- **Key O&M Activities:**
 - **System Monitoring:** Continuous monitoring tracks the system's performance, power output, and identifies any deviations from expected levels.
 - **Regular Inspections:** Scheduled inspections involve visual checks of the panels, electrical connections, mounting systems, and surrounding vegetation for damage, debris, or shading issues.
 - **Cleaning:** Periodic cleaning removes dust, dirt, and bird droppings that can reduce the efficiency of the solar panels.
 - **Preventative Maintenance:** Based on the inspection findings, maintenance tasks like tightening loose connections, replacing worn-out parts, and inverter servicing are performed.
 - **Record Keeping:** Detailed records of inspections, maintenance performed, and system performance are maintained for future reference and troubleshooting.

Who Handles O&M?

There are two main approaches:

- **Internal O&M Team:** The community solar project might have a dedicated in-house team with the technical expertise to handle O&M tasks.
- **Contracted O&M Services:** The project can contract with a specialized O&M service provider who takes care of all maintenance needs.

Additional Considerations:

- **Drone Technology:** Some O&M providers utilize drones with thermal imaging cameras to conduct inspections, improving efficiency and safety.
- **Data Analytics:** Advanced data analysis of system performance can help predict potential issues and optimize maintenance scheduling.

By implementing a comprehensive O&M plan, a community solar project can guarantee it delivers clean energy efficiently and reliably throughout its operational life.

Q: What happens to the land after?

After a community solar project reaches the end of its operational life, the land undergoes a process called decommissioning. Here's what happens to the land during this stage:

- **Equipment Removal:** Solar panels, mounting structures, electrical wiring, and inverters are carefully dismantled and removed from the site.
- **Land Restoration:** The land is then prepped for its return to its original state or another designated use. This may involve:
 - **Soil de-compaction:** The soil that was potentially compacted during construction is loosened to improve drainage and air circulation.
 - **Backfilling:** Any trenches dug for electrical lines or mounting systems are filled back in.
 - **Revegetation:** Native plants and grasses are reintroduced to the site to restore the original ecosystem or establish a new one if desired.
- **Decommissioning Plan:** The decommissioning process typically follows a plan that's established during the initial project proposal stage. This plan ensures the land is restored responsibly and in accordance with environmental regulations.

Here are some additional points to consider:

- **Land Use After Decommissioning:** The land can be returned to its original use, such as agriculture or grazing, or converted to another purpose, like a community garden or recreational area, depending on the plan and community needs.
- **Sustainability Efforts:** Decommissioning can be done sustainably by recycling or repurposing some of the removed materials, like the aluminum frames of the solar panels.
- **Landowner Responsibilities:** The decommissioning process is usually the responsibility of the solar project owner, which could be the community solar developer or the Tribe itself, depending on the ownership model.
- Overall, the goal of decommissioning is to ensure the land used for the community solar project returns to a productive and ecologically sound state after the project's lifespan.

Q: Can community solar be paired with battery storage?

Battery energy storage systems can be added to community solar arrays to provide electricity when the sun isn't shining. Combining solar and storage can increase resilience by providing backup power during an electrical disruption.