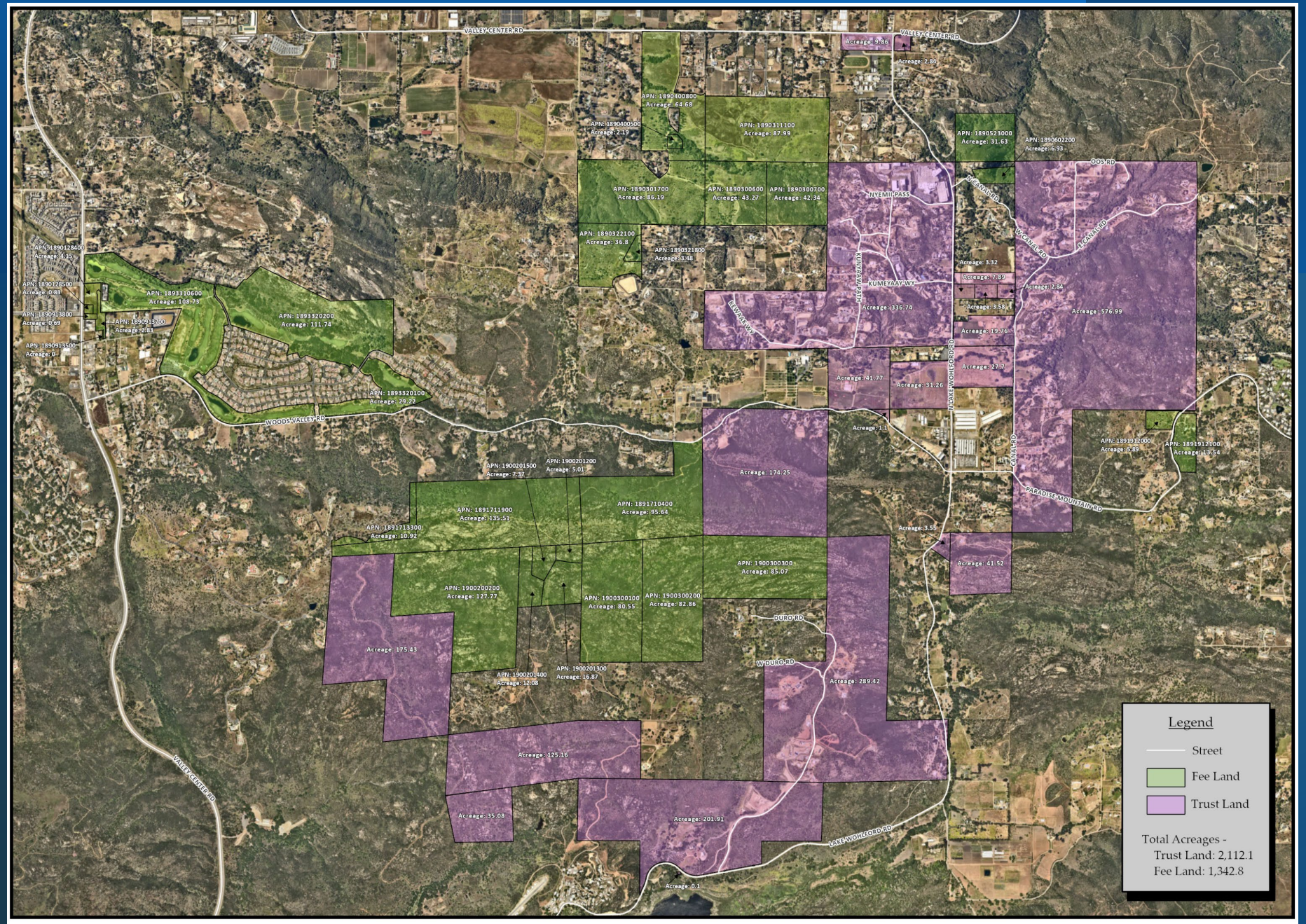
San Pasqual Band of Mission Indians Community Solar Project 1

Tribal DOE Conference | November 19, 2024

San Pasqual General Information

- Reservation was established in 1910
- The Reservation encompasses approximately 3,446 acres
- 146 enrolled tribal members and over 1,400 lineal descendants
- Reservation population is 2,100
- 450 homes on the reservation
- 96 EV Charging Stations (2020 – 2024)
- Government center microgrid installed in 2022, DOE Tribal Energy Grant (2019)
- 118 homes have solar
  - 65 GRID Alternative Installations (CA. SASH funding)
  - 23 DOE Tribal Energy Grant (2016)
  - 30 private solar companies



San Pasqual Band of Mission Indians

Trust & Fee Lands

0 0.5 1 2 Miles

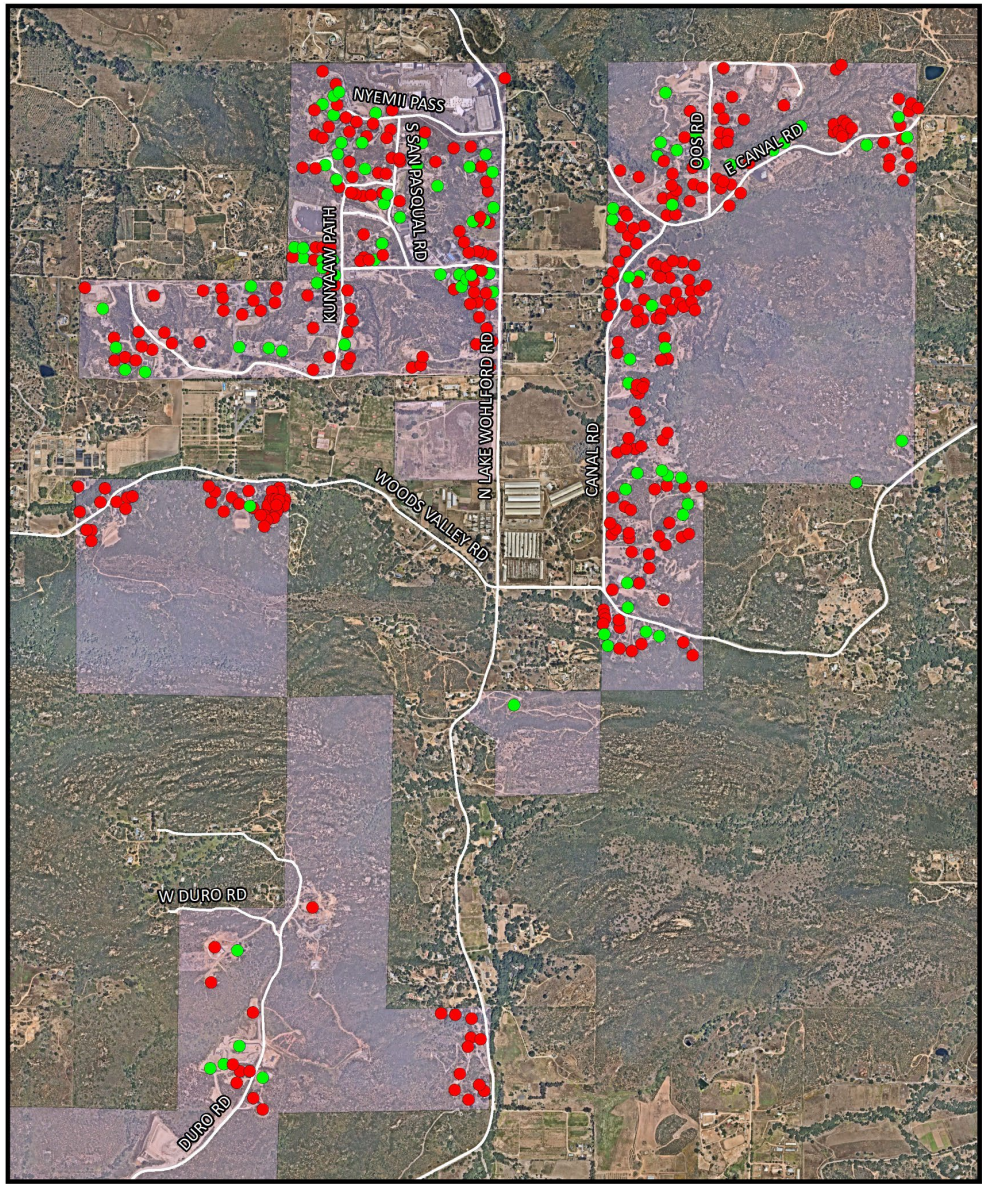
Source: San Pasqual Band of Mission Indians Planning Department
Date Created: 11/4/2024

Past Renewable Energy Accomplishments

San Pasqual Solar Homes

Installed Solar on Built Residential Addresses

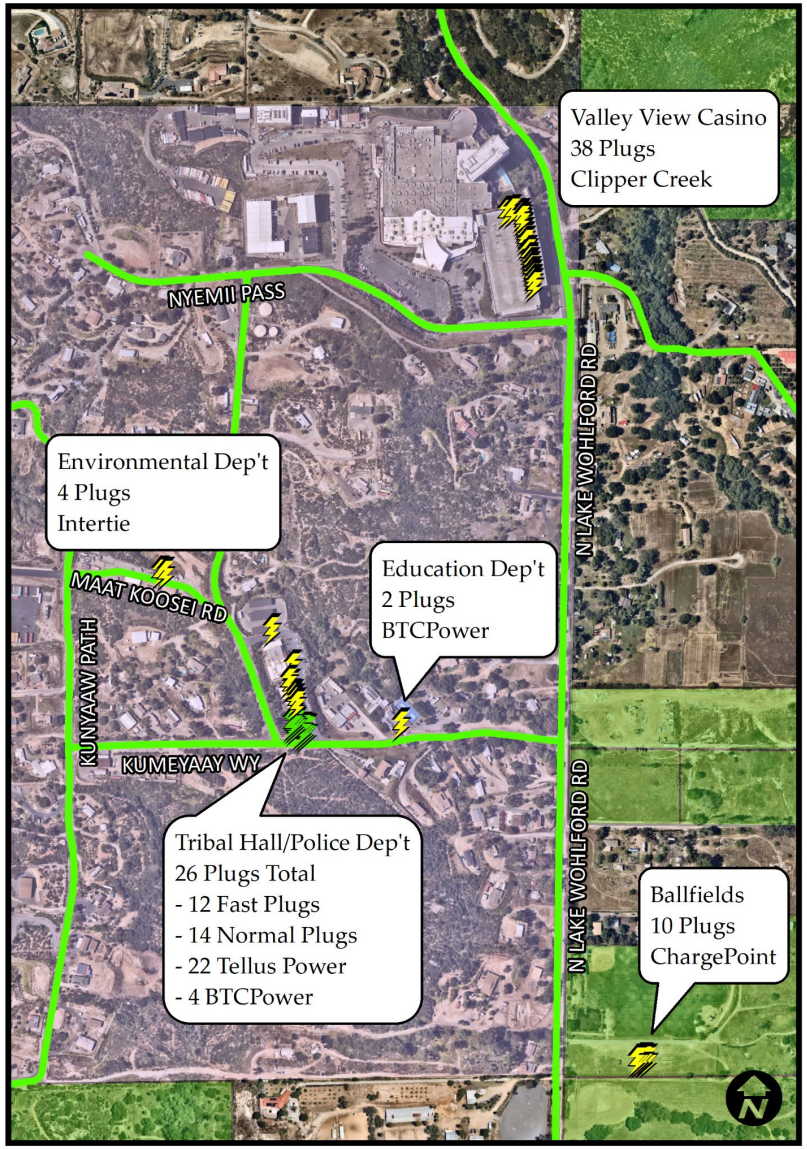
Source: San Pasqual Band of Mission Indians Planning Department
Date Created: 7/19/2023

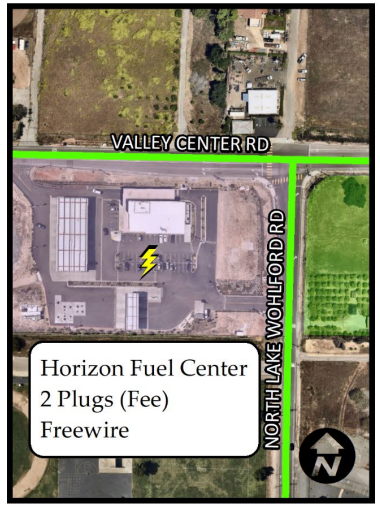


EV Chargers

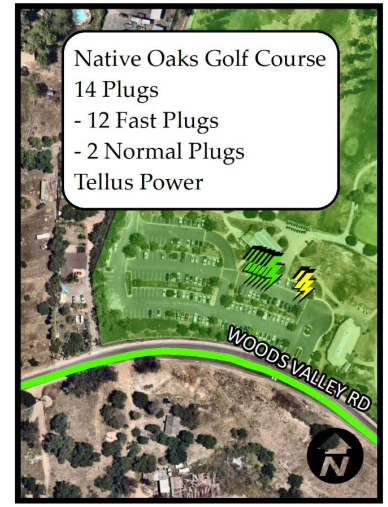
San Pasqual Reservation

Source: San Pasqual Band of Mission Indians Planning Department
Date Created: 7/19/2023

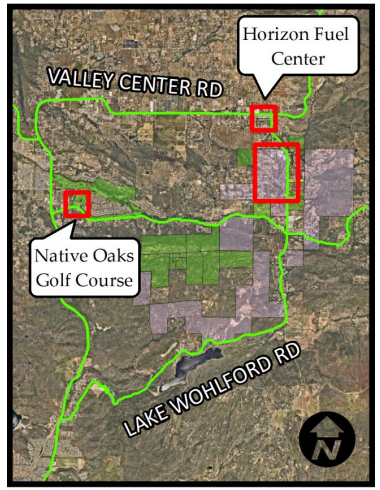




Horizon Fuel Center



Native Oaks Golf Course



Inset Map Context

EV Charger

Normal

Fast

Total All Areas: 96 Plugs
- 24 Fast Plugs
- 72 Normal Plugs

Street

Fee Land

Trust Land

Legend

San Pasqual Tribal Government Complex Microgrid Project OVERVIEW

- Master Meter (Added)
- Utility Meters (Removed)
- New Solar PV Carports
- Existing Solar PV Panels
- BESS Location
- LP Genset Location (planned)
- Point of Interconnection
- Underground Cable Run
- Building Cable Run
- Existing Propane Tank
- New Propane Tank

Solar Canopies

- 156.25 kW DC Peak Output + 24 kW DC (existing rooftop solar on Education Buidling)
- Capable of charging batteries from 0 to 100% in ~ 3 hours
- 272,000 kWh Year 1 production
- Equivalent to annual electric usage of ~ 37.5 homes

Battery Storage

- GridScape EnergyScope microgrid in a box system
- Onsite and remote controls
- Lithium ferro-phosphate (LFP) batteries
- 240 kW/ 480 kWh (~4 hours at average load)

Propane Generator

Installed on July 3, 2023

Initial Project Goals

Install a 223kW solar community scale energy generating system for residential homes on the San Pasqual Reservation

Originally 2 elevated carport PV systems located at the San Pasqual Community Park → Ground mount system due to material and project cost increases

Reduce the monthly San Diego Gas & Electric (SDGE) electric bill cost burden of 80 residential homes and 1 government building/account

Distribute 90% to 95% of benefits to residential subscribers and 10% to 5% to the government building/account

Reduce monthly electrical bills by 50%

Project Accomplishments

- Currently have 50 residents completed through the onboarding process
- RFP drafted and distributed, winning vendor selected, contract signed in April 2024
- Subscription based model: residents pay a $25 monthly subscription fee to help pay for all O&M
- Worked with SDGE to identify the 55 subscriber accounts to pass on the monthly savings

Subscriber Prospecting and Framework Governance: Community Engagement

Community energy survey and applications drafted, released, and responses from Tribal Citizens received

Individual household energy use data collected + Residential financial modeling

Community outreach meetings to educate successful

Dual Tribal Government water and electric management structure designed

Subscriber On-boarding, Governance, and Contractual: Asset Management

- Community response and on-boarding for SPBMI Residents and utility data
- Contractual templates drafted (Residential Subscribers)
- Utility billing software selected: Muni – Link

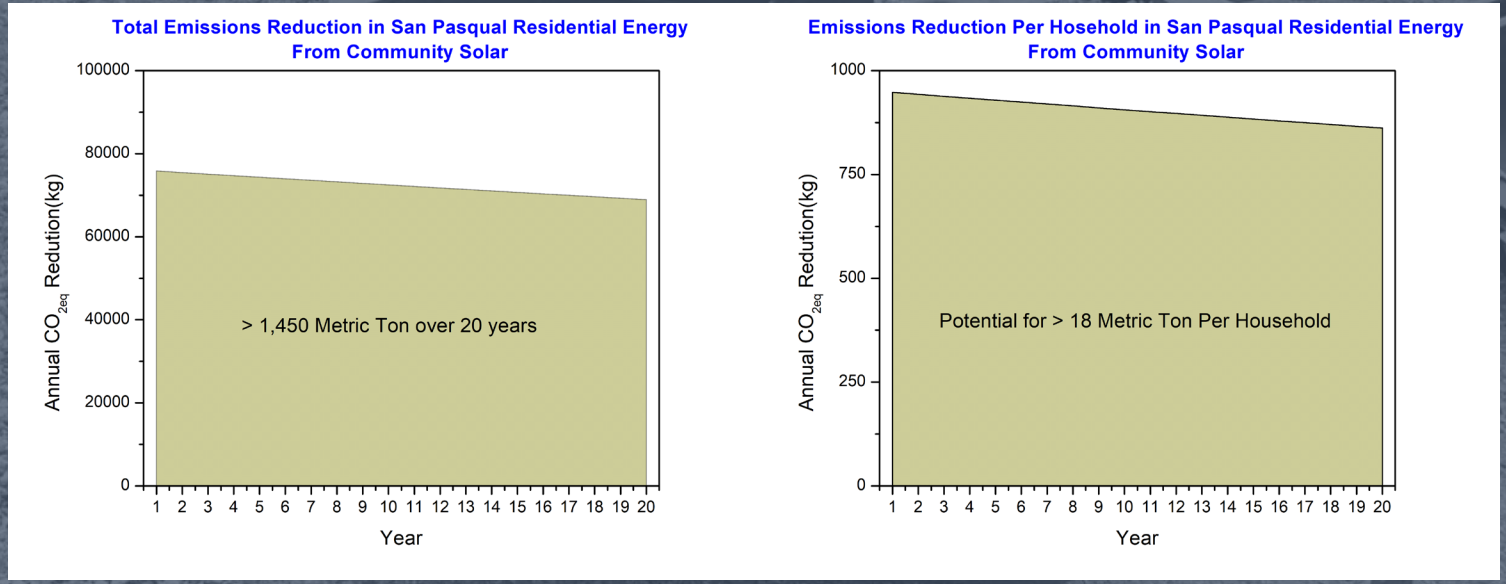
Community Benefits

Cost

- $350-$550 annual savings per household
- 25% reduction in energy cost for San Pasqual targeted water utility meters
- O&M partially self supported via subscription fees

Climate

- The full subscribing residential households have the potential to reduce Tribal CO_2 emissions by almost 1,500 metric tons over a 20-year period
- Each subscribing household may reduce emissions from energy use by an average of 900 kg annually
- Each Subscribing household may reduce emissions from energy use by as much as 18 metric tons over a 20-year period.



Site Selection and Permitting: Utility Engagement

- Asset site approved
- Point of Interconnection approved by SDG&E
- Interconnection application submitted to SDG&E
- SDG&E engineering invoiced and paid

Covid – 19 Impacts and Economic Impact

Government priorities shifted to community health and safety: No in person community meetings until spring 2021

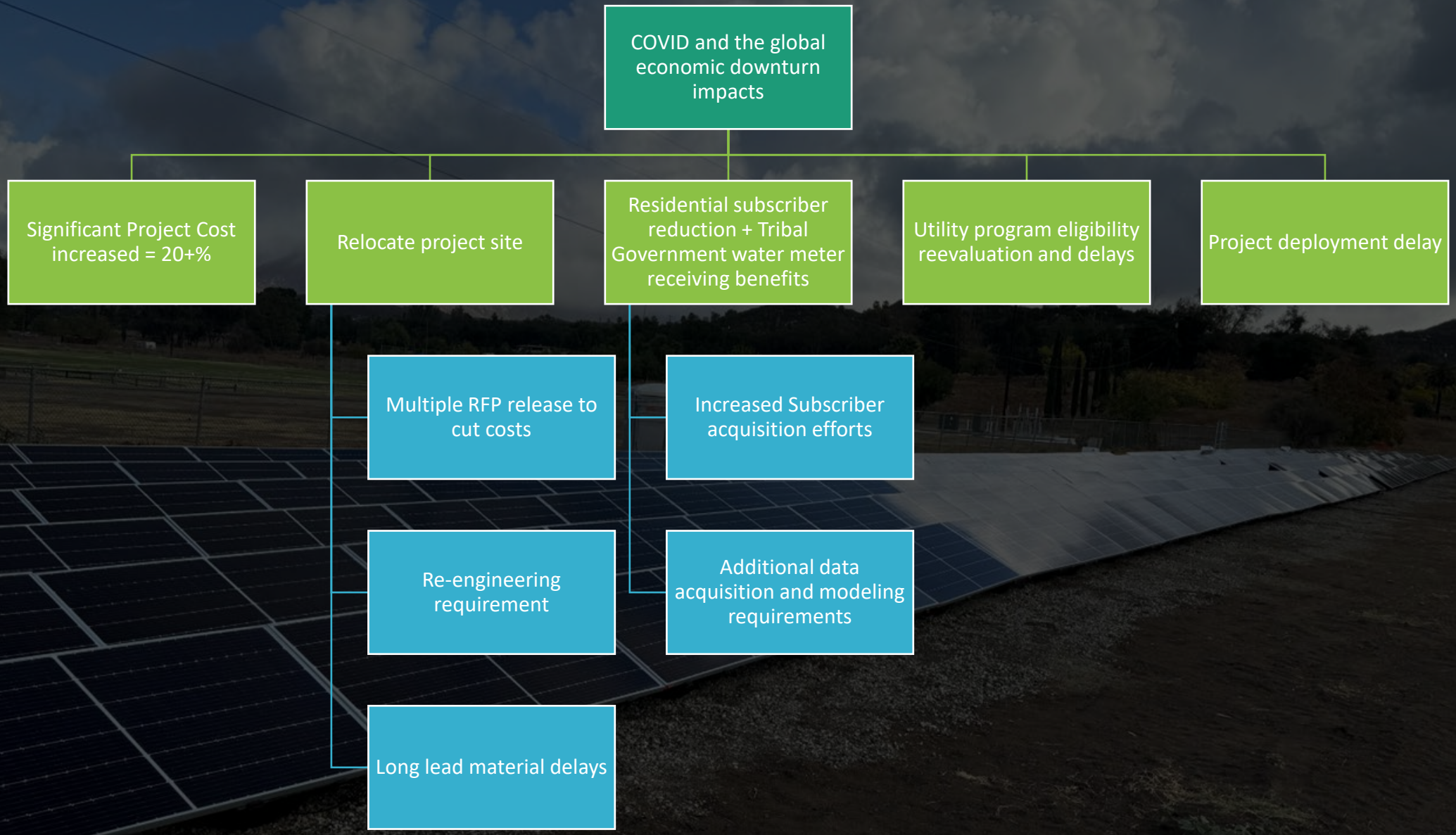
Significant Impacts on Community engagement: Number of necessary community engagements more than doubled, energy data gathering slowed significantly, Tribal citizens' lives impacted with Covid

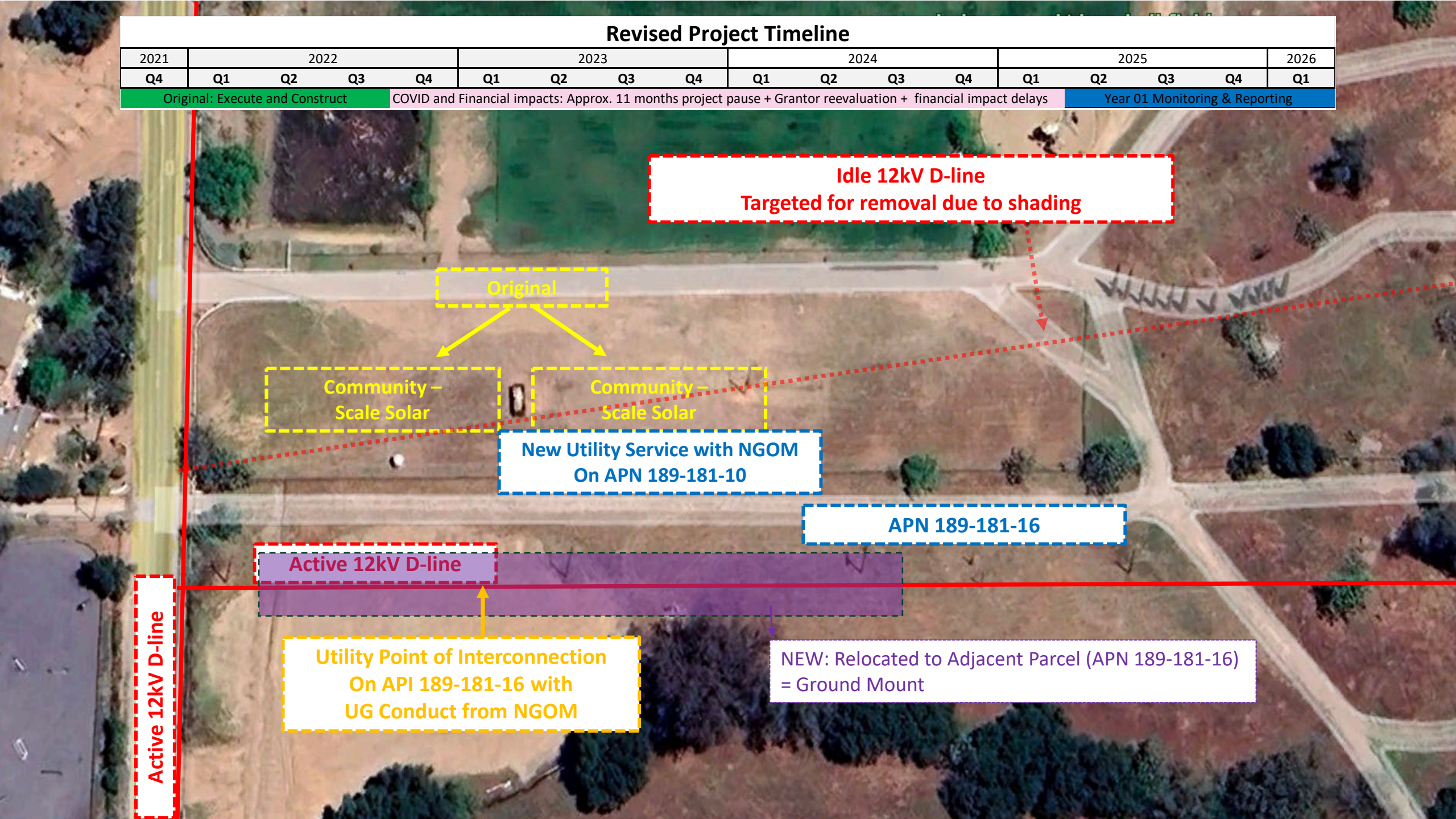
Utility/RFP/EPC/Third-party engagement delayed significantly

Supply chain and utility delays amplified

Inflation and cost of materials increasing beyond original budget (FY20 --- FY22) : Steel, aluminum, panels, and labor have all increased

San Pasqual Community Solar Project Challenges




Revised Project Timeline
2021
2022
2023
2024
2025
2026
Q4
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
Q1
Q2
Q3
Q4
Q1
Original: Execute and Construct
COVID and Financial impacts: Approx. 11 months project pause + Grantor reevaluation + financial impact delays
Year 01 Monitoring & Reporting
Idle 12kV D-line
Targeted for removal due to shading
Original
Community – Scale Solar
Community – Scale Solar
New Utility Service with NGOM
On APN 189-181-10
APN 189-181-16
Active 12kV D-line
Active 12kV D-line
Utility Point of Interconnection
On API 189-181-16 with
UG Conduct from NGOM
NEW: Relocated to Adjacent Parcel (APN 189-181-16)
= Ground Mount

Current Status Summary

- New Ground Mount Array versus carport
- Relocated to South Parcel Phase 2 Location
- Project original size maintained
- Residential subscriber acquisition reinitiated and caped at 50 max from original 80
- Construction began on September 23, 2024
- All solar panels have been installed as of November 8th

Q&A

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