BEYONDREACH™

USE CASE:

POWERING THE NATION'S LARGEST SOLAR PROJECT WHEN FIBER FELL SHORT

CHALLENGE

Solar energy fields are typically built in remote, rural areas where space and sunlight are abundant, but connectivity is not.

These large-scale operations rely on real-time data monitoring, control systems, and compliance reporting to maintain performance and meet strict federal regulations.

Losing connectivity, even temporarily, can jeopardize operations and result in hundreds of thousands of dollars in lost revenue per hour.

When the largest solar energy project in the United States, located in the Arizona desert, needed to bring its site online, the customer had already spent nearly a year working with two different fiber providers.

Both were unable to secure approval from the Department of Natural Resources (DNR) to trench under an existing highway, a critical obstacle that prevented construction from moving forward.

This is a growing challenge across the renewable energy sector, where fiber construction delays and permitting barriers often stall projects worth hundreds of millions.

The project was at a standstill, and the customer needed an immediate solution to get the site operational while maintaining compliance with federal standards.

50
ENTITIES

More than 50 different entities were involved across the lifecycle of this project, adding more complexity to an already challenging project.

SOLUTION

BeyondReach was brought in to deliver connectivity quickly. Within 48 days of the initial request, we engineered and deployed a temporary fixed wireless solution to bring the site online, allowing operations to begin while a permanent circuit was designed and installed.

To overcome the lack of nearby infrastructure, our engineering team:

Typical fixed wireless deployments span 25 miles or less. This circuit consistently delivers 820Mbps average throughput over a 52-mile span.

01 **Constructed a 52-mile microwave circuit** using a mountaintop access tower to establish line of sight.

02 **Optimized wireless performance** beyond standard range limitations; typical fixed wireless deployments span 25 miles or less, yet this circuit consistently delivers 820 Mbps average throughput under a best-effort design.

03 **Engineered around environmental challenges** such as high desert winds, using smaller dishes and precision alignment to maintain stability and reliability.

This temporary design not only enabled the site to go live but also served as the foundation for a permanent connectivity solution, later implemented by BeyondReach.

72
HOUR
COMPLIANCE
TEST

The 72-hour compliance test is mandated under the Federal Energy Regulatory Commission (FERC) and North American Electric Reliability Corporation (NERC) reliability standards to confirm continuous operation.

RESULTS

The site successfully passed its 72-hour federal compliance test with zero connectivity outages, a critical milestone required for renewable energy facilities to remain operational.

Connectivity underpins every facet of the testing requirements, making it critical to have a reliable connection that ensures uninterrupted, real-time data exchange.

RESULTS CONTINUED

Each hour of downtime during the commissioning phase can cost large-scale solar projects hundreds of thousands of dollars in lost production. **BeyondReach's 48-day turnaround prevented millions in potential losses.**

Since this deployment, the customer has expanded their partnership with BeyondReach, awarding five additional projects based on our ability to engineer, innovate, and execute where traditional providers fall short. They rated BeyondReach a 10 out of 10 on the Net Promoter Score (NPS) survey, citing responsiveness and a collaborative approach as key differentiators.

10/10
NPS FROM CUSTOMER

Being able to solve a long-term problem for our customer's end user, in addtion to troubleshooting along the way, resulted in a 10/10 NPS score with the following feedback: "Reliable. Responsive. Delivers a great product."

Strict uptime and latency requirements for this project made the extreme distance for the wireless connection even more challenging.

A NEW CHALLENGE

Renewable energy construction sites evolve rapidly; equipment layouts shift, and new structures can interfere with line-of-sight paths. During construction, the customer experienced connectivity issues due to temporary signal blockages caused by newly erected poles or cranes passing through the line of sight.

PARTNERSHIP IN ACTION

Our team worked side-by-side with the client to re-engineer the network in real time, adjusting beam paths and re-aligning antennas to minimize downtime and maintain continuous compliance.

This kind of flexibility and partnership is what defines BeyondReach: **engineering-driven, customer-focused, and committed to keeping critical infrastructure online.**

BEYONDREACH DELIVERS CONNECTIVITY SOLUTIONS WHERE OTHERS CAN'T.

This project demonstrates how BeyondReach combines engineering expertise with rapid deployment to keep the nation's clean energy infrastructure connected and compliant. When remote, regulated, or high-stakes environments make fiber impractical, BeyondReach designs and delivers solutions that work anywhere.