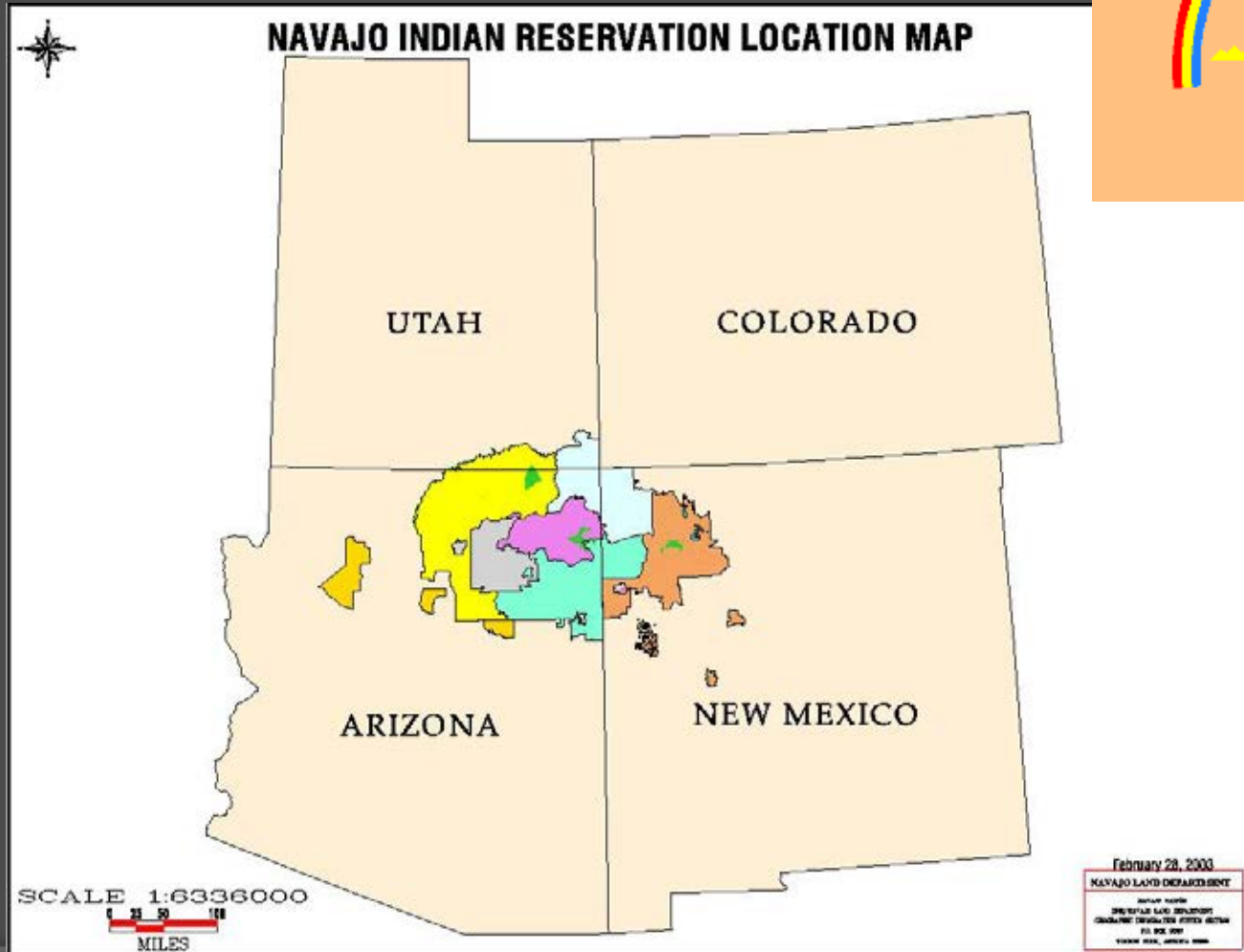


Navajo Hopi Land Commission
Navajo Nation

Roman Bitsuie

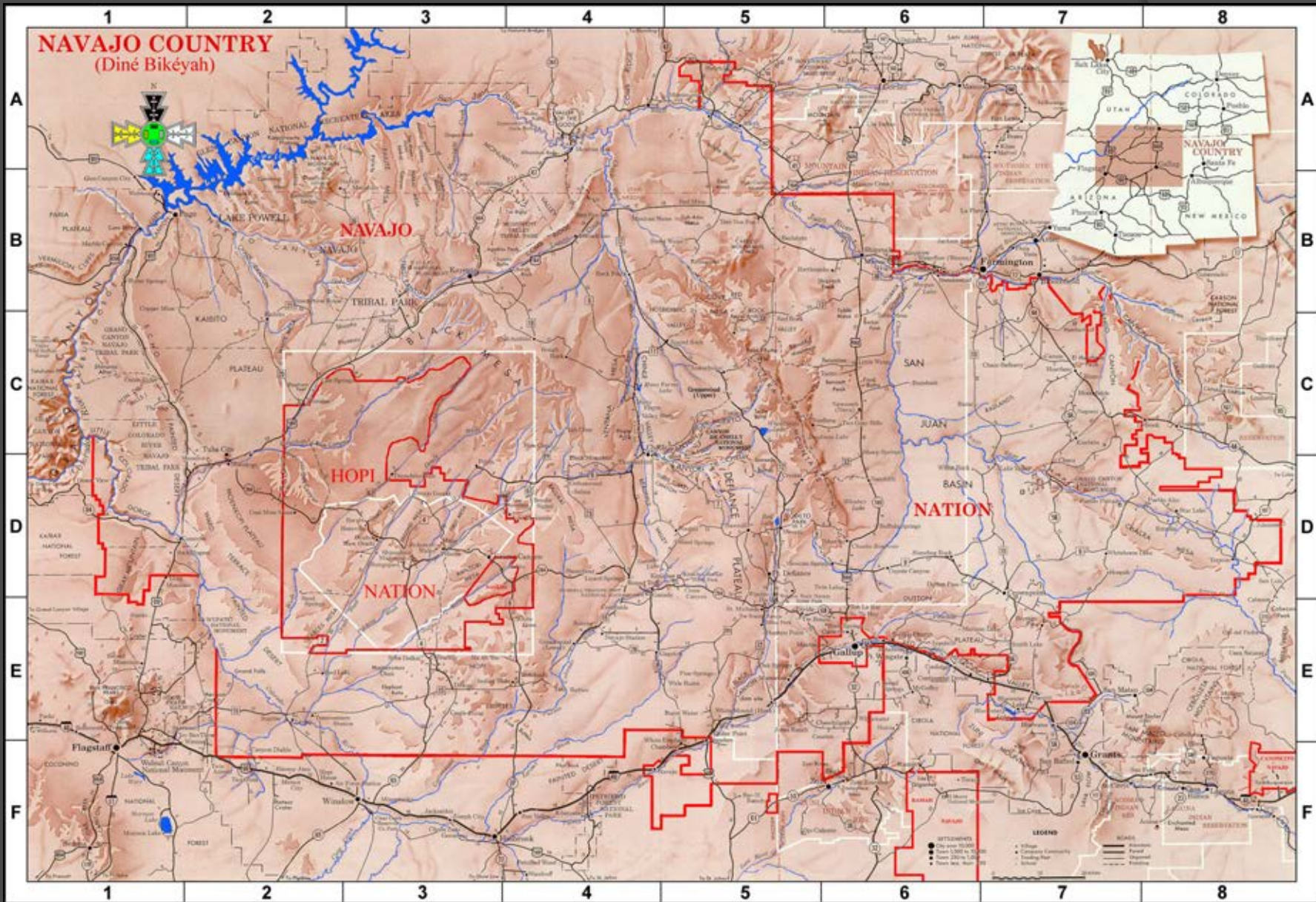
FEASIBILITY STUDY FOR
4,000MW SOLAR POWER
AT PARAGON-BISTI RANCH

The Navajo Nation



The Navajo-Hopi Land Settlement Act

- Navajo-Hopi Land Settlement Act passed in 1974
- Required the relocation of Navajo and Hopi families living on land partitioned to the other tribe
- Set aside certain lands for the benefit of the relocatees



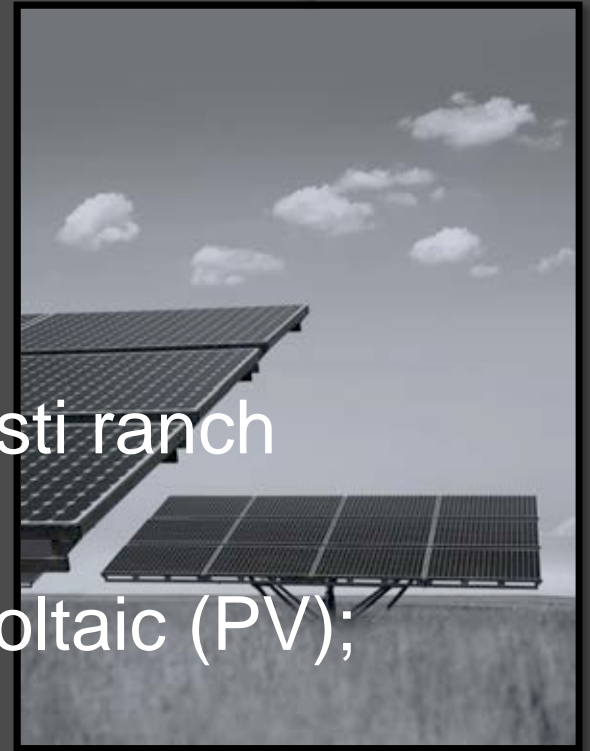
Paragon-Bisti Ranch



The Paragon-Bisti Ranch in northwestern New Mexico was set aside under the Navajo-Hopi Land Settlement Act for the benefit of Navajo relocatees.

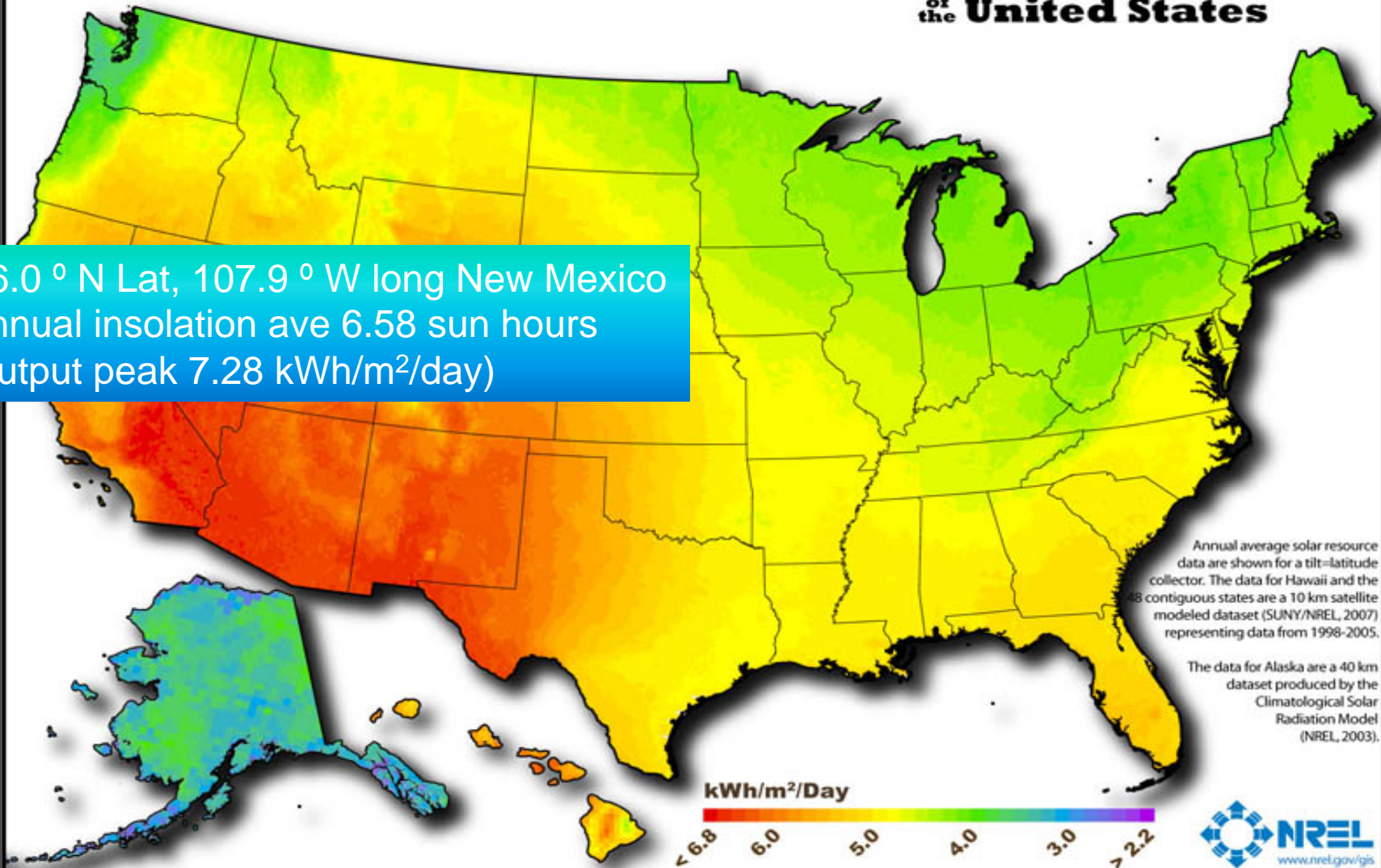
Project Summary

- Clean, renewable solar energy development on the Paragon-Bisti ranch lands
- 22,000 acres, principally photovoltaic (PV); also geothermal and wind
- Could ultimately produce over 4,000 megawatts (MW) of power
- Program concept: to develop approximately six “solar ranches” over five phases, along a staggered timeline



Photovoltaic Solar Resource of the United States

36.0 ° N Lat, 107.9 ° W long New Mexico
annual insolation ave 6.58 sun hours
Output peak 7.28 kWh/m²/day)



Project Summary

- Phase 1: preliminary critical issues analysis (completed)
- Phase 2: Feasibility study. The Commission is currently in phase 2.
- Subsequent phases:
 - Phase 3: Preconstruction
 - Phase 4: Construction
 - Phase 5: Operations and Maintenance

Project Objectives

- Produce economically viable power using sustainable natural resources
- Benefit tribal members and relocatees
- Establish the Navajo Nation as a leading provider of clean commercial power on a large scale
- Generate revenue and employment opportunities



Phase 2: Feasibility Study

- Determine the technical/economic viability of the RE program
- Survey/characterize the entire site
- Subdivide 22,000 acres into six individual solar ranches
- Develop life cycle cost-benefit model
- Explore opportunities for training/employment of tribal members

Project Approach Tools

- Organizational Structure
- Program Controls
- Key Managers



Project Approach Tools

- ◎ Organizational Structure

Streamlined organizational chart, provides for efficient long-term and day-to-day operations, encourages open communication, and contains clear lines of communications and authority

Project Approach Tools

◎ Program Controls

Defines roles, responsibilities, organization, milestones, schedule, cost, and deliverables, as well as management plan, staffing by phase, quality control, and health and safety plans.

Cost schedule is managed by support and service personnel.

Project Approach Tools

- ◎ Key Managers

Navajo program management and technical program execution and management.

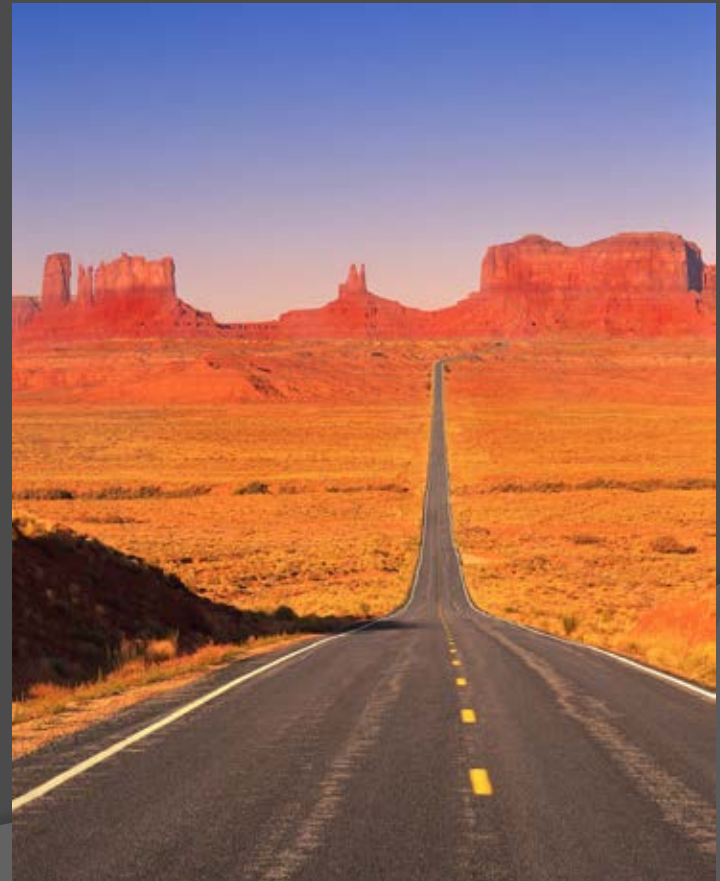
Experienced Tribal business manager and vendor technical manager.

Project Approach

- Meeting to define roles and responsibilities, budget, and schedule
- Monthly feasibility study project reviews
- Progress reports to DOE as required
- Field activities and surveys
- Onsite meetings with key agencies and stakeholders
- Meeting with DOE to present study, finding, and recommendations

Tasks: Group 1

- Onsite kickoff meeting
- Finalize Needs
- Team update

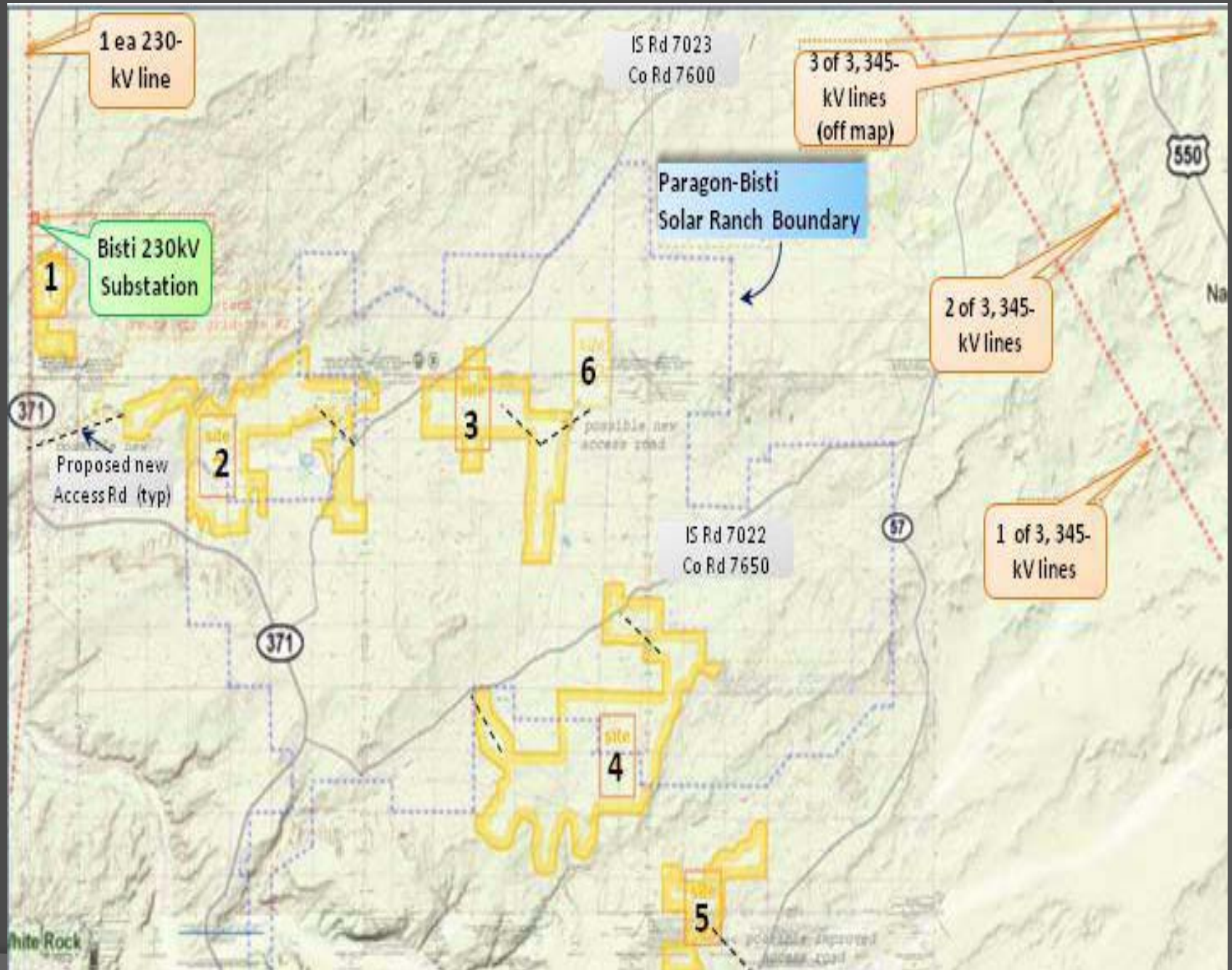


Tasks: Group 2

- Provide technical/economic evaluation of the Tribal Renewable Energy Program, including identification of funders/investors and power markets as well as a transmission study

Tasks: Group 3

- Conduct Environmental Site Survey and subdivide 22,000-acre site into approximately six solar ranches



1 ea 230-kV line

IS Rd 7023
Co Rd 7600

3 of 3,345-kV lines
(off map)

Bisti 230kV Substation

Paragon-Bisti Solar Ranch Boundary

2 of 3,345-kV lines

Proposed new Access Rd (typ)

possible new access road

1 of 3,345-kV lines

IS Rd 7022
Co Rd 7650

White Rock

possible approved access road

Tasks: Group 4



Explore Vocational
Technical and
Socioeconomic
Development/Spinoff
Opportunities for
Tribal Members

Tasks: Group 5

- Develop lifecycle cost model and analyze cost-benefit ratio, draft feasibility study for the Tribe and present the feasibility project at the DOE Tribal Energy Program Reviews

Reporting

- Quarterly reports of progress and financial status
- Final Report of project results, data collected, and other documentation
- Compliance with Federal Assistance Reporting Checklist

